ARMOR

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**The Stryker-Equipped
Cavalry Squadron**

ARMOR

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Features

Departments

Once More Unto the Breach

There are many remarkable stories about the Herculean efforts our soldiers and units put forth under extremely harsh conditions during their historic march toward Baghdad — a testament to the selfless service and valor of our soldiers.

Much will be written about Operation Iraqi Freedom, but one thing is certain, our soldiers and leaders know how to complete the mission. This war was planned and executed on a grand scale with U.S. Armed Forces contributing combined resources to the effort. At the same time, small-unit actions by individual tank crews and platoons were working combined arms tactics with light infantry and mechanized infantry forces against an enemy firing from alleyways, houses, mosques, and hospitals.

Today's battlefield demands new technologies that will keep pace with the global environment and simultaneously provide force protection. In his article, "Mechanized Snipers on the Force XXI Battlefield, Captain Timothy Morrow, introduces us to the idea of making snipers an organic part of the scout platoon. He describes several effective techniques for deploying and employing sniper teams in support of task force missions.

There is much discussion regarding the future of the M1 main battle tank and its function in the urban environment. Captains Frank Bridges and Michael Evans share an insightful article, "Tough Bows and Iron Blades: Modifying the M1 for Urban Battle." This article suggests ideas for simple, currently available, easy-to-install appliqué systems that will enhance the M1-series tank and its already substantial capabilities for operating on an urban battlefield.

With the U.S. Army's emerging role in stability operations and support operations, U.S. Army National Guard and Reserve units are assuming greater, more immediate roles as links between troubled nations and military operations. In their article, "Converting the IO Concept into Reality," Captains Eric Guenther and Gary Schreckengost describe, from their own experiences, how to establish a successful information operations function. As events unfold on the international and domestic fronts, military leaders at all levels must reach out to link with the society they serve and the nations they support. This article suggests excellent ideas on how to do just that.

For the past 20 years, the way we fight and prepare for war has changed dramatically. Today's operational environment reflects the likelihood that the United States will be fighting more frequently in urban areas. Sergeant First Class Andrew Barteky provides a close look at the latest iteration of the Stryker — the reconnaissance variant. In, "The Stryker-Equipped Cavalry Squadron in an Urban Environment," Barteky examines the characteristics of the Stryker-equipped cavalry squadron (RSTA) that enable it to effectively support the Stryker Brigade Combat Team in an urban battle. Major theater of war engagements will still occur, but small-scale contingencies, urban conflicts, and isolated pockets of resistance housed in apartment complexes and city parks are what the SBCT will likely encounter. The Stryker reconnaissance vehicle will make the scout's life better during an urban fight.

In addition to these focused articles, *ARMOR* also presents several other articles. In "On a Wing and a Prayer: Reversing the Trend in Brigade Combat ISR and Shaping Operations," Captain David Meyer evaluates the problems that regularly plague ISR operations. Major Richard Monnard describes the S2's role in collecting and delivering information that will assist the commander's decisionmaking process. "The Maneuver Task Force Commander Expects His S2 to Collect and Deliver," provides a quick, yet thorough, technique for task force intelligence officers to organize, prepare, and present intelligence information.

"Rounding out the 'Tip of the Spear,'" by Captain Mark Weaver, defines a combat officer's professional jurisdiction and his sphere of expertise and knowledge when conducting stability operations and support operations. Captain Max Pritzl, Germany army, shares ideas and suggestions on conducting combat exercises in," German Combat and Gunnery Training for Future Challenges." In their article, Captains Howard, Blakenhorn, and Keeler provide very insightful techniques for "Making the Eight-Step Training Model Work."

As the United States continues its fight, the Armor and Cavalry Forces remain critical elements in battlefield success. *ARMOR* is the Force's forum for reflection and analysis, and to stimulate a fruitful dialogue to share your views, expertise, and experiences at this critical juncture as military thinking evolves. Keep writing to preserve and share your experiences.

— DRM

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LETTERS

Heavy Armor's Success in Iraq

Dear *ARMOR*:

I am sending this letter to ask that you publish the text of an e-mail I received today. It is from a Marine officer assigned to the Marine Expeditionary Force in Iraq. It is basically an after-action review and some tactics, techniques, and procedures learned on using tanks in urban areas from someone who never really thought much of tanks before:

"Some more ramblings since I have a few minutes to spare. I used to pooh-pooh tanks and the Marine Expeditionary Unit (SOC) program. At points, I wish I had a tank company. The tank platoon is awesome. During the first couple of days of fighting in Umm Qasr and at the Az Zubayr naval base, I had to split the tank platoon in sections and had sections supporting infantry companies. Grunts need to get used to working with tanks. Once in contact and the grunts were dismounted, the best technique seemed to be the grunts working right alongside the tanks. Be careful of when the main gun has to shoot. Make sure your guys are behind and to the sides. A few times we just had the tanks run over a few machine-gun nests and just cross-steer, crushing the guys beneath them.

The new MPAT [multipurpose antitank] round, which replaced the HEAT [high-explosive antitank] round, is great for urban combat. We normally have the tanks create breaches for our assault companies to enter buildings. One or two MPATs will create a hole big enough that you can drive an IFV [infantry fighting vehicle] through it. I am sure the guys at SOTG would be crying because we broke all the rules. We had to take down the Baath party headquarters in Umm Qasr. We did it with the tank platoon, force recon, and the trailer platoon. We led with tanks; four tanks got on line and blew the crap out of the building with their main gun using MPAT, which created two breaches. Once the trailers dismounted and moved abreast of the tanks, they switched to 7.62 and .50 cal, hosing down the house. When the trailers were ready to move forward, we shut off the tanks, and the trailers secured the perimeter of the house.

Tanks were then again pushed forward. A section covered each of the incoming roads. The force platoon went inside and finished the clearing operation. The biggest take away was that tanks work great in MOUT [military operations on urban terrain]. They need infantry support, which the infantry is more than happy to do. As long as the supported unit can talk directly to the tanks, it is fabulous. We blocked, numbered, and phase lined the entire city and that system worked well. Often, I could hear the guys coordinating tank fires by saying, "they are in building A3," and "don't be afraid to talk them just like an aircraft." We also communicated things like, "see the two-story house with a rusty roof" and "the bunkers are at the base of the white house to the east of that one." The platoon and company commander adapted well to using the tanks and every company has had to use them more than once. If only I could have made more than just a team

mech. We could have seized our objectives faster. I could have done a lot with a team tank.

Make sure to manage your fuel. I built a combat train run by the S4. The train had an ambulance team; security vehicle; ambulance; maintenance contact vehicle for HMMWVs; a 5-ton to transport enemy prisoners of war, support a forward battalion aid station (BAS), and for extra casualty collection; refueling truck that held 2,700 gallons of diesel; an explosive ordnance team contact team; and a management maintenance team (MMT) with their own security vehicle to run landing zones. The concept was to establish the combat train and the S4 could dispatch the ambulance team to collect casualties. The forward BAS in the back of the 5-ton would establish and the MMT would set up the landing zone (LZ). We could vector aircraft to the companies or ground evacuation back to our forward BAS and hasty LZ. The other half of the combat train could repair HMMWVs and refuel vehicles. A tank platoon needs to be refueled after 8 hours of continuous operation. Keep a close watch on this. I had to refuel and rearm these guys in the middle of a fight several times. We would refuel a section at a time so we would always have one engaging the enemy. On one occasion, the bad guys made the wrong decision to attack a company that had just finished a heliborne insert and was moving down to clear the old port at Umm Qasr. Luckily, we were refueling a tank section just north of town about 500 meters from the company's location. We finished refueling and sent the tanks in and through coordination with the company, the tanks made quick work of those knuckleheads. The learning point is always think ahead about refueling and rearming your tanks. You don't ever want to run dry."

As an armor soldier and a master gunner, I enjoyed this letter and wanted to share it. I would also say according to this letter, the MPAT round is a hit. Target, cease fire!

J. BARRY WELCH
MSG, U.S. Army
U.S. Army Sergeants Major Academy

Give Armor Its Due

Dear *ARMOR*:

As of this writing, American and British forces are on the brink of finally toppling the regime of Saddam Hussein. Had it not been for the use of the Abrams and Challenger series tanks, this would not have been possible. There was an article in a recent past issue of *ARMOR*, in which the author proclaimed that another war like Desert Storm would never happen again. He further advocated that heavy armor was going to be obsolete because of its logistics requirements, lack of quick deployability, and so on.

Armor should be geared more toward an urban fight based on the changing roles of the Army. This is not the first time this notion has been brought up. Critics in the past have been skeptical about the future of Armor and its necessity. We are witnessing the first major war of the 21st century in which, once again, tanks

have proven their place on the battlefield. This is by no means intended to take away from our fellow combat arms soldiers but rather reinforces the need for armor as a mainstay of our heavy forces.

I also believe it is time to look once more at the need to institute the expert and combat armor badge program. Undoubtedly, there will be many well deserving infantrymen pinning on the combat infantryman's badge in the near future. Medics will have a combat medical badge. Will our tankers and scouts, who have borne the brunt of some of the worst combat we have witnessed since possibly World War II, once again be denied recognition of their accomplishments as armor soldiers? Time will tell.

MSG CHRISTOPHER P. WORICK
North Georgia College and State University
Dahlonega, GA

Regarding Armor Badges

Dear *ARMOR*:

I offered my Armor Badge (one I bought from *soldiercity.com*) to Major General (MG) Whitcomb at Fort Riley last September when I was invested into the 34th Armor Regiment. As we were standing in the receiving line, he mentioned that, "There is a lot of resistance to that [the combat armor badge]." I asked him where the resistance is coming from and he replied, "The infantry." The sergeant major that followed him just glared at me as I wished him a nice day. I later read MG Whitcomb's biography and realized that he was a graduate of West Point in the Infantry branch.

MG Whitcomb's attitude is consistent with what I experienced at Cu Chi 35 years earlier. When we had to pull maintenance away from our base camp and went to Cu Chi, we were denied PX and shower privileges and restricted to a small motor pool area that we could not leave. My platoon sergeant was so mad that he accidentally backed over a tool shed. We were regularly denied drinking water and tank parts. I never met a grunt that didn't appreciate our tank next to them at night, but senior noncommissioned officers (NCO) and officers treated us like second-class citizens. One day, while we waited 4 hours for engineers to show up and sweep for mines, we lost two tanks and an M-88 outside of Cu Chi. After waiting nearly half-a-day, we found out they were too busy building an NCO club for the division command sergeant major and were not going to show. We got off the road approximately 300 feet, and lost my C-32 tank. Had I been inside the turret, I would have been killed. Luckily, I was standing in the loader's hatch and was catapulted over my tank commander and landed in the paddy on the other side of him. C-34 started off the road but didn't get as far as we did. Then the vehicle tank recovery (VTR) got off the road to start recovery and hit a smaller mine just off the road. All of these mines were command detonated.

During the long hours of guard duty out in the field, my tank commander mentioned that they had considered the CAB after Patton's run

through France. Patton was still in the political doghouse for the "slapping incident," so they decided against it — yet, established a combat infantry badge with an automatic Bronze Star.

I expect some whining from the elite media about soldiers wanting another badge, but they are only looking at a small portion of the view. To those of us that would like to see this materialize, I hope I have identified the obstructions for you to plot a strategy. I understand that you published the designs in 1991. Would you publish them again?

GARY LAPP
Green Bay, WI

Rave Review for "The Visible Hand"

Dear *ARMOR*:

I was impressed by your publication with the enlightening article, "The Visible Hand: Armor Looks at the Changing Face of Peacekeeping in the Balkans." You are to be commended for publishing such articles that look at the "other" missions that cavalry and armor soldiers are faced with in the current operating environment. Army National Guardsmen have been fulfilling different missions within the Bosnia and Herzegovina (BiH) area since the 49th Armored Division, Texas Army National Guard, blazed the trail. They assumed control of the Multinational Division-North on 7 March 2000. That initial trial of the Army National Guard's ability to handle a peacekeeping role was a resounding success that paved the way for other units in following rotations. Their success, I have always believed, was due to the attributes of the Guardsmen cited by the authors: "an inherent combination of military experience and exposure to civilian business practices."

When I was a scout platoon leader in the Texas Army National Guard, I had a handful of plumbers and tradesmen, three computer programmers, two business owners, a telecommunications specialist, and a self-made millionaire in my platoon. My platoon sergeant had once served in the army of the United Kingdom, and I was a practicing civil engineer. On the whole, this is a spectacular resume of experience that is not uncommon in the National Guard and is one of its great strengths.

I also agree with the authors' claim that cavalry troopers have a specific advantage in deployment on missions such as peacekeeping in BiH. A cavalry trooper is typically a well-trained "jack-of-all-trades" in the combined arms arena. Troopers and their commanders are used to operating independently to creatively fulfill a higher commander's intent. Most importantly, they know how to gather information and paint a picture for the higher command and other operatives in the theater.

In the future, I would like to see all National Guard divisions take active steps to embrace deployment opportunities for their soldiers in support of missions like those ongoing in BiH and developing elsewhere. In particular, advanced training of cavalry troopers for such missions (task-organized with engineers) would probably prove to be greatly successful. Other active steps might include:

• Training at least one officer in a division to be a resident expert in peacekeeping or sustaining operations. A training certificate obtained through correspondence and residence phases with the United Nations Institute for Training and Research (UNITAR) Program of Correspondence Instruction in Peacekeeping Operations (POCI) would be a great starting point. These officers could serve as a pool of resident knowledge in the division staff, project officers for missions and liaisons with other divisions, and advanced party coordinators when battle-handover occurs in a theater of operations.

• Augment yearly training guidance with at least one drill weekend devoted to specifically training units for such missions.

• Create an organic platoon inside of an area command specifically focused on planning for peacekeeping and sustaining missions. The specific focus of the platoon would be to plan for and help units and commanders organize training to ramp up for those types of deployments.

In closing, National Guard divisions should embrace missions, such as those in the BiH area and around the world, realizing the inherent qualities of their soldiers make them highly qualified for success. Successful missions build morale, leadership, and esprit de corps that billions of dollars cannot purchase. National Guard divisions can also take active steps to ensure their control over the pace, training, and success of their troops in future deployments. Your thought-provoking article highlights the fact that National Guardsmen (especially trained cavalry) can be highly successful in future and current operations no matter what the operation's phase. Active steps to embrace this reality and prepare for it will solidify the National Guard's importance in that role.

CPT PATRICK D. NOLAN
C Troop, 1-124 Cavalry (49th AD)
Texas Army National Guard

Expensive Simulations Do Not Negate Trainer's Responsibility

Dear *ARMOR*:

CPT Paul Maxwell's letter, "Modifying Existing Hardware to create a Maneuver Simulation," prompted some strong feelings regarding discussion of simulators and simulation. He states correctly that it is tough to get repeated maneuver experience. The environ-

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(Reprinted from the November-December 1991 issue of *ARMOR*.)

Proposal for two Armor badges goes to Department of the Army

General Frederick M. Franks Jr., TRADOC commander, has recommended that the Chief of Staff of the Army approve a plan by the Chief of Armor to award Combat Armor and Expert Armor badges similar to the long-established Combat Infantryman's Badge and Expert Infantryman's Badge. If approved by the Chief of Staff, the badges will provide a way to recognize outstanding Armor soldiers, increasing the morale and esprit of the Armor Force.

The Combat Armor Badge
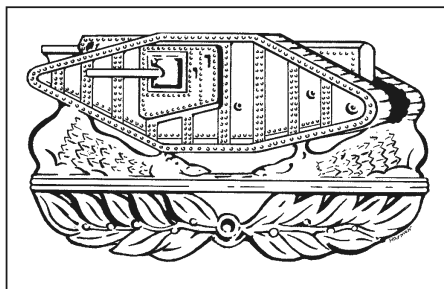
The Combat Armor Badge would be an exact replica in size and color to the insignia approved in 1918 for what was then called the Tank Corps. The insignia was the second design authorized for wear and was in use between 1918 and 1920. George S. Patton Jr. and other officers of the Tank Corps wore it during the Battle of St. Mihiel, 12 September 1918, the initiation by fire for what is now called the Armor Force.

Expert Armor Badge

The Expert Armor Badge is an exact copy of the Armor Branch insignia worn during World War II and until 1951, when the current branch insignia was authorized. The Mark IV/V tank was one of the first tanks successfully employed at the Battle of Cambrai in 1917. The U.S. battalion of heavy tanks employed it at the Battle of Epehy during the Meuse-Argonne Campaign of WWI.
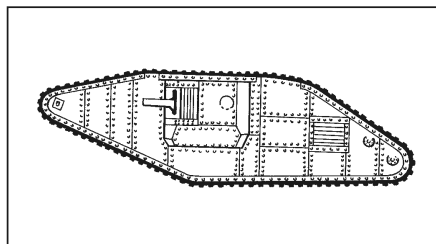
ment changes and the operational tempo (OP-TEMPO) is constantly changed by world events that put training cycles into disarray.

The need to practice is what has driven the injection of various simulations into the current environment. The use of the terms "simulator" and "simulation" should not be intermixed, as this causes confusion. A proponent requirement to get more gunnery practice drove developers to build a gunnery-training simulator that we know as the conduct-of-fire trainer (COFT). This is a virtual simulator with a level of fidelity required to train gunnery skills between the commander and gunner. It is purpose built to support that specific training function. It's a self-contained environment and doesn't connect with anything else.

When examined at a larger level, almost all training is a simulation. A training and evaluation program is a simulation. It is a simulation in a live environment. A training session on Janus or battalion/brigade simulation (BBS) is a simulation in the constructive environment. A session on SIMNET or the close combat tactical trainer (CCTT) is a simulation in the virtual environment. CCTT is different in that the environment exists to support mounted maneuver training, so soldiers can practice their individual and collective crew skills at the same time that leaders practice their platoon and company collective tasks. Sounds like multiechelon training. The simulators connected to the environment, the M1 and M2 modules are high fidelity to facilitate this. The difference between the CCTT modules and the COFT is that the CCTT modules support many more tasks (gunnery included). The CCTT modules can interact with each other and enemy forces present during the simulation.

Just because you want to use simulations in training does not mean you ignore the coordination and planning that a complex live training event would require. It's just that most folks understand the live environment because this is where they have the most experience. Everyone knows what happens to a tank when it encounters mud. The CCTT has over 23 different terrain types that impact vehicle performance, from speed to fuel consumption, and yes, you can get a tank stuck in the virtual mud. It will take time for unit leaders to fully integrate the use of simulations into training toolkits so they can more readily choose the environment that most meets their training needs. This leads to the requisite "fidelity" discussion.

Let's take the CCTT versus the "commercial" LAN-based multiplayer networkable games. As mentioned above, the number of soil types is only one of the levels of fidelity offered. The tank module is another. If the tank commander on night watch doesn't recharge his batteries, the tank won't start at "stand to." Is that really required, and why? From the developer's standpoint, it was a deliverable to the user. The proponents, the armor and infantry centers, developed the requirement and the tasks that were to be supported by the simulation. The level of detail was driven by what tasks the users need to train. This is what drives the level of fidelity. Can you get that detailed with a commercial simulation/game? In some cases, yes; in some cases, no. The tank module is a high fidelity reproduction of the interior of the tank, with all the knobs dials and switches in all the right places. The commercial guys probably can't support that level of detail. Fidelity is the underlying reason that systems like the CCTT are expensive and take a long time to develop. Electronically simulating a live training environment isn't easy. If the requirement is multispectral imaging, to support thermal sights or night vision, then you have to develop the technology or buy it from someone and integrate it into the simulation. This takes time and money.

I can understand that the movement of the commercial PC market continues to advance very rapidly. The seemingly "realistic" games and simulations are very impressive. Everyone wants to use everything available to get the edge. The CCTT went through a very extensive process called validation and verification (V&V). This is where outside agencies and subject matter experts examined various aspects of the simulation environment, such as vehicle performance data, simulator measurements compared to the actual vehicle, ballistics of the various rounds, and how the visual systems represented vehicle types to support vehicle recognition tasks. This process gives the user a pretty good view of how well the developer built the system to requirement. In some cases, it was pretty close; in others, some improvement was needed. The U.S. Army Training and Doctrine Command used the V&V results to accredit the system to be an accurate enough environment to train actual mission essential task list tasks. This is also why it takes time. Most commercial developers use publicly available data or data from other games and simulations for their environment. You really don't know what you are getting from the commercial game development environment. Remember, the primary purpose of a commercial product is to "entertain," not to support military training.

CPT Maxwell has taken some of these tasks and integrated them into classes at the U.S. Military Academy. The tasks may not have been formally evaluated, but by his description, "a reasonable 'driver' for inducing the performance of certain tasks to allow the trainer to evaluate the cadet's ability to demonstrate the integration of classroom concepts in a simulated environment." This is an appropriate use of a commercial simulation. The trainer understood what the environment needed and used what was available with thought to cost schedule and performance. Can you do this on a regular basis? Possibly, but if the key advocate leaves the unit without "institutionalizing" the concept, it probably won't survive. The fallacy of using commercial software for training is cost. Someone has to develop the scenarios, set up the events, and then monitor the execution. You also have to support the infrastructure. In essence, you now become your own training developer. This one is tough to take out of hide at the unit level. There is not a uniform level of knowledge at the average tank company to carry this off regularly. The other problem of using the "administrative" LAN at home station makes things even more complex — no division signal officer will allow a LAN party on his network and risk stability. Even if it is used for training, there may be other solutions than using the current infrastructure.

I hope this does not sound negative, but the training tasks drive the requirement, the level of fidelity required to support those tasks and the accuracy of the simulation environment should all be considered before choosing a training product — military or commercial. Homegrown solutions must be supported by those at home. If 1st Armored Division's modification table of organization and equipment changes or there is a budget cut, who will maintain the network, play observer controller, and set up scenarios? If you need tweaks to the code, will there be enough in the division budget, after you buy repair parts, to pay for the tweaks? What if the commercial company decides to drop the game or goes out of business?

The current requirements process is in place to help with this. If the idea is good enough, the proponents will approve the idea and support the military budget process to fund it, which is great. You now have a supported simulation that meets a specific training need. This process is tough and the budget battle is even tougher. The current home-grown methodology works if you fully understand what is available in the system, and training is supported. If you use a commercial off-the-shelf product, understand its limitations and ensure it does not compromise task training by inducing unrealistic results. You don't want to develop bad habits as a result of the training. Trainers need to fully understand how the commercial product supports the execution of training tasks, and when things are unrealistic from what we know of the "live" environment. A reduced level of fidelity and a specific set of tasks to be trained can most likely be supported by a commercial off-the-shelf simulation.

The trainer's responsibility to plan, coordinate, set up, conduct, and evaluate training does not go away no matter how expensive the product or how far the training location and facilities are. No one said that training was easy. The choices are more high tech. If I were a company commander today, I would be fighting for as much CCTT time as I could get. Ultimately, a simulation (constructive, virtual, and live) is there to get you to the after-action review and that is where you really get your training investment payback.

DAVID M. DODGE
MAJ, Armor
U.S. Army (Retired)

'Steel Tigers' Should Rethink Lessons Learned from Russian EOD

Dear *ARMOR*:

I read with interest 1LT John DeRosa's "Task Force Steel Tigers," in the March-April 2003 issue of *ARMOR*. His effort to find lessons from the Russian 13th Tactical Group's experience in Chechnya is laudable and shared by soldiers throughout the Army. However, one aspect of those lessons is to be taken with extreme caution; that being those gleaned from the discussion on explosive ordnance disposal (EOD) activities. Soldiers who assume U.S. Army EOD tactics, techniques, and procedures (TTPs) are similar to those found in 1LT DeRosa's article

Major General Terry L. Tucker
Commanding General
U.S. Army Armor Center
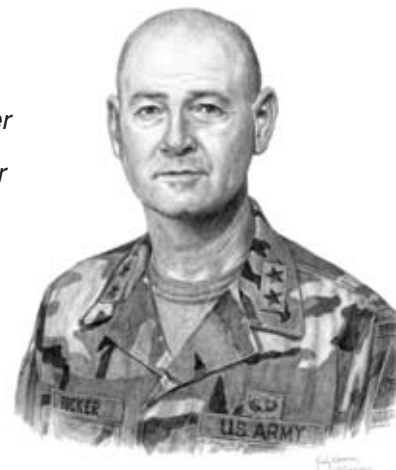
Armor Conference 2003 — Overview

In the May-June 2003 issue of *ARMOR*, we were gearing up for Armor Conference 2003. For those of you who attended this year's conference, I hope it met your expectations. For those of you who could not attend, I have included some of the conference's highlights.

Our roster of keynote speakers was impressive in any discussion, and included Chief of Staff of the Army, General Eric Shinseki; Commanding General, U.S. Army Training and Doctrine Command, General Kevin Byrnes; Commanding General, United States Army Europe (USAR-EUR), General B.B. Bell; Commander III Corps, Lieutenant General Tom Metz; U.S. Army G3, Lieutenant General Richard Cody; and Sergeant Major of the Army, Jack Tilley. Retired Lieutenant General Paul Funk hosted the Armor Association Banquet and Lieutenant General Larry Jordan spoke during the Chief of Armor Luncheon.

General Shinseki reported that Global War on Terrorism operations have proven that our soldiers can fight and adapt while conducting simultaneous operations across the spectrum. In concurrent, synchronized operations, U.S. soldiers and Marines, along with our Allies, were engaged in a close combat fight and humanitarian operations, while rebuilding facilities and services throughout Iraq. In addressing the Objective Force, the Chief told us that the Army is on track, and he challenges every single member of the force to be engaged and excited about the future.

This was our Chief's last visit to Fort Knox in uniform. After 38 years of service as a cavalryman and tanker, he steps down and leaves a Transforming Army with irreversible momentum. He concluded with, "it has been a privilege to be your Chief, but more importantly, it has been a privilege to be a soldier." Well, we in the Mounted Force say, "Thanks Chief, it has been our privilege to serve with you and follow your lead!"

General Kevin Byrnes, U.S. Army Training and Doctrine Command (TRADOC) Commander, told us that the performance of U.S. soldiers in combat has proven that our leader development training is right and produces competent, agile, and adaptive leaders; and that soldiers out of initial entry training are up to the combat task.

In recounting his visits with wounded soldiers at Walter Reed Army Medical Center, General Byrnes said, "The noncommissioned officers wanted to talk about their soldiers and the soldiers wanted to talk about their leaders. This is testimonial of soldiers and leaders sharing mutual trust and respect." He also spoke about getting the experience of Operations Iraqi Freedom and Enduring Freedom spread across the force by bringing veterans of these operations to schools as instructors and trainers. Bottom line — we will stay on track with training as our number one priority.

During his presentation, General B.B. Bell described the role of U.S. Army Europe in setting the conditions for operations on the Northern Front during Operation Iraqi Freedom. Although diplomatic differences resulted in the 4th Infantry Division entering the theater through Kuwait, the effect of USAREUR units in northern Turkey was nothing short of amazing. The insertion of an Armor task force into an airfield secured by the 173d Airborne Brigade showed the remarkable flexibility, agility, and adaptability that are the hallmark of Armor and Cavalry. General Bell challenged us to see into the future and imagine how a Stryker Brigade — then a unit of action — would deploy and be employed in that same battlespace — a pretty good argument for where we are going.

Lieutenant General Tom Metz brought us up to date on Phantom Corps and surprised us with the fact that 65 percent of the Phantom Corps had deployed in support of operations in the Global War On Terrorism. You would have been proud when he described the support that 1st Cavalry Division provided the 4th Infantry after they had shipped their equipment and needed to maintain their training edge. Passing on a little experience to young leaders, he advised, "know your doctrine, develop your leaders, and train your soldiers." It's a pretty simple formula, and one we should remember and enforce.

Lieutenant General Richard Cody's view of the Army assured us that our training

DRIVER'S SEAT

The NCO Corps — Producing Premier Leaders

by Command Sergeant Major George DeSario Jr., Command Sergeant Major, U.S. Army Armor Center

First, I would like to say what a great honor it is to be selected as the U.S. Army Armor Center and Fort Knox Command Sergeant Major. I would like to thank the soldiers, peers, and supervisors who trained, developed, and guided me in all my endeavors.

I have the listening post/observation post, binos, compass, map, weapons, and radio in hand ready to accomplish my mission. I look forward to working with all of our great Armor and Cavalry troopers and leaders. I will continue to make the Armor and Cavalry Force proud of its history.

I have no earth-shattering advice, but I would like to share some time-proven wisdom passed on to me by my senior noncommissioned officers — the two basic responsibilities of an NCO — accomplish the mission and ensure the welfare of your soldiers.

As NCOs, we must produce well-trained, maintained, fit, and motivated troopers and crews. To accomplish this, we must have uncompromising discipline and integrity — discipline and tough training equal unit pride.

In all aspects of our profession, we have published standards to assist the NCO to achieve a GO in any situation. This is where iron discipline comes into play. Anytime an accident happens, we can trace it back to a published standard that was not enforced. This is what we, the NCOs, must instill in ourselves and in subordinates — iron discipline to maintain the published standard. Our most critical task is to follow up and check our subordinates in accomplishing the mission — never give a mission without checking the progress or end result.

The master sergeant selection results for fiscal year 03 are out and the crew from Office, Chief of Armor has completed a board analysis. Bottom line, our career management field (CMF) 19 is healthy.

A total of 92 sergeants first class were selected for promotion to master sergeant; 68 from the primary zone and 24 from the secondary zone. The previous selection rate was an 80/20-percent split between the primary and secondary zones. This year the Department of the Army removed this predetermined rate, and the board selected the best in each zone for a 74/26-percent split and the secondary zone was expanded to 18 months. Expanding the secondary zone increases the number of soldiers considered and lowers the Armywide selection rate. Of the 92 selected, 58 were military occupational specialty (MOS) 19K40 and 34 were MOS 19D; this matches the force's authorization percentage.

In accordance with the Armor proponency guidance booklet and Department of the Army Pamphlet 600-25, *U.S. Army Noncommissioned Officer Professional Development Guide*, the panel established a minimum standard for credible time served in key leadership positions, for example, platoon sergeant is 18 months. The panel looked favorably at NCOs who had more than 18 months, and gave a positive discriminator to those who had first sergeant time.

The key to getting promoted to master sergeant is serving a minimum of 18 months successfully as a platoon sergeant. There appears to be sufficient opportunity to serve a minimum of 18 months in platoon sergeant positions, in accordance with the proponent guidance. Serving as a platoon sergeant for more than 24 months is both preferable and attainable. Sergeants first class completing TDA, master gunner, staff, or AC/RC assignments should not look for another position of this type until they complete their platoon sergeant time in an MTOE unit. If moved from the key platoon sergeant position, the NCO should move into a career-enhancing position, such as senior drill sergeant, noncommissioned officer education system small-group instructor, or observer controller at one of the Army's training centers. Back-to-back TDA assignments and long periods of TDA time were negative discriminators.

Records on training, civilian education, and military schooling show most CMF 19s have college credit. Every NCO should pursue education to at least the associate degree level; college education demonstrates soldier initiative and the desire for self-development. Military courses, such as master gunner, scout leaders course, and Ranger School, help develop the soldier in to a well-rounded and well-trained NCO, which is an extreme benefit to the unit.

When evaluating an NCO using the Noncommissioned Officer Evaluation Report (NCOER), the rater must be specific when addressing the rated NCO, especially if the NCO is filling a master sergeant or first sergeant position. The rater must include how long the NCO has been in the position. A precautionary note, bullet comments addressing NCO education system performance, such as making the commandant's list or graduating in the top 20 percent, must match the NCO's academic evaluation report. Board members are comparing. Annotate the Army Physical Fitness Test (APFT) scores on the NCOER, especially if the NCO is awarded the APFT badge.

Senior raters need to address three areas: potential, overall performance, and future schooling/assignments. Your first bullet should address the NCO's potential in areas such as promotions and schooling. Be clear and to the point: promote now, promote ahead of peers, promote, or do not promote. Absence of a promotion recommendation sends a negative message. The board should see consistence in the NCO's past performance and potential records. You should place your strongest bullet comments first.

As senior leaders, we should encourage our NCOs to aggressively pursue increased participation in NCO recognition programs such as Sergeant Morales, Sergeant Audie Murphy, NCO of the Year, Instructor of the Year, and Drill Sergeant of the Year. The demonstrated performance of excellence and membership is considered for the very best and makes a positive impact throughout the long-term career of an NCO.

In closing, I would like to thank Command Sergeant Major Gainey for leaving such a fine outfit. To Major General Tucker for trusting me to be his wingman: Sir, thanks for the chance to excel under your command.
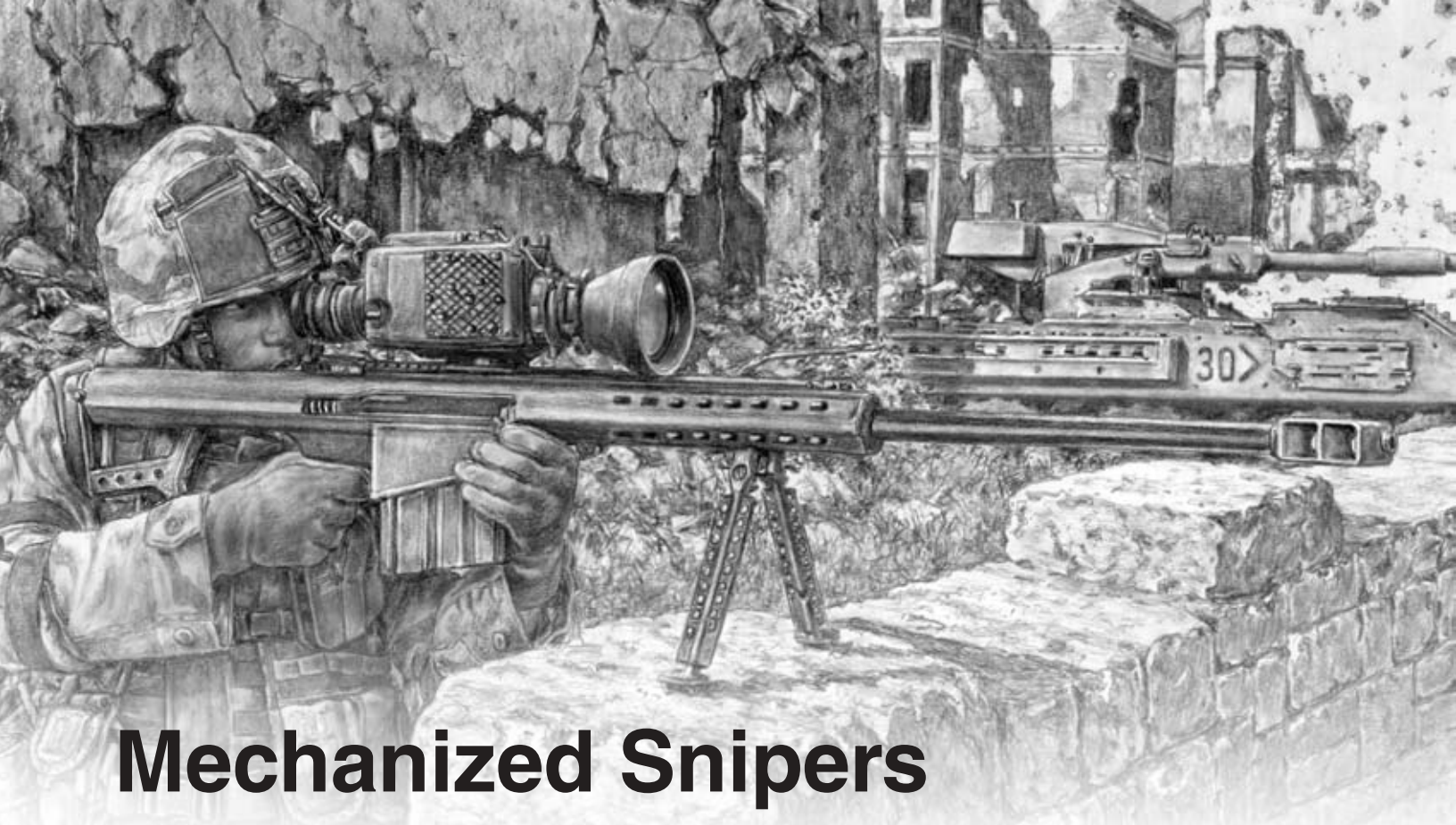
Mechanized Snipers
On the Force XXI Battlefield

by Captain Timothy Morrow

On the armored battlefield, we plan for maneuvering tanks and Bradleys, integrating air defense artillery (ADA) and field artillery (FA), and placing logistics and engineer assets for maximum effectiveness. However, we ignore one of our most important systems — the venerable sniper team. Sniper teams can help prevent enemy infiltration, help confuse the enemy at choke points, and they make the enemy's dismounted infantry afraid to move on the battlefield.

As far back as the American Revolution, snipers have made outstanding contributions to combat effectiveness. Unfortunately, between wars, snipers are all but forgotten. During wartime, snipers are developed into lethal battlefield forces; after the war, we forget all about them while focusing attention on the acquisition of new weapons systems and combat platforms. Given this cycle, the sniper programs have to be completely rebuilt at the onset of another war. The light infantry resolved this problem through modification table of organization and equipment (MTOE) changes and the Army Sniper School at Fort Benning, Georgia. Since then, our light units have maintained permanent sniper programs manned by professional, highly trained snipers. Unfortunately, this is not the case with our mechanized and heavy armor units. Most of these units have no snipers, let alone a permanent sniper program staffed by professional snipers.

In armor units, we typically feel safe or even invincible against all but the most deadly enemy weapons. We stand tall in our turrets knowing that if the infantry enemy attacks, all we have to do is drop down inside and shoot. We do not think about our vulnerability to one well-placed rifle shot. The one shot that can come from anywhere, anytime!

Why can't we just button up and deal death? In all honesty, we all know how frustrating and confusing it is to maintain combat

formations and momentum while our hatches are closed. That confusion is almost as detrimental a deterrent as losing the tank commander (TC). Be we can force our enemy to close his hatches with a minimum of resources — just one sniper and a spotter. The enemy is not any better at driving around buttoned up than we are!

Because the snipers' most common mode of movement is dismounted, they are usually thought of as too slow to be used in mechanized infantry or armor units. It is assumed that they cannot make it to the fight in time to be of any use, and because they use small arms, they have little or no effect against mechanized enemy forces. These misconceptions have engendered most units to neglect their sniper programs. It would appear that mechanized snipers have been shoved aside by larger, faster, and more lethal technology. But, as we have seen time and time again, when we start to ignore the men with rifles and treat them as stone-age hold outs, we enter a conflict that again teaches us just how effective and necessary they really are.

With proper planning and the appropriate resources, the above-mentioned problems do not pose any disability for mechanized sniper teams. One way to overcome these liabilities is by changing the MTOE to permanently attach snipers to the mechanized battalion's scout platoon. This gives them the speed, security, and logistics support needed to maneuver and operate on a mechanized battlefield.

Doctrinal shortfalls include field manuals that address using snipers in a mechanized or armor unit. Most doctrinal attention seems to have been given to using snipers in light infantry and airborne units.

Because current doctrine lacks guidance on using sniper teams in a mechanized battalion, our battalion task force has been free

to experiment with deploying and employing sniper teams. We have used them on varying missions related to the mission essential task list of a Force XXI mechanized infantry task force (in an Armor heavy brigade), and deploying them in both defensive and offensive operations at home station and the National Training Center (NTC), Fort Irwin, California.

Over the past year, we have learned several effective techniques for deploying and employing our three sniper teams in support of task force missions. We learned:

● They are extremely useful in aiding the reconnaissance-gathering capabilities of the battalion recon platoon. Their slow, silent target stalking gives them the secrecy to view and report enemy positions in great detail without being compromised.

● They are successful in attacking enemy antiarmor weapons and crews, identified by either themselves or the task force scouts. During our NTC train-up and NTC rotation 02-05, our snipers were able to destroy several "AT-5" positions and dismounted infantry antiarmor ambush positions by stalking within rifle range and engaging them with direct and indirect fires.

● They are very successful in the counterrecon phases of battle. They deter enemy scout movement in friendly sectors by watching rough terrain that may be deadspace according to thermal and infrared scanning equipment. Because they have night vision capabilities, the snipers can track and engage several enemy scouts during training. During one of these events, in conjunction with the rest of the scout platoon, they captured 13 infiltrators and "killed" several others.

● They can be used to man long-term observation posts for controlling indirect fires and gathering intelligence. During our field training exercises and our NTC rotation, the snipers were often the only "eyes on" a particular intersection or ford sight. With no vehicular thermal signature, great precision, and direct-fire capabilities, snipers made up the perfect team for this type of observation work. Our snipers destroyed many tanks and armored personnel carriers over the past year, including several TCs and drivers, with direct and indirect fires. During one of these exercises, one of our sniper teams had the highest indirect fire kill rate in the task force.

● They are very useful for causing enemy confusion at choke points. They accomplish this by shooting exposed crewmembers and by calling for indirect fires. During training, they have successfully stopped several tanks by killing their TCs or drivers while they were going through choke points. In all cases, this served to create very effective obstacles.

Over the past year, we have learned many important lessons about supporting sniper teams, and we have come to several important conclusions regarding their movement on the battlefield and their unique logistics requirements.

We found the best way to move the snipers around on the battlefield is to attach them to the scout platoon. This gives them a high mobility mode of transportation, and it also gives them the logistics, security, and evacuation support of the scout platoon. This enables the snipers to be more mobile and gives them more survivability on the battlefield should they need to be extracted or resupplied during extended operations. They can also combine with the scout platoon to engage enemy targets for hasty attacks and ambushes. This becomes very important in the counterrecon role.

We have also found that by making snipers an organic part of the scout platoon, training needs are better focused and efficient. Scout and sniper training have many similar individual and collective tasks. This arrangement better accommodates creating a training schedule that is tailored to the snipers' special requirements. This also helps incorporate the snipers into the scout platoon's training, which allows for creating better, more integrated standard operating procedures (SOPs), which make working together more feasible than would be possible if the snipers were an organic part of a line company that was only

"As far back as the American Revolution, snipers have made outstanding contributions to combat effectiveness. Unfortunately, between wars, snipers are all but forgotten. During wartime, snipers are developed into lethal battlefield forces; after the war, we forget all about them while focusing attention on the acquisition of new weapons systems and combat platforms. Given this cycle, the sniper programs have to be completely rebuilt at the onset of another war."

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temporarily attached to the scout platoon. By making snipers an organic part of the scout platoon, they have integrated SOPs and training, which allows them to meet the "train-as-you-fight" standard.

Some of the most critical lessons we have learned pertain to the equipment used by snipers and the equipment needed by snipers. These include additional allocations of radios and other communications gear. We currently borrow sniper radios from scout dismount equipment and from elsewhere in the battalion. This works fine for the snipers, but it leaves the scouts with commo shortages when it comes time for them to dismount.

As for communications equipment, the snipers need small, easily packable radios and a good directional antenna to allow for longer-range communications. A typical squad of six snipers requires at least three of these communications sets. This allows them to operate further from the parent recon platoon, while still maintaining a good communications link with the task force.

Scouts and snipers both use the all-source imagery processor. These systems are very light and do not take up much room inside a rucksack — something extremely important to snipers. Directional antennas are easily made from resistors and landline wire. There are many types of these and they are all easy to build. In addition to being directional, which makes it difficult for the enemy to triangulate the radio's position, they often increase the radio's communication range. This allows snipers to operate even further forward, if necessary.

The weapons requirements are not as easy to acquire. A sniper fight against armored forces requires more powerful weapons than those of the snipers who train to fight light forces. Because they have to engage many targets that are vehicles (many of which are armored), the primary sniper needs a heavy sniper rifle, something on the order of the old Barrett M-82 .50 caliber. This weapons system gives the sniper the ability to engage vehicle targets at extremely long ranges and provides an additional punch to take on lightly armored enemy vehicles, such as amphibious reconnaissance vehicles and infantry combat vehicles. It is also very useful against aircraft, fuelers, radar equipment, communications equipment, and many other types of mechanical targets.

For the spotter, an accurized M-16 with a scope or an M-21 (even better) is useful for pouring out a high volume of fire aimed at exposed TCs and drivers of fast-moving vehicles.

When TCs and drivers are hanging out of their hatches (which they often are), they are very vulnerable to sniper fire. If one of them is hit, it causes utter chaos for the rest of the crew. The vehicle has to stop to remove the injured person, then they have to replace him and, while they are doing this, they are loosing their combat momentum and giving the sniper team more targets. The M-24 (the bolt action rifle currently in use) is not capable of putting out the high volume of fire often required to hit rapidly moving targets at extended ranges. It also requires a good deal of movement to cycle rounds. This draws attention to the sniper's position, especially in open desert environments that may not offer good cover and natural concealment. This is very important because of the high rate of speed at which mechanized snipers move around the battlefield. They are often moving into position (via vehicle) just in time to cut off a moving target. This sort of hasty ambush does not afford them time to prepare a proper sniper "hide" that would completely conceal their movement from the enemy.

Sniper teams are very useful and are an underused asset in most mechanized units. Because of issues concerning transportation and equipment, they have been all but forgotten by most mechanized units. Although their usual equipment leaves much to be desired (for mechanized warfare), they still are a very useful addition to any task force's combat power. They are capable of improving a commander's view of the battlefield, directing indirect fires far in advance of the friendly main body, and wreaking havoc on the enemy's forces. They can add to the scout platoon's recon-gathering capabilities and can harass and even destroy the enemy at choke points. They have the ability to use indirect fires to break up the enemy's command and control of vehicle formations as they move, and they can prevent the enemy's dismounted infantry from moving freely on the battlefield.

If they are given the proper support and more powerful weapons, snipers can become a truly formidable force on the mechanized battlefield, capable of preventing many of the enemy's most critical functions and hindering their movement. Because of this potential, we need to closely consider training and equipping more sniper teams in our Army's mechanized and armor units. We also need to reroute some of our funds to pay for updated and more powerful weapons systems and equipment. This will bring our snipers in to the 21st century as legitimate members of combined operations — capable of striking fear in the hearts of mechanized enemies and preventing them from carrying out their missions. It is time to take snipers out of the history books and put them on the battlefield where they belong.

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Tough Bows and Iron Blades: Modifying the M1 for Urban Battle

by Captain Frank Bridges and Captain (P) Michael R. Evans

Now to bring the tough bow out and bring the iron blades.

Now to try these dogs at archery to usher bloody slaughter in.

Homer, *The Odyssey*

Odysseus went into the final battle of his long homecoming badly outnumbered. He knew that he would have to defeat his enemies quickly and decisively and that a long attritional struggle would result only in his utter defeat, and so he prepared accordingly: he took a bow and iron axes to a fight with men armed only with bronze swords and spears. He had prepared ahead for an unfamiliar and risky tactical environment and modified his equipment accordingly.

Sooner or later, the U.S. Army will fight an urban battle, and tanks will be there. While the M1-series tank is an awesome combat system, it is not optimized for an urban environment. Unmodified tanks will not be fully capable of executing their doctrinal role, if they are not optimally prepared. In the worst-case scenario, an unprepared tank must expend all its

energy and the energy of a dedicated infantry element simply avoiding destruction. If tanks are not to be relegated to the role of helpless observers, shepherded by infantry to meet the demands of force protection, then tanks will require some modification to prepare them for this unfamiliar and dangerous environment. This article suggests some ideas for simple, currently available, easy-to-install appliqué systems that will enhance the M1-series tanks' already substantial capabilities for operations on an urban battlefield.

The Urbanization Trend

Current demographic trends point out a simple fact: the world population is increasingly urban. The 20th century appears to have been the last in which a majority of humans lived in nonurban areas.

By 2015, more than 50 percent of the world's population will live in urban areas if this trend continues.[1] Many of these urban areas, unprepared for this scale of growth, are plagued by political instability, poverty, fast growing populations of young men, low rates of employment,

breakdown in civil authority, and other ingredients for conflict. As urban areas loom large as potential battlefields, Army armored and mechanized forces face a real challenge. One frequently heard commentary on urban operations bluntly states, "Tanks don't go into cities." This is, however, flatly contradicted by historical review, current doctrine, and common practice. One recent chronicler notes that of 40 major urban battles between 1920 and 1994, 32 were fought with combined arms forces that included tanks and/or other armored vehicles.[2] Tank mobility, firepower, and armor protection are invaluable to infantry in moving through and clearing urban areas. Clearly tanks do go into cities, both historically and in the future, likely for the simple reason that cities are where people are and that is where the battles will be. The degree of success or failure once enjoyed by armor, however, bears some examination.

Combined Arms and the Urban Environment

The key factor to bear in mind is that tanks must always be employed as com-

ponents of a combined arms team in the urban environment. Lone tanks in urban areas are dead tanks. This is nothing new. What is new is the level at which this task organization will occur. The level at which tanks will be task organized on the urban battlefield is situation dependent; however, due to the compartmentalized and restricted nature of the urban environment, it will generally be at a much lower level than that normally applied. This could be a platoon supporting a company, as is generally done in open country warfare, but it could be down as low as individual tanks working with squads.[3] This means that tanks will be "on their own" to a much greater degree than has been common practice in task force or company team operations.[4]

From this starting point, tanks must be regarded critically in terms of their relative strengths and weaknesses in urban areas. Many of the normal strengths of a tank are minimized on the urban battlefield, and many of the weaknesses become serious concerns. Careful consideration and mitigation of these weaknesses will be critical to success or failure on urban battlefields.

Historically, the U.S. Army has viewed the urban battlefield with trepidation and has approached the problem by the simplest method — firepower. U.S. Army Field Manual (FM) 3-06, *Urban Operations*, notes the pervasive trend of U.S. Army WWII experience, "The legacy of Army operations was an effective tactical solution to urban offensive combat:

isolate the urban area, seize a foothold, and expand the foothold block by block until occupying the entire urban area and destroying the enemy. The doctrine's emphasis on firepower kept friendly casualties to a minimum. Unfortunately, when enemy forces stoutly defended the urban area, the emphasis on firepower resulted in its virtual destruction and high casualties among noncombatants.[5] This approach is no longer acceptable or even desired. Instead, precise fires, restrictive rules of engagement (ROE), careful force protection, and rapid and decisive operations are the likely hallmarks of future urban battles. Within these restrictions, the tank mission remains essentially unchanged. Tanks are generally employed on the urban battlefield in one of two primary roles — support by fire (SBF) and attack by fire (ABF).

While these tasks are familiar, execution in urban environments is not. One of the most significant aspects of the urban battlefield is the all-around nature of the battlespace. Linear operations will be nearly impossible. Any piece of the urban landscape is subject to enemy reoccupation if it is left unoccupied or is not cordoned off by friendly forces. Without enough troops to occupy every piece of urban landscape, most military forces will move through the urban environment as a fish moves through the sea: passing through it without controlling anything more than the part within their immediate area. Opposing forces may similarly "swim" through this environment and may approach from any direction in three

dimension. Combat and service support units must be prepared for enemies that will approach not only from the front or sides, but also from above, below, or behind.

Tank crews preparing for this battlefield will find they must modify not only their tactics, but also their tanks. U.S. Army tank crews have done so before, in Aachen, Manila, Seoul, and Hue, to name only a few. Their tactical learning curve was matched only by their ingenuity: a review of history shows tanks with additional armor, added machine guns, hastily added external mirrors, exterior storage that doubled as spaced armor, improvised plows, and even directional mines affixed to hulls for close combat.[6]

Future systematized modification is still a subject for speculation, but one thing is certain — we cannot afford to learn on the job through attrition-based warfare; we simply lack the number of forces it would take to fight our potential enemies one-on-one, even if the price in casualties was still acceptable. Further, our historic form of linear operations may no longer be the dominant mode, both from a dearth of friendly forces and assets, as well as in response to threat tactics that make everywhere a front line.[7] The protection, rapid mobility, and precise fires provided by tanks remain a powerful battlefield asset, but there is room for improvement.

Armored vehicles bring to the urban battlefield long-range target acquisition, high volume precise firepower, armor protection, and mobility. The mobility is particularly useful: tanks can move rapidly over rubble and debris to points where, with their protected firepower, they can dominate or isolate areas. This rapid maneuver causes surprise, disorientation, and psychologically dislocates the enemy, which disrupts his plans and will. The union of mobility and protected firepower can benefit other elements, providing fires that can reduce almost any fortification in the face of enemy resistance. Applying these strengths in the urban environment, however, requires careful consideration, for weaknesses accrue as well.[8]

Armored vehicle weaknesses are generally known, but in practice have been mitigated during open country operations by effective tactics and by design practices dictated by the nature of the open battlefield. These weaknesses have been acceptable risks as long as open country warfare is the accepted norm. The urban area, however, turns many of these assumptions on their heads. Key weaknesses that assume importance in the urban area include two of the tank's three main

Layered Defense System

Layer 1 Long Range:
• Main Gun
• CROWS
• CSAMM
• Commander's Station

Layer 2 Medium Range:
• CROWS
• CSAMM
• Commander's Station
• Galix Grenade Launchers

Layer 3 Short Range:
• CROWS
• Commander's Station
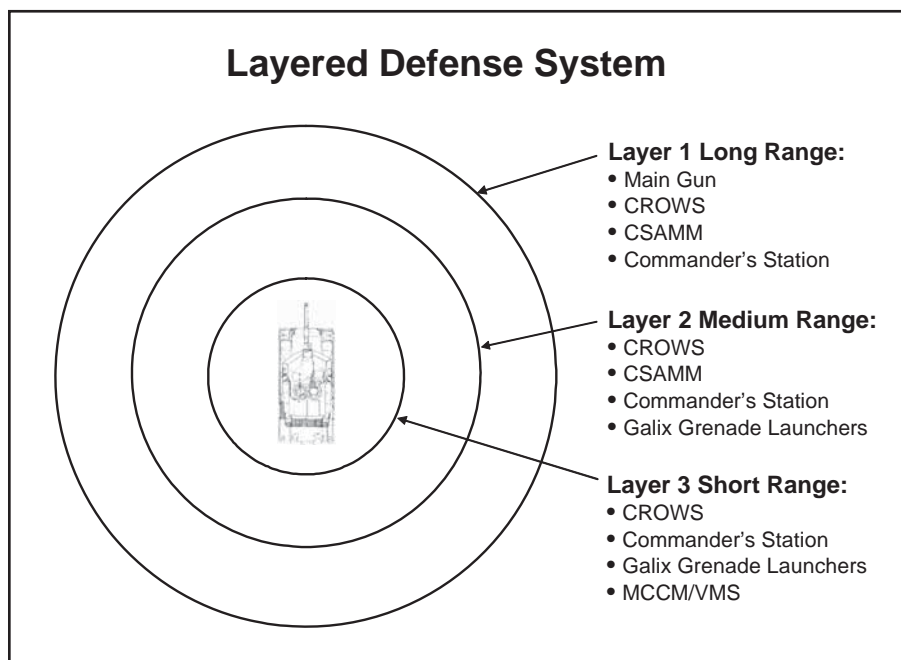• Galix Grenade Launchers
• MCCM/VMS

Figure 1. Layered Defense

"The firepower of the M1-series tank is almost without peer today, but it was not intended for the urban battlefield. One key limitation is main-gun elevation and depression. M1 tanks are designed with low profiles; accordingly, the interior size of the turret is limited."

features: firepower and protection. Turret/gun traverse length and poor close-range visibility hamper firepower; sacrifices in armor (on the top and rear in particular), coupled with poor visibility, create dangerous vulnerabilities. Clearly, modifications and adaptations that will mitigate these weaknesses will help the M1-series tank transition to an environment that its designers expected to avoid. Modifications should meet several criteria, however. Firepower, mobility, survivability, and the ability to work with the combined arms team should be improved. These improvements should consist of easy-to-install kits that can allow upgrading based on the threat; making maximum use of off-the-shelf components while minimizing modifications to the tank. Finally, the tank's ability to perform its battlefield mission of offensive mounted warfare should not be effected.

Conceptually, the approach to modifying the M1-series tank for urban operations may be seen as a system of zones based around improving visibility and forming a layered defensive armament. Visibility is improved with multiple, redundant acquisition systems against current visibility that is limited to the tunnel vision of the gunner's primary sight/gunner's primary sight extension and to the limited field of view offered by the commander's and driver's vision blocks and the loader's single rotating vision block. Layered defense is formed by "layering" current and new systems into long range, medium range, and short range. Several weapons systems and combinations provide overlapping capabilities for protection of the tank, allowing it to continue in its primary role of mounted maneuver.

Firepower[9]

The firepower of the M1-series tank is almost without peer today, but it was not intended for the urban battlefield. One key limitation is main-gun elevation and depression. M1 tanks are designed with low profiles; accordingly, the interior size of the turret is limited. Within this space, the size and length of the breech limits elevation of the main gun.

Similarly, limits on elevation result in a zone overhead in which the tank cannot fire. This deadspace is particularly dangerous. It offers ideal locations for fires on the tank's most vulnerable areas: the flanks, rear, and top, and from locations to which the tank cannot return fire.

The M1-series tanks' primary weapon is the 120mm main gun. Current M1 main gun ammunition is some of the best in the world, but tank crews are most familiar with armor-piercing, fin-stabilized, discarding sabot (APFSDS) and high-explosive antitank (HEAT) rounds, which are not the best for urban operations. APFSDS rounds are of limited use against non-armored targets such as buildings or bunkers.[10] The multipurpose antitank (MPAT) round (M830A1) and the MPAT obstacle-reducing (MPAT-OR) round (XM908) all have great potential value on the urban battlefield. A further avenue of approach might be to pursue NATO-compatible 120mm ammunition such as the high explosive multipurpose (HEMP) round being developed by Rheinmetall. Any of these rounds give the tank commander what he needs: an expanded range of options for the urban battlefield.[11]

Even with appropriate ammunition, the tank main gun may not be appropriate for all environments, particularly if restrictive ROE are in effect or friendly troops or noncombatants are present. A good ex-

ample would be counter-sniper engagements. Typical threat tactics might employ a sniper to bait U.S. forces into engaging with heavy weapons fires, in the hopes that U.S. fires would inflict noncombatant casualties or excessive collateral damage that would play into a threat information campaign. The tank's protection and target acquisition capability, however, makes it ideal for the counter-sniper role.

What the tank needs is the ability to engage targets with *limited* precision fires. Mounting an additional .50-caliber M2HB machine gun, on the counter-sniper antimaterial mount (CSAMM) would allow precision point engagements with .50-caliber fires using the tanks' own fire control system (FCS) and sights. Using the CSAMM, the crew can switch easily between main gun and a .50-caliber M2HB mounted coaxially with the main gun.[12] The mount includes a single shot to low-rate-of-fire timer and side mount solenoid to ensure controlled fires on target. The embedded ballistics of the FCS ballistic computer gives the gunner range and accuracy.

A further potential addition to the tank's precision armament is currently in production for the Stryker family of vehicles. The common remotely operated weapon station (CROWS) is a remotely controlled mount and sight that can mount either the M2HB (with 200 rounds) or Mk19 (with 32 rounds). The CROWS could be mounted either on top of the commander's independent thermal viewer (CITV) turret (on the M1A2SEP) or on the CITV mount position for the M1A1. This would allow an additional remotely operated weapon, or it could be used to replace the loader's M240 or the tank commander's .50-caliber machine gun on the M1A2, both of which can only be fired from an open hatch exposed position.[13]

Survivability

The urban environment will be characterized by close-range engagements, especially by enemy antiarmor teams who will approach as close as possible in an attempt to maximize their effects while avoiding the tank's defensive fires. Accordingly, the M1 tank should be able to defend itself from attacks that occur within its deadspace.[14] Adding grenade launchers, such as the Galix system, fire various types of 80mm grenades, including stun, smoke, flare, and tear gas singly or in volleys. The modular crowd control munition (MCCM) paired with the vehicle mounting system (VMS) offers another solution. The M5 MCCM is

a nonlethal, rubber-ball filled explosive directional munition housed in a Claymore mine casing (it is identical in size to and interchangeable with the M18 Claymore). It is mounted on vehicle exteriors with the VMS kit. The VMS consists of four mounting brackets, junction box, and a control box that allows single or volley fire of the munitions from inside the vehicle. For nonrestrictive ROE environments, the M5 MCCM can also be exchanged with the M18 Claymore to provide a lethal defense option, which would be a particularly effective defense against short-range antiarmor ambush.

The tank also faces threats from lasers or laser-guided munitions. Laser threats include laser rangefinders, laser illuminators, or laser beam-rider antitank guided missiles (ATGMs). The U.S. superiority in mounted maneuver is well known across the world. Potential threats seeking inexpensive countermeasures against U.S. forces are actively procuring and fielding these systems. In the urban environment, a tank represents not only a component of combat power, but is also a high-payoff target; its size and apparent invulnerability make it a potent symbol. Close-range laser illuminators, coupled with standoff beam-rider ATGMs would be a difficult combination to counteract in the urban battlefield.[15] The U.S. Army has adapted commercial technology to a range of laser warning systems (LWS) for ground vehicles to provide threat detection as well as survivability, situational awareness, and targeting functions. LWS systems can also provide increased lethality through integration with the FCS in the M1A2, cuing independent sensors or slewing the turret or weapon to the threat to provide rapid return or suppressive fires.

Maintaining situational awareness (SA) is one of the greatest challenges for any element on the urban battlefield, but is especially so for tank crews. Operating with closed hatches, the tank crew lacks visibility and is dependent on accompanying infantry and on wingman tanks for much of the information that helps to make up their SA. SA can be greatly enhanced by adding visual devices that reduce or eliminate deadspace. Two methods of vision enhancement are a gimbaled sensor suite mounted on a mast and distributed sensor suites around the vehicle.

A good example is the head tracked sensor suite made by Kaiser. Mounted on an extendable mast, it is a simple "bolt-on" forward-looking infrared (FLIR)/image intensification (I2) and laser designator; the gimbal houses sen-

sors and has a 360-degree field of regard and a 90-degree look-up/look-down capability. When mounted on the bustle rack, it can be extended up to 20 feet above ground, from which vantage point the viewer can see over walls or other obstructions, onto rooftops, into elevated windows, and even peer "down" into depressions. The gimbal can be controlled through a head tracked/helmet mounted display system that can be mounted on the TC's or driver's helmet. The wearer simply looks in the direction and elevation of interest and the gimbal automatically turns to that point, as if the wearer was looking through the "transparent" sides of the tank. Alternately, for the TC for example, the gimbal can be joystick controlled.[16]

Tank crew SA would also benefit from seeing into close-range deadspace, especially to their rear. Linked to the VMS, an enemy's ability to employ deadspace to approach the tank would be almost eliminated. In a typical distributed sensor suite, the sensors are distributed around the vehicle, providing the desired field of view. Several examples of distributed sensors are:

- Primary forward facing sensor module consisting of uncooled FLIR, image intensified charge coupled device (with additive fusion), and 2-day cameras.
- Extended dynamic range day cameras for side view (some capability at dusk, dawn, and full-moon night).
- A rear-facing FLIR with reversed image to eliminate mirror effect from looking backward.

Maintaining SA is vastly simplified if all sensors on the battlefield could be networked together so those who need information could acquire it in near-real time. Adding TEAC's multi-channel mission data recorder (MDR) 80 to the Abrams tank would allow the crew to continually record information from all vehicle sensors. These might include an infrared/I2-fused sensor mounted on an extendable mast, the CITV, or the gunner's sight. In addition, the mission data recorder has provisions for connecting to a wireless network such as the warfighter information network-tactical (WIN-T). This connection allows the information to be shared with any other station on the network. Further, the Abrams crew could reach out and obtain sensor information from other platforms on the network, such as other tanks or fighting vehicles, Stryker vehicles, unmanned aerial vehicles, attack helicopters, and other platforms equipped with compatible systems.[17]

"Russian T80 tanks in the Battle for Grozny during 1994 and 1995 were equipped with reactive armor but proved vulnerable to the Chechen rebel tactics, which included volley fires of rocket-propelled grenade (RPG)-7 or RPG-18 rounds from overhead positions. Initial rounds would blow off the reactive armor panels, allowing subsequent rounds to penetrate. The Chechens also aimed for TC and driver hatches, knowing that these were particularly vulnerable points."

Mobility

A tank's combat power in urban combat is a critical element of the combined arms team. As such, they are an important target for enemy forces. One technique enemy forces may employ is using obstacles or mines to delay, fix, or destroy tanks. They can use this technique to either gain the information value of a destroyed tank or to remove their combat power from the team, thus making the infantry fight a relatively even match. Typical urban obstacles range from elaborately prepared systems to hastily erected systems, or inadvertent blockages that may simply be rubble, debris, or other readily available assets. Significantly, the obstacles are far easier to conceal than in rural areas: drainage pipes packed with high explosives or buildings rigged for demolition to collapse into streets or blow walls and debris out into streets are good examples. Other

types may be inadvertent, such as rubble and rebar piles, burning buildings, wrecked vehicles, or cratering caused by the collapse of underground structures. The engineer component of the combined arms team is absolutely critical, the demand for their services in the urban area may, however, be such that the combined arms team will have to make do with their own systems and assets in many cases.

One asset that was once considered essential is the dozer blade. In M60A3 tank platoons, one tank per platoon was equipped with a bulldozer blade for digging platoon battle positions. A bulldozer blade would be similarly effective today, for use in clearing rubble and barriers during urban movement.

Existing mine plow and roller sets are useful in some urban circumstances: the mine plow can effectively clear low

loose-rubble or dirt barricades that have been sown with mines; the mine roller is effective in clearing routes that are not hard-surface.[18] On hard surfaces, however, surface-laid mines will remain a problem: plows, rollers, or a dozer blade will be necessary to clear mines, especially in the face of enemy small-arms fire. The commander must be willing to accept damage or destruction of these assets in the event of detonation while "scraping" this obstacle.

Protection

During the battles for Hue and Saigon during the 1968 Tet Offensive, American armored forces provided decisive combat power that helped to defeat the enemy attack. This victory did not come without cost; armored vehicles were high priority targets for enemy forces, who acted accordingly. American armored units were subjected to numerous short-

"Sooner or later, the U.S. Army will fight an urban battle, and tanks will be there. While the M1-series tank is an awesome combat system, it is not optimized for an urban environment. Unmodified tanks will not be fully capable of executing their doctrinal role, if they are not optimally prepared."

range antiarmor ambushes and came under massive enemy fires as they maneuvered to assist friendly troops and destroy enemy elements. American armored vehicles were hit again and again by antitank weapons, thrown satchel charges, mines, grenades, and various calibers of automatic weapons and small-arms fire. Many vehicles absorbed massive amounts of damage; some were destroyed. Many that survived continued to fight despite damage that would have consigned a peacetime vehicle to depot-level maintenance.

Cover and concealment in close proximity to canalized avenues of approach will increase the likelihood of close-range ambush. The three-dimensional battlefield will also offer opponents positions from which to attack from above or below. Additional armor outside the frontal arc will help to counter attacks from these relatively vulnerable directions. Generally, additional armor will take the form of reactive or passive panels. Reactive panels are filled with explosives and explode outward when struck by an enemy projectile, disrupting an armor penetrating fragment or jet. Passive panels pre-detonate or disrupt a projectile before impacting the surface below it. Key points are:

- Turret top.
- Along bustle rack (turret rear).
- Engine deck.
- Rear portions of side skirts.
- Rear of hull, including exhaust grill.

Reactive armor only works once per panel and is best employed where there is a relatively low probability of being struck more than once at the same point. Russian T80 tanks in the Battle for Grozny during 1994 and 1995 were equipped with reactive armor but proved vulnerable to the Chechen rebel tactics, which included volley fires of rocket-propelled grenade (RPG)-7 or RPG-18 rounds from overhead positions. Initial rounds would blow off the reactive armor panels, allowing subsequent rounds to penetrate. The Chechens also aimed for TC and driver hatches, knowing that these were particularly vulnerable points.

For the urban area, additional armor must add to the vehicle's extant armor and must, like the vehicle, survive successive hits.[19] The armor should be spaced to reduce penetration and spalling, and should be sloped so as to create glancing impacts that can "dud" incoming rounds or reduce their effectiveness. These can be in the form of kits or they can be locally fabricated.

Locally fabricated spaced armor has been employed in a number of conflicts, recently by U.S. forces during the Vietnam conflict, by British forces in Northern Ireland, and by Russian forces in Chechnya. Typical materials used include welded metal bars and sheets of chain-link fencing.[20]

Infantry Support

To protect a tank from attackers within its deadspace, infantry must move with the tanks at all times.[21] This is not a support role, but should be regarded as a combined arms team, with the tank and infantry components playing the roles of separate mutually supporting maneuver elements within the larger team. As the infantry protects the tank from close-range attack, so does the tank enable dismounted maneuver by employing its protected firepower to destroy or suppress enemy positions prior to or during infantry assault.

Moving close alongside or behind the tank can be challenging.[22] The tank crew most likely cannot see the infantry and may be completely unaware of their precise location. The infantry may be employing the tank as cover just as the tank crew decides to move out or change position. Further, the extreme heat produced by M1 tank exhaust prevents dismounted infantry from following closely (unless an exhaust deflector is used). The team will generally employ traveling overwatch or bounding overwatch and will likely communicate with hand-arm signals and radio. While the size of the element will vary according to the width of the street, the technique is viable whether the bounds are by individual tanks and dismounted squads, by tank sections and infantry platoons, or by tank platoons and infantry companies.

There are three elements of the tank that could be modified to improve tank-infantry coordination: exhaust deflection, tank-dismounted communications, and target designation.

The exhaust gases of the M1A1 tank turbine engine are extremely hot and are hazardous to troops at close range. In the urban environment, however, troops will work in close proximity to tanks, possibly using the rear or sides of the tank for cover from enemy fire. While the maintenance exhaust deflector works well, the exhaust "elbow" for the deep water fording kit used by the U.S. Marine Corps is more robust and works better.[23]

Infantry working in close proximity to tanks must communicate with the tank commanders and crew. With the tank hatches closed, visual signaling is almost impossible, and volumes of traffic in the SA-challenged urban fight often swamp radio communications. Radio communications beyond line of sight may be severely degraded in the urban battle, particularly in the presence of steel-framed multistory structures. One method to improve communications is in development now: the ICOM wireless communication system.[24] Another method is attaching a TA-1 or TA-312 phone to the turret communications panel or wiring an additional intercom hookup.[25]

Infantry laser pointer target designators are invisible to tank crews unless they open their hatches and scan with night vision goggles. The thermal imaging system and CITV sights cannot see the infantry laser pointer; they also cannot see through window glass, a key point when considering both fratricide avoidance and

target designation by dismounted troops unfamiliar with tank limitations. A fused image overlays an image-intensification view on a FLIR view, allowing the tank crew to view laser pointer dots using the primary sight. This is critical in urban combat where infantry designation of targets for tank main gun fire will be the norm.

One size does not fit all in the urban environment. Urban areas vary, as will the threat environments and the missions to be performed there. Urban battles will be characterized by what General Krulak called "The Three Block War," in which relief missions, low-intensity conflict, and conventional battles will rage within the same battlespace, separated only by one or a few streets. Task force and brigade combat team commanders must have the tools to tailor their forces to this environment, just as the task forces are tailored organizationally. This process should be demand based and driven not by a checklist but by the informed judgment of the commander, based on his knowledge of the art of war. A kit approach of items or systems that is available now meets this need, reduces risk, adds flexibility and adaptability, and accelerates the acquisition process.

When U.S. tank crews are called on to enter that urban environment, they will have to do so whether they are prepared or not. The training and professionalism with which they approach that problem is a function of their training, organization, and professionalism. It is incumbent on the institutional Army to do the rest to allow them to execute their mission through demanding training, insightful doctrine development, and in rapid, holistic, and carefully considered innovation. Our enemies are adapting quickly to our established and comfortable ways of war; we must change ahead of their learning curve or face the consequences. One thing is certain — we cannot afford to wait until the last minute to search for our tough bows and iron blades.

Notes

[1]National Intelligence Center, *Global Trends 2015*, Central Intelligence Agency, Langley, VA, December 2000, p. 20.

[2]Roger J. Spiller, *Sharp Corners: Urban Operations at Century's End*, U.S. Army Command and General Staff College Press, Fort Leavenworth, KS, study commissioned in 1994, publication undated, appendix: Catalog of Urban Battles. The battles that did not include significant armored vehicles were Warsaw (1920), Nanchang (1927), Canton (1927), Shanghai (1932), Myitkyina (1944), Imphal-Kohima (1944), Santo Domingo (1965), and Port au Prince (1994).

[3]One effective technique employed by the U.S. Marine Corps has been to task organize a tank platoon with a company, broken down as a section each with two of the three infantry platoons. Each tank of the two sections is teamed with one squad; the third (infantry pure) squad forms the exploitation and maneuver element. The squad/tank teams serve as integrated fire/security elements. Two platoons of a company would be task organized in this way; the platoon without tanks would act for the company in the same role as the pure squad does at platoon level.

[4]Canalization and compartmentalization caused by structures and debris will force elements apart and require them to function on their own: a mere 50m separation between two tanks will be far greater in effect for the physical separation caused by 50m of structures, which precludes any supporting fires, line-of-sight communications, and possibly even FM communication. They will be truly on their own.

[5]U.S. Army Field Manual (FM) 3-06, *Urban Operations*, U.S. Government Printing Office (GPO), Washington DC, May 2002, p.1-7.

[6]Many of these techniques are discussed in detail by Ralph Zumbro, *Tank Sergeant*, Presidio Press, Novato, CA, 1986.

[7]Threat tactics may see battles not as conventional struggles to attrite or destroy forces, but rather as "propaganda of the deed" (Nikolai Bakunin), "information warfare" (FM 100-6), or "war as a spectacle" (IDF).

[8]FM 3-06, *Urban Operations*; for more information on demographic trends see the CIA publication *Global Trends 2015*, cited above.

[9]FM 3-06.11, *Combined Arms Operation in Urban Terrain*, U.S. GPO, Washington DC, February 2002, pp. 7-31 thru 7-36.

[10]In the absence of more specialized ammunition, some effective tactics may still allow significant effect if using service Sabot or HEAT ammunition: cracking a concrete bunker or stone wall, for example, could be done with a Sabot round to break the surface, followed by a HEAT round at the same aim point to exploit and widen the hole.

[11]CPT Frank Bridges, and SFC Michael J. Heeter, "Modifications to Enhance the M1A1 Abrams Tank for Urban Operations," briefing presented for the 16th Cavalry Regiment and for demonstration at the U.S. Army Armor Center Armor Conference, May 2002.

The MPAT-G rounds show superior performance in penetrating urban structures, making holes roughly twice the diameter of HEAT round holes and cutting the concrete rebar that HEAT often leaves intact. MPAT-OR rounds detonated inside the structures, another desirable feature. The HEMP round offers better demolition effect on soft or semi-hard structures, a significant feature in the absence of the now defunct 105mm HEP and the 165mm projectile of the discontinued combat engineer vehicle.

[12]Note that the CSAMM sets the M2HB low enough that it does not block the view of the CITV.

[13]As an example of the limited value of the loader's M240 in urban environment, during the recent Urban Combined Arms Experiment (UCAX) at Millennium Dragon 02, USMC tank crews removed the M240 and the mount to improve the traverse of the .50-caliber commander's weapon station (CWS).

[14]Tank crews in Vietnam mounted M-18 Claymore mines to vehicle exteriors with makeshift attachments: duct tape and sandbags (to cushion the hull against spalling) were the most common, with firing devices (clackers) and wire inside, usually at the drivers' position.

[15]While wire-guided ATGM are generally poorly suited to urban engagements, due to obstructions that could break or tangle the wire and due to the generally long arming distances after firing, beam-rider weapons could be emplaced at medium to far ranges and their laser illuminators would only be more efficient at close range.

[16]The authors tried this system in a demonstration by the contractor. When used with head tracking/helmet mounted displays, the gimbaled sensor suite provides very natural, hands-free operation. Operation of the gimbal can be allocated to any crew position as required. On the downside, since sensors are located in a single unit, it is susceptible to single point failures or damage such as sniper. Operation of the gimbal is limited to a single user, although multiple users can view the image.

[17]The MDR-80 minimizes communications bandwidth use by employing event marks coded into the recording. These can be introduced manually and/or triggered automatically by a predetermined occurrence such as laser ranging or designating a target, weapon firing, or automatic target recognition.

[18]Provided they are not wired together with rebar or integrated with large chunks of concrete or masonry.

[19]Spaced armor to pre-detonate incoming rounds is problematic because it depends on the nature of the projectile. The RPG-7 warhead forms a self-forging fragment at detonation that is effective at up to 18 inches of standoff and will penetrate 11 inches of armor at 0-degrees incidence. The RPG warhead is delicate, however, and chain-link type material will "dud" the round up to 50 percent of the time by damaging the nose cone firing circuit as the nose fuse passes through the space in the chain links.

[20]The bar stock is spaced to allow passage of the RPG-7 warhead nose while crushing the 66mm projectile sides.

[21]FM 3-06, p. 4-7.

[22]FM 3-06.11, p. C14. Moving in front of the tank could be worse. The muzzle blast of the M256 cannon will kill or seriously injure unprotected persons within a 90-degree frontal arc of the muzzle out to 200m. Beyond that, to a range of 1000m, the discarding sabot petals of APFSDS or MPAT projectiles can kill unprotected persons as well.

[23]In observation of both types of exhaust deflector during urban exercises, the deep water fording kit elbow is more resistant to damage. Further, the maintenance exhaust deflector is made of sheet steel and deteriorates rapidly due to corrosion and exposure to high heat: once warped or bent, it frequently drops off the tank. Finally, the elbow can be set at angles, including upside down: not only does this deflect the exhaust plume down (and away from troops overhead or on the tank deck) it can also be directed into manholes to induce enemy troops to abandon underground positions. The NSN of the Fording Kit, Deep Water is 2540-01-300-6502.

[24]Tested by the U.S. Marine Corps during Exercise Millennium Dragon 02, the ICOM is a multichannel, nonsecure, handheld, commercial off-the-shelf radio, similar to popular commercial family radios. They can be fitted with an earpiece and voice activated microphone.

[25]CPT William Carter and Mr. Jack Jory, "Appendix C, Ground to Tank Communications," Center for Army Lessons Learned (CALL) Newsletter 98-10, Center for Army Lessons Learned, Fort Leavenworth, KS. This system can be installed by organizational maintenance and employs a C-2296 VRC intercom control unit mounted externally and connected via a cable routed from the drivers' position along the floor of the hull. This system meets the requirements of Army Regulation 750-1, *Army Materiel Maintenance Policy and Retail Maintenance Operations*, Modification Work Orders (MWOs), paragraph 4-9f.

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Converting the IO Concept into Reality

by Captain Eric Guenther and Captain Gary Schreckengost

The 1st Squadron, 104th Cavalry, 28th Infantry Division, Pennsylvania Army National Guard, was tasked to stand up a task force for the stabilization forces in Bosnia, which included an information operations (IO) section (S7).

Whether you are in the artillery, armor, cavalry, or infantry branch, there is no organic duty skill identifier for information operations. We were directed by an artillery officer to establish an information operations function because it is a key force multiplier in conducting stability operations and support operations.

We read U.S. Army Field Manual (FM) 100-6, *Information Operations*, and FM 3-13, *Information Operations: Doctrine, Tactics, Techniques, and Procedures*.[1] Although they provide some good general information, actual hands-on training products were lacking. The intent of this article is to help battalion-level officers better facilitate IO at their level by:

- Defining what IO are and how they manifest at the battalion level.

- Recognizing the synergy between IO and artillery and imbedding the function in the armor battalion, infantry battalion, or cavalry squadron as a force multiplier.

- Summarizing current doctrine and synthesizing it with some of our own experiences.

- Offering a hands-on system for battalion-level officers.

- Relating many of the implied tasks in building IO — to help convert IO essential fire support tasks (EFSTs) into measurable essential field artillery tasks (EFATs).

According to FM 3-13, *Information Operations: Doctrine, Tactics, Techniques, and Procedures*, "Information is an element of combat power. IO is one means to that end. Focused IO — when synchronized with effective information management and intelligence, surveillance, and reconnaissance — enables commanders to gain information superiority. IO is a prime means for achieving superiority."[2]

Information and shaping operations are command functions at all levels. At the battalion level, this includes the commander down to the squad leader. IO is what drives the mission in stability operations and support operations, and as such, is an all-encompassing concept. They key to IO, like artillery, then, is in identifying and articulating targets and

calculating how to make them move in a particular direction or assume an attitude that we want. IO is all about gaining and retaining the initiative and in focusing the maneuver element's efforts in achieving the desired endstate.

With today's geometric proliferation of assets, especially lethal, such as mortars, cannons, rockets, or close-air support with multiple projectile combinations, and to a lesser extent, nonlethal, such as IO and psychological operations, officers must become better effects managers or planners. As such, IO will be a critical component to successful stability operations and support operations and must be thoroughly diffused throughout the commander's scheme of maneuver and its effects fully calculated beforehand.

IO at the battalion level manifests itself in many different ways. In short, IO is planning and executing interactions with the indigenous population to achieve the stated mission or reach an endstate by synchronizing multiple nonlethal assets. IO are therefore critical components of operations, plain and simple. It's just like firing a round to affect the behavior or attitude of targets. For example, if you say "x" to a person, he will do this, if you say "y," he will do that. As such, it must be

fully integrated into the scheme of maneuver. Not only did we provide talking points or television and radio scripts to soldiers, but we also calculated the effects of a patrol's force-protection posture as it delivered a specific message. What soldiers or squad leaders said while on patrol sent certain messages to the civilian population. These messages were calculated in advance because they did effect management or abatement.

IO Staff Section (S7)

The IO staff section at the battalion level exists to help the commander facilitate information or shaping operations within his area of responsibility (AOR) with non-lethal assets, and to act as a conduit with higher headquarters. In our task force, the IO was a separate and distinct entity, the S7, which was intricately connected with the S2 and S3. If your commander does not feel comfortable with this arrangement, the IO should be a subset of the S3 as it is a form of operations. Nevertheless, IO should be *fully integrated* with all components of operations. It was therefore our yeoman task to train ourselves in implementing IO and diffusing its vagaries throughout the entire command. It was also on us to develop a workable nonlethal targeting system and an EFST to EFAT conversion plan with sensible measures of effectiveness (MOE) for the task force virtually from scratch.

At first, the S7 consisted of two artillery officers and two noncommissioned officers (NCO) from the cavalry squadron. Once we arrived in theater, at the behest of our predecessors, we decided to split the section into an S7 proper and a public affairs office (PAO), both working together and answering the needs of the commander. We did this because the PAO is a critical component of IO execution and without a separate section, the S7 would have lacked the planning/targeting focus that was necessary to help the commander accomplish the mission. Our public affairs section also included a host-country national who knew the lay of the land and really helped in getting our focused messages out without compromising the S7's security concerns.

Because IO is such a critical component to stability operations and support operations, each task force should have one captain and one senior NCO to man the S7 section, one lieutenant and junior NCO to run the PAO section, and one lieutenant and one mid-level NCO to support each company in implementing IO tasks. Our troop commanders were often overwhelmed with planning and implementing IO tasks, as we had no

dedicated support staff at those levels. If there is a shortage of IO officers, then XOs should be trained in IO and assume the role of the IO officer at their appropriate levels. Nonetheless, the S7 should have command of the English language, be creative and flexible, and be somewhat experienced in targeting methodology.

Key IO (S7) staff tasks include:

- Planning, coordinating, and directing the overall IO effort.
- Developing IO plans with the commander's intent to support the concept of the operations and achieve the desired endstate.
- Developing IO objectives and tasks.
- Developing IO requirements and recommending IO-related commander's critical information requirements (CCIR).
- Determine availability of IO resources, such as psychological operations (PSYOP), and synchronize their effects to achieve the desired endstate.
- Synchronizing, coordinating, and deconflicting IO task planning.
- Synchronizing IO with the overall operation.
- Coordinating IO with higher and lower echelons.
- Nominating IO targets and developing a method of engagement.
- Facilitating the battalion's targeting meeting and/or IO work group.

- Preparing IO products, including operations orders (OPORD), talking points, and targeting synchronization matrices (TSM).
- Conducting IO training throughout the battalion.
- Assessing IO throughout the AOR and modifying plans as required. The S7 should do this by "getting out of the wire" and seeing how the IO plan is being executed at the squad, platoon, or company levels.

Nesting With Higher

As in fire planning, IO revolves around top-down planning and bottom-up refinement. At the battalion level, you will be assigned IO tasks or focus areas from higher headquarters that are tied to strategic or operational endstates. Think of IO tasks as EFSTs. The IO endstate also drove our mission statement, which was no doubt developed at the J-level and was then diffused down to the battalion level through the chain of command. An example of an stability operations and support operations mission statement, especially in its later-phases could be: "Task Force conducts stability operations and support operations in the AOR to deter hostilities, cooperates with the international community to develop self-sufficient institutions, and contributes to a safe and secure environment, eliminating the need for peacekeepers." Each word was deliberately chosen to help focus our effects. For example, "contributes" denotes a partnership with the host coun-

"IO at the battalion level manifests itself in many different ways. In short, IO is planning and executing interactions with the indigenous population to achieve the stated mission or reach an endstate by synchronizing multiple nonlethal assets. IO are therefore critical components of operations, plain and simple."

"The IO staff section at the battalion level exists to help the commander facilitate information or shaping operations within his area of responsibility (AOR) with nonlethal assets, and to act as a conduit with higher headquarters. In our task force, the IO was a separate and distinct entity, the S7, which was intricately connected with the S2 and S3."

try and not sole responsibility. And the last statement, "eliminating the need for peacekeepers," must be held into account when every mission is planned and all effects are calculated to achieve that ultimate goal or endstate.

As we executed the mission in theater, we received refinements at the beginning of each month at the information operations work group (IOWG), which was a brigade- or division-level operation. Once received, we nested our operations at the battalion level by converting the EFSTs into more specific IO tasks that can be likened to EFATs. For example, higher headquarters could give the following focus areas or IO tasks that supported the mission statement: "conducts stability operations and support operations in the AOR to deter hostilities, cooperates with the international community to develop self-sufficient institutions, and contributes to a safe and secure environment, eliminating the need for peacekeepers:

- T1: Conduct meetings with officials in areas affected by restructuring and troop realignments.
- T2: Use patrols and radio shows in affected areas to inform populace about any visible effects of the restructuring.
- T3: Inform the local populace of the limited role and capabilities of certain UN agencies."

Once these focus areas were received, it was the S7's job to help begin the military decisionmaking process (MDMP) by assisting the commander and the rest of the staff in converting these IO tasks into specific EFATs by using the decide, detect, deliver, and assess (D3A) artillery methodology. For example, to support the above tasks, our battalion determined which specific targets, people, or institutions should be engaged in our AOR by using D3A to achieve the desired effect. We also chose which asset would best service the target, such as squad leader, troop commander, squadron commander, PSYOP team, civil affairs (CA) team, or radio show, and used talking points from the brigade PAO by converting them into a tool that local commanders could better use in the form of an appendix to the battalion OPORD. All of this coordination, planning, and brain storming was done at our battalion targeting meeting, which was held once a week, several days after the IOWG.

Targeting Meeting

Our targeting meeting was a critical component to our success. The meeting was facilitated by the S7, chaired by the task force commander, and was fastidiously attended by our troop commanders, the S2, S3, and S5, the PAO, the PSYOP team NCO, the chaplain, and judge advocate general, when available. The team meeting's principle function was to ensure that our efforts were synergized to achieve desired endstates and that they were nested with the EFSTs, which were converted into workable EFATs. The meeting started by assessing last week's targets (week minus one), and discussing whether effects were achieved and if retargeting was required. Once assessments were completed, the S2 gave his intelligence brief to ensure that the IO campaign at our level was still relevant. The commander then restated the mission and gave his intent for week zero (coming week) targeting refinements. Once that was completed, we entered the most important phase, week-plus-one, or planning week, where the commander told us where he wanted to go and whether the EFSTs from the IOWG were reinforced or introduced by the S7.

Again, the key to the team meeting was in nesting with higher command levels and calculating all effects to ensure that they led the targets toward the desired endstate, as articulated in the mission statement. The S7's primary responsibility, whether at the S, G, or J level, is to help the commander articulate and calculate effects and focus all of his efforts to achieve the desired endstate.

Once the meeting concluded, the S7 completed the TSM for official publication and created an annex P that included appendices such as talking points and radio scripts. He then sent this information to higher headquarters to ensure that all week-plus-one targets were cleared and that the effects of week-minus-one were accurately recorded, analyzed, and contextualized.

Refinement

After our TSM was published, the S7 once again attended the IOWG at brigade and the process started over. As such, we had an IOWG and a team meeting once a week. Brigade compiled all of the task forces' week-minus-one assessments, made a collective conclusion, and offered any adjustments to their published EFSTs. The task forces then shared their plans for weeks zero and plus-one. The brigade ensured that efforts were not duplicated and offered reinforcement to the main effort. As such, D3A was a continuous, weekly process. When a new month started, the same methods were used again.

Implementation and Determining Measure of Effectiveness

The most challenging part of IO at the battalion level is implementation. The bottom line is that if your battalion is tasked to conduct stability operations and support operations, train your commanders, staff, platoon leaders, and squad leaders how to negotiate, use talking points,

On a Wing and a Prayer

Reversing the Trend in BCT ISR and Shaping Operations

by Captain David A. Meyer

It's line of departure (LD) -2 hours somewhere in the central corridor. The brigade commander enters the tactical operations center (TOC) for a quick intelligence dump before he moves out to the tactical command post (TAC), where the operations sergeant major greets him with a thunderous "AT EASE!" Everyone stands, except the battle captain and the S2. One look and the commander realizes it was a long night for the Brigade Combat Team (BCT). A quick scan of the main operations areas reveals that the S2 has the priority intelligence requirements (PIR) from mission analysis displayed outside of his track; the main battle map has operations graphics and a situation template (SITEMP) posted; and the proposed locations of all the BCT's intelligence, surveillance, and reconnaissance (ISR) assets from Annex L of the operation order (OPORD) are written on a note pad near the map. The battle captain, one of a number of capable officers from the S3 shop who rotate through the

graveyard shift, laments, "Sir, I just don't get it, we've had reports coming in all night, but nothing we can put together into anything useful." "Yes, Sir." adds the S2, "I have been pouring over these reports for hours, but they just don't seem to add up." The commander shakes his head, "So I guess none of my PIR have been answered?" His only answer is silence. "OK fellas, I guess we'll have to get them next fight."

ISR operations are "the fight before the fight." The units tasked to execute them operate with limited planning time and incomplete guidance. They execute in the dark, with little support and often only the sounds of their own voices for comfort. So, what's new? More and more, ISR assets are not just scouts in the night. Increasingly, they are the tools that BCT commanders use to shape their battlefields. With the reduction in size of the maneuver battalion, the addition of dedicated ISR assets at the brigade level, and

the proliferation of access to higher levels of intelligence, the relationship of the brigade to the battalions has changed. The main focus of the brigade plan can now shift from simply forming and synchronizing the schemes of maneuver and fires to directly influencing the success of the operation through shaping operations. The recognition of this new relationship is critical to the success of the brigade ISR plan.

U.S. Army Field Manual (FM) 3-90.3, *The Mounted Brigade Combat Team*, establishes the new paradigm: "Unlike [reconnaissance and surveillance] R&S missions, ISR operations are fully developed plans that begin during mission analysis. ISR operations are a commander's function supported by the entire staff and subordinate units. ISR develops, synchronizes, and integrates intelligence from a multitude of collection sources. ISR operations are multifaceted and their integration eliminates unit and functional

'stovepipes' for planning, reporting, and processing information, and for producing intelligence."[1] The practicalities of ISR operations are another matter entirely. The detail in planning and execution rigor inherently present in maneuver operations plans is seldom present in ISR plans, and no single person or agency is solely responsible for success or failure of those plans. These factors all cause the ISR plan and its execution to be unfocused and those executing it to be poorly resourced and supported. From planning through execution, the problems that regularly plague ISR operations can be broken into 10 basic categories:

I'll pin this rose on you — the dedicated ISR planner. The responsibility of the brigade to fully resource the shaping operation puts a whole new spin on the process of ISR planning. Just as the brigade operation will succeed or fail on the strength of the ISR plan, the brigade staff primaries, particularly the S3, must take a renewed interest in the accuracy and completeness of Annex L. While the primaries may not author the final documents, they must have a large hand in the initial echelonment of assets and deliver clear guidance to the ISR planning staff regarding the task and purpose for the brigade ISR assets.

The brigade S3 has multiple responsibilities and is under a constrained timeline, so he will likely not see the plan through to completion and the brigade must designate a permanent, full time ISR planner. The ISR planner, probably a captain from the S3 section, will receive guidance for ISR operations from the BCT commander and S3 following

the mission analysis brief. The ISR planner leads the planning effort in constructing and disseminating Annex L. Whoever the BCT commander chooses as his ISR planner must understand the capabilities and limitations of the brigade's total ISR assets. The brigade ISR planning team must include a representative from each major battlefield operating system (BOS), especially the military intelligence company analysis and control team (ACT) and BCT fire support element, and should use the PIR approved following mission analysis as the focal point for all their efforts. During this process, the direct support military intelligence company commander, serving as the BCT electronic warfare and signal intelligence asset manager, must ensure his systems, which are often neglected due to a poor understanding of their capabilities, are fully integrated into the ISR plan. ISR planning will almost always be a time-constrained process, so brigade must clearly establish the products and information owed to the ISR planner and the suspense date. The ISR planner must remember, however, that during this time of great activity, the brigade is focused on developing the plan for the main maneuver battle and the attentions of BOS representatives, such as the air defense artillery battery or company, may be split.

The ISR planner must aggressively pursue required details because brigade ISR assets will have little time to clarify his instructions prior to execution. In this last regard, the ACT is habitually underused. The ACT is the brigade's "window to the world" to higher-level intelligence. The ACT chief can provide the ISR plan-

ner with a current intelligence picture, a snapshot starting point, which will allow the planner to construct a more focused plan based on current enemy information. The ISR planner leads the process through the ISR rehearsal when he hands off the plan to the ISR executor.

Can you repeat the question — PIR specificity. PIR is "an intelligence requirement associated with a decision that will affect the overall success of the command's mission. PIR is prioritized and may change in priority over the course of the operation's conduct. Only the commander designates PIR."[2]

PIR generally focus on information required to prevent surprise, support planning, support decisions during execution of a friendly course of action (COA), and engage high payoff targets in support of a COA. They are products of the decisionmaking and targeting processes. The decisionmaking process leads to selecting friendly COA. The selected COA includes a list of intelligence requirements (IR) some of which the commander will designate as PIR. The S2 will weigh the PIR to organize the collection effort. The S2 must use the ISR plan and tell commanders what they need to know in time for them to react.

PIR should ask only one question. They should be specific, answerable, and actionable. PIR must provide what (intelligence required), why (dependent decision), when (latest time information of value), and how (format, method of delivery). Overly general PIR dilute the ISR focus and create an unwinnable situation for the S2. The S2 must sort through the information flow and create tools to assist the staff to filter useful, routine, and unusable information. Vague PIR will not produce timely information for the brigade. PIR should directly relate to a maneuver decision. Finally, because PIR are approved for use and are disseminated earlier than any other major BOS product, the S2 must ensure that if PIR change or are modified, or if new PIR are created, that the ISR plan addresses the new PIR. The S2 and S3 must constantly

"Recon handoff (RHO) is an operation between two units that transfers information and responsibility for reconnaissance and surveillance of an assigned area or enemy contact from one unit to another. The purpose for RHO is maintaining contact with the enemy or observation of a specific area, and ensuring that recon units are not in each other's direct-fire range."

monitor the progress of the ISR effort so that they will know when to update PIR or to modify the ISR plan. The PIR, and with it the ISR plan, must stay relevant to the maneuver plan as it develops, or neither will be able to support the BCT commander at the point of decision.

Most Scouts can't even spell Huachuca (Wa-chu-ka) — specific information requirements (SIR) and specific orders and requests (SOR) specificity. "In many cases, the IR will have to be broken down into specific IR sets that ask very specific questions about indicators. These indicators are tasked to collectors, and taken together, they answer the larger question. Once an asset is chosen to collect information for an IR, planners will build good SOR to give focus to the assets on what to do with the information once they retrieve it. The SOR is a directive statement that tailors the reporting criteria to the collection capabilities of the tasked asset."[3]

Generally speaking, soldiers who do the hard work of information gathering are the best the unit has to offer. They spend extended hours in hazardous situations, often with little or no support or guidance. They are not, however, very well versed in details of how an IR is developed and how they end up with it. The average military education level of those executing the plan is officer basic course or basic noncommissioned officers course and this must be taken into account. The brigade staff must be disciplined to ask specific, realistic, and most of all, answerable questions of its collectors. In the same way that vague PIR are useless to the BCT commander, SIR without enough detail, and SOR without times and methods, are of no use to their consumer. ISR planning staffs must assist subordinate leaders of the BCT's ISR assets by ensuring the intelligence language of the PIR, SIR, and SOR are specific, executable, and can be translated into the operations language spoken by those tasked with the mission. To do less would violate the planning staff's basic principle to support the warfighter's needs.

You want me to look where — named areas of interest (NAI) specificity and relation to enemy decisions. "Mission analysis results in the creation of an event template with timed phase lines tied to NAI and target areas of interest (TAI) that are linked to decision points (DP) for the commander. The NAI, TAI, and DP are expressed on the decision support

"Generally speaking, soldiers who do the hard work of information gathering are the best the unit has to offer. They spend extended hours in hazardous situations, often with little or no support or guidance. They are not, however, very well versed in details of how an IR is developed and how they end up with it."

template (DST) and link the things the commander needs to know with the geographical location the information may be found, and the time the information is likely to be available (based on the event template)."[4]

Intelligence preparation of the battlefield must identify the enemy's decisive actions. These decisive actions must then be prioritized and focused for the brigade's ISR assets. The ISR plan must not simply track the enemy into sector. Rather, it is the method by which multiple enemy courses of action are confirmed or denied, and through feedback of ISR information into the maneuver plan the brigade commander makes decisions. To further complicate things, units will often only produce an enemy SITEMP, which only displays one possibility rather than several possibilities with enemy maneuver tied to time and space. The ISR plan then becomes the default mechanism to track the enemy's movement, and units are instantly in the reactive mode and rely heavily on higher intelligence feeds. The event template is the most important product needed for ISR planning. With the event template, the ISR plan can be used properly to assist the brigade in being proactive and ensuring the brigade remains focused on the enemy decision points as they relate to friendly and enemy maneuver decisions. This focus can then be reflected in the NAI assigned to ISR units and forms the basis for the ISR executor's actions.

What's your vector Victor — ISR battlespace deconfliction and triggers. "Recon handoff (RHO) is an operation between two units that transfers information and responsibility for reconnaissance and surveillance of an assigned

area or enemy contact from one unit to another. The purpose for RHO is maintaining contact with the enemy or observation of a specific area, and ensuring that recon units are not in each other's direct-fire range. RHO is normally associated with a designated area or recon handoff line (RHOL) (phase line); it may be of a sector or zone, NAI, TAI, and/or threat contact. RHO can be visual, electronic, digital, or analog."[5]

The brigade security zone is an increasingly crowded place. The creation of the brigade recon troop and the continued proliferation of information from division, and higher-level, observation assets, such as unmanned aerial vehicles and JSTARS, down to brigade level has created a whole new requirement for deconfliction of the ISR battlespace. To accomplish this, the brigade must organize ISR assets in both space and time. RHOLs must be established and treated as restrictive boundaries. Boundaries and other graphic control measures must be created and enforced to guarantee the proper echelonment of forces to accomplish the mission. The brigade must echelon its assets to either provide observation of the enemy from acquisition to destruction, or to pass and receive targets indirectly from adjacent units as contact is lost. The input of the BCT fire support officer (FSO) is particularly critical to the proper echelonment of observers. The FSO must ensure that in the arrangement of assets the proper linkage exists between the scout observing the tactical trigger and the asset, brigade or task force, tasked to observe the technical trigger for a target or group. Without this clearly defined and understood link, the BCT commander has little hope of effectively using the combined effects of fires to shape the enemy.

It is inconceivable to imagine a circumstance where two maneuver companies would try to occupy the same key terrain to perform different missions. The same process must be applied to the ISR plan. Too often, multiple ISR assets occupy the same piece of "good" terrain, which makes the terrain worthless to all. Effective terrain and battlespace management is imperative to the success of the ISR fight. Redundancy is important, but overcrowding will ultimately hinder, rather than help, the ISR efforts.

Who's your daddy — ISR command and support relationships. Even with well-organized battlespace, the brigade

must carefully and completely define the command and support relationship between the units in, and adjacent to, the brigade security zone. The brigade recon troop (BRT) certainly has the capability to command and control most of the brigade's ISR effort, however, based on its austere support architecture, the BRT has very limited support ability. Additionally, the BRT is extremely limited in its capability to resupply special types of munitions such as situational obstacles or Stinger missiles. Similarly, other assets, such as a signal interceptors or jammers, may operate in the security zone but have no bearing on the BRT and report directly to the brigade. This lack of clarity in the specifics of the command and support relationships in the crowded and often widely focused security zone is a recipe for fratricide, failures of coordination and communication, and ultimately the failure to properly track the enemy through multiple stovepiped organizations. The ISR plans staff can complicate these challenges by having a poor understanding of the implications of these various relationships. Careful adherence to the command and support relationship charts from FM 101-5, Tables 2-1 and 2-2, is the key to ensuring the task organization is well understood, realistic, and executable.

My kingdom for a horse — logistics support to ISR operations. While all the ISR assets in the brigade have unique qualities and responsibilities, they all share a common challenge — logistics support to the brigade security zone. ISR assets are universally bereft of organic logistics support. As a result, they are entirely dependent on the brigade to plan and coordinate their support in advance. The brigade staff must account for the full range of class-of-supply support, maintenance management and recovery, and medical treatment and evacuation in the ISR plan. In most cases, subordinate units can be tasked with part or all of this process, but these tasks must be clearly assigned, understood, and rehearsed prior to execution. The battle rhythm of execution of ISR operations is most desynchronized with the timeline of the logistics community. In general, brigade support units are prepared to execute operations at the LD time of the main maneuver battle. Unfortunately, at this point, ISR operations have usually been in progress for some 30 hours. The ISR plans staff must ensure the logistics assets of the brigade are well prepared to support not only in space, but also in time.

Rehearse, Rehearse, Rehearse — the BCT ISR rehearsal. To fully synchronize the efforts of all of the units involved in ISR execution, the brigade must conduct an ISR rehearsal. The ISR rehearsal is led by the ISR executor and should be attended by brigade key leaders and a knowledgeable representative from every unit in the brigade. This representative should come prepared to discuss the execution of their unit's ISR plan in relation to each PIR, including the SIR and SOR of each NAI. Additionally, each unit must describe, in detail, its scheme of maneuver, unit location, hand-off procedures, fire support responsibilities, logistics and casualty evacuation plans, and current combat power.

The final product is a copy of consolidated ISR graphics and PIR/SIR distributed to all ISR assets, and the brigade ISR executor must be prepared to supervise execution. The brigade S2 should be at this rehearsal to ensure that each unit's ISR plan is in synch with what he needs to know. He should ensure that the assets and units are set up to answer the PIR and SIR. He will be the one monitoring, answering, and recommending new PIR to the commander. He must ensure that the ISR assets are positioned, or have plans to reposition, in the event the PIR and SIR change.

I know the answer, but no one seems to care — information integration into operations. "As the operation progresses…it is very likely that the staff's assumptions about the threat COAs will not prove entirely correct. This may result in changes to the intelligence requirements or adjustments to the collection timeline."[6]

Ultimately, the point of ISR is to answer questions for the commander; these answers then form the basis for decisions. If the information developed by the brigade's ISR assets is not analyzed and integrated into the decisions of the brigade, then manpower has been wasted. While this seems intuitive, many great spot reports and good information have been lost as just another entry on the DA Form 1594. An examination of the battle rhythm and operations timelines of the brigade as they prepare for the main maneuver battle, sheds further light on the problem. In the hours leading up to LD, brigade leaders are faced with a myriad of conflicting demands from battlefield circulation to conducting a number of different rehearsals.

While brigade is clearly hard pressed to ensure full integration of intelligence developed from reports of ISR assets, to do any less needlessly risks the success of the main maneuver battle. The S2 should monitor the ISR plan and evaluate how well the assets are reporting. If the assets are not reporting quickly, accurately, or are reporting wrong information, he needs to make corrections. He must train the TOC to reject incomplete information

"Intelligence preparation of the battlefield must identify the enemy's decisive actions. These decisive actions must then be prioritized and focused for the brigade's ISR assets. The ISR plan must not simply track the enemy into sector. Rather, it is the method by which multiple enemy courses of action are confirmed or denied, and through feedback of ISR information into the maneuver plan the brigade commander makes decisions."

and to establish a good format and train. The S2 must demand that the assets and TOC personnel abide by very stringent rules. The S2 and ISR executor must be aggressive and remember that they are responsible for answering the commander's questions.

Who's steering this ship — the dedicated ISR executor. "As with all operations, the collection plan will rarely survive contact with the enemy and will require adjustment during execution."[7]

ISR operations occur out of sync with the main battle rhythm of the brigade. As a result, the brigade command and control node tasked with supervising ISR execution is usually a well meaning, but random, battle captain on shift at the TOC. The problem with this method is that the officer tasked with supervising this execution has no prior knowledge of the plan, no sense of the BCT commander's or S2's priorities and, most importantly, no authority to make course corrections, if actions are progressing outside of these intents. These conditions create a condition that prevents the full integration of information received, and limits the flexibility of the ISR system to answer questions on an evolving enemy situation. The brigade must designate one officer, probably a captain from the S2 section, as the ISR executor. This officer, who is not a member of the ISR planning team, takes charge of the ISR effort at the ISR rehearsal and supervises it until the LD of the main maneuver battle. His control of the ISR operation will also allow the S2 and staff to keep track of asset status and location. The ISR executor must fully integrate with the direct support military intelligence company commander to ensure the full use of electronic warfare and signal intelligence assets, and to understand when the brigade priority shifts between the two. The ISR executor must always know which of the assets are still mission capable and which are inoperative. He must be empowered to make changes to the plan according to the BCT commander's intent and serve as the link between the ISR plan and the maneuver decisions the information drives.

The brigade that fails to thoroughly plan its ISR operations cannot reasonably ex-

pect to be successful in its main maneuver battle. The BCT battlestaff must be disciplined to fully craft, synchronize, and supervise a complete and detailed ISR plan, despite their lack of time and dedicated resources. In his book, *Achtung – Panzer*, Major General Heinz Guderian succinctly sums this up, "The purpose of reconnaissance is to provide the commander with an accurate assessment of what the enemy is doing; in effect information of this kind furnishes the basis for command decisions"[8]

Several days later … it's LD -2 hours somewhere in the central corridor. The brigade commander enters the TOC for a quick intelligence dump, and is again greeted by a thunderous "AT EASE!" from the operations sergeant major. Everyone comes to their feet; looks of confidence and pride replace those of a few days ago. This time, the BCT commander sees that the S2 still has the PIR from mission analysis displayed outside of his track, but now they are written on and revised with old ones removed and new ones added. The main battle map has operations graphics, an NAI overlay, and an event template posted with the current locations of all the BCT's ISR assets represented by pushpins. The ISR executor is standing by the map, ready to brief all the observers on locations and coverage, if the commander so requires. "Sir, we have answered PIR 1 and 2," the S2 opens, "we've had reports coming in all night, and should be able to answer PIR 3 and 4 at, or right after, LD." "Yes, Sir," adds the ISR executor, "I had to reseed some losses to the BRT last night from one of the task forces to ensure coverage on your critical NAI, but we are okay

now." The commander smiles, "Okay fellas, anything else I need to know before I go forward?" His answer again is silence, but a very different kind of silence than before. "Good work everyone," the BCT commander says as he leaves for the TAC, and speaking silently to his impending enemy, he exclaims, "Gotcha!"

Notes

[1]U.S. Army Field Manual (FM) 3-90.3, *The Mounted Brigade Combat Team,* Headquarters, Department of the Army, U.S. Government Printing Office (GPO), Washington DC, 1 November 2001, 4-1.

[2]FM 34-130, *Intelligence Preparation of the Battlefield,* HQ, DA, GPO, Washington DC, 8 July 1994.

[3]FM 3-90.3, 4-5.

[4]Ibid., Chapter 4.

[5]Ibid., 4-7.

[6]Ibid., 4-8.

[7]Ibid., Chapter 4.

[8]Major-General Heinz Guderian, *Achtung-Panzer!*, Arms and Armour Press, London, 1995, 163.

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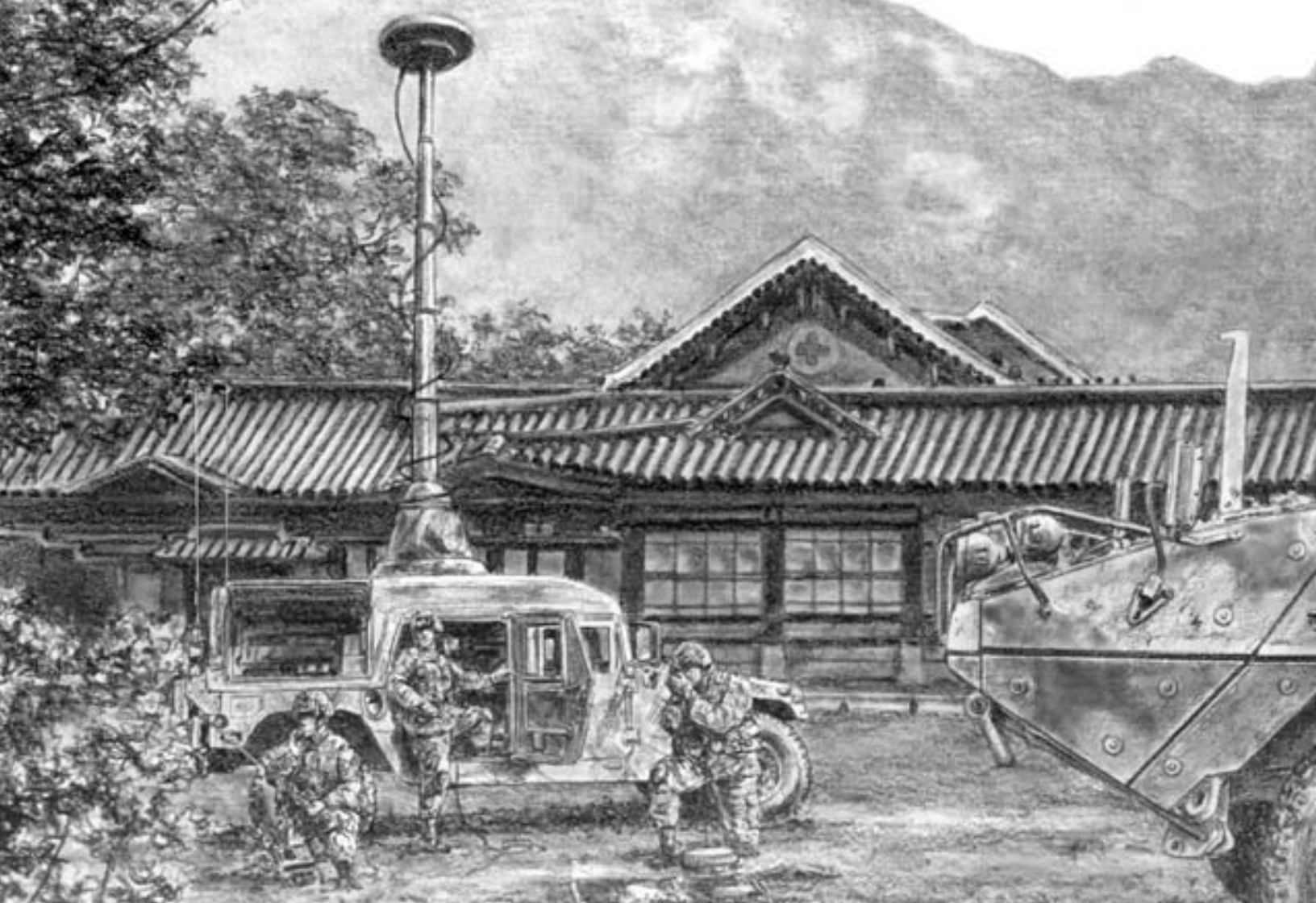
The Stryker-Equipped Cavalry Squadron in an Urban Environment

by Sergeant First Class Andrew L. Barteky

Fifteen city blocks away, a column of nine light commercial trucks dash along a city street at high speed. Each truck carries approximately six paramilitary troops, armed with AK-47s and rocket propelled grenades (RPGs). They comprise, in effect, a suicide squad intent on attacking the lead company of a Stryker Brigade Combat Team (SBCT) battalion on an area security mission in an urban area. In the command post for Delta Troop of the cavalry squadron (RSTA), the console operator observing the real-time video screen sees the column and modifies the tactical unmanned aerial vehicle's (TUAV's) flight pattern slightly to keep the force in camera view. He notifies the battle captain in the squadron tactical operations center (TOC) nearby, but the battle captain has been monitoring the remote viewing terminal inside the TOC and has already seen what the console operator sees. After a lightning-quick staff huddles with the S2 and the fire and effects control center, the battle captain has notified the squadron commander, S3, and brigade headquarters by FM radio, high-frequency radio, or Force XXI Battle Command Brigade and Below (FBCB2). He begins to coordinate indirect fire and reconnaissance handover to ground recce troops and/or infantry scouts in the line of the enemy's march.

Thus, the cavalry contributes information, turned into actionable intelligence, which initiates maneuver in the form of a blocking effort, an ambush, or a counterattack, as the SBCT commander may designate. The SBCT — designed, developed, and fielded as a transition force between the current force and the future combat systems — will fight and win in an urban operational environment, and it will do so because it will see first, understand first, act first, and finish decisively. The force that enables the majority of the SBCT's ability to see first is the cavalry squadron (reconnaissance, surveillance and target acquisition [RSTA]).

This article examines which characteristics of the Stryker-equipped cavalry squadron (RSTA) enable it to effectively support the SBCT in an urban fight.

Cavalry in Urban Operations — How It Used to Be

Dozens of books have been written on the history of cavalry and its role in warfare. We will not attempt to reproduce those works in this brief article, so suffice it to say, that cavalry has traditionally conducted reconnaissance, surveillance, and econ-

omy of force operations. Whether the cavalry of the past fought for information or relied primarily on stealth and observation depended on the nature of a particular cavalry organization.

Heavy, armored cavalry had the punch and firepower to attack, defend, and develop a situation, and extract information using fire and maneuver. Other cavalry units, particularly during the first part of World War II (WWII), operated out of armored cars, or similar vehicles, and relied primarily on stealth and observation. But the nature of combat taught us some lessons. Major General R.W. Grow, commander of the 6th Armored Division during WWII, wrote, "Too often, our pre-World War II training directives emphasized the 'sneak and peek' method of reconnaissance. Fortunately, farsighted cavalry officers who believed that 'the mission of Cavalry is to fight' and that worthwhile information can only be gained by fighting, influenced the development of reconnaissance squadrons.[1]

Lessons learned in the early campaigns of WWII, primarily in Africa, led the Army Ground Force (AGF) to reorganize the mechanized cavalry in 1943 to give the squadron and troop the ability to fight for information. Combat in northwest Europe re-quired cavalry reconnaissance units to perform the traditional roles of horse cavalry — defend, delay, exploit, and attack, as well as reconnaissance — reinforcing early findings that reconnaissance required fighting.[2]

Legendary World War II cavalryman, Colonel "Hap" Haszard, echoed similar thoughts during an informal reconnaissance discussion at the National Training Center, Fort Irwin, California, with a group of observer controllers in 1988. Haszard stated that cavalry and scouts would always face situations requiring them to "fight for information." He then went on to qualify his remarks by explaining that the quality of the information gained by scouts and cavalry was "inversely proportional to the distance between the soldier's (rear end) and the ground," and "dismounted techniques must be considered essential to successful reconnaissance."

These observations can be said to apply equally to urban and countryside fighting. Yes, there are many times that scouts will fight for information in urban areas. Sometimes it is very important to know if the enemy runs when fired on, which direction he runs, and to whom he runs! And certainly a scout's surviv-

ability against small arms and RPGs is a matter of vital importance to his ability to collect information. But how the Army fights and the suite of tools used to conduct RSTA has changed since WWII. Colonel Haszard was correct when he ascertained that ultimately the scout on the ground is the deciding factor for answering the SBCT commander's combat critical information requirements (CCIR). But that scout is not alone, and in the cavalry squadron (RSTA), his abilities are magnified and his reach expanded by a host of assets.

Changes in Contact Continuum and the Operational Environment

While an infantry battalion entering a city during WWII, the Korean War, or the Vietnam War generally had some intelligence from ground scouts or air reconnaissance to guide them, frequently the maneuver turned into a movement-to-contact. With the advent of long-range acquisition systems, the improvement of sensor, the addition of echelons-above-brigade collection assets, and the use of TUAVs, the Army sought a change in the contact continuum.

In the past, an infantry battalion might enter a city with minimal intelligence information, gained almost exclusively through ground reconnaissance. Either the lead company or battalion scouts would "find" the enemy via firefight contact and deploy while in contact to develop the situation.

New doctrine defines information as an element of combat power. Today's forces seek to see the enemy first, which means before they are fired on. This may be a ground scout using a long-range, advanced scout surveillance system (LRAS3), but in today's Army, it may also take the form of a Prophet team conducting a tactical communications intercept and direction-finding to the enemy's command post. The SBCT commander in an urban environment (or any other for that matter) might use his TUAV to look deep and see the enemy well in advance of the lead infantry element operating in the restricted line of sight of the city. Because he can see first, the SBCT commander can have his cavalry squadron, his brigade S2, and his military intelligence company (organic), turn that information into action-able intelligence. With that intelligence, the SBCT commander can now understand first.

Using the scenario at the beginning of this article, the commander realizes that his lead company, busy clearing buildings near the town hall, will be exposed to an imminent suicide attack. He has scouts on the ground and in buildings two, three, perhaps four, blocks away from the infantry, but the image on the TUAV and the rapid analysis of that information allows him to understand that those ground scouts cannot see the coming attack until it is too late to stop it, nor can the few scouts in position to engage mass enough firepower to block the attack, even if they see it coming. Because he understands first, the SBCT commander can now act first and maneuver *out of contact* to a decisive point on the urban battlefield.[3]

See first — timely and correct situational awareness.

Understand first — information analyzed into intelligence to create situational understanding.

Act first — maneuvering forces while out of contact.

Finish decisively — defeating the attack on the precise ground and at time of our choosing.

Since the commander has maneuvered out of contact, his forces are now poised to finish decisively and destroy the enemy suicide attackers.

The world situation has significantly changed during the past 20 years, and the operational environment reflects the likelihood that the SBCT will be fighting more frequently in urban areas, and fighting a dispersed, nontraditional enemy in a noncontiguous environment. Linear warfare has not disappeared and large major theater of war engagements will still occur. But it is the small-scale contingency, the urban conflict, the isolated pockets of resistance housed in apartment complexes and city parks that

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"The TUAV provides real-time imagery along a planned and designated flight path over named areas of interest that answer the brigade commanders CCIR. In cities, the TUAV is excellent for observing rooftops, movement into and out of the city's perimeter, or gauging the size and direction of movement of large groups of people such as demonstrators or mobs."

the SBCT will likely encounter. Technology will never replace ground scouts, but seeing first with technological capabilities can help the cavalry squadron (RSTA) better protect ground scouts and apply them to critical points on the urban battlefield to gain relevant information.

The TUAV provides real-time imagery along a planned and designated flight path over named areas of interest that answer the brigade commanders CCIR. In cities, the TUAV is excellent for observing rooftops, movement into and out of the city's perimeter, or gauging the size and direction of movement of large groups of people such as demonstrators or mobs. But a city still offers many places the enemy can hide, and because of high-rise structures, the TUAV cannot effectively observe.

The Prophet offers a signal-intercept and direction-finding capability and can often provide a line of bearing, or when employed as a two- or three-vehicle team, a cross-fix on the location of enemy transmitters. This information is frequently perishable, almost fleeting, and sometimes difficult to separate from the total communications traffic within an urban area. However, if frequencies are known, such as cellular phones, and the target bandwidth is narrowed, the Prophet has the capability to augment a developing intelligence picture of a given urban area.

One of the most important tools that the SBCT commander has to gather information and help make decisions in an urban fight are embedded human intelligence collectors, all the way down to the squad level in cavalry squadron (RSTA) platoons. These 97Bs are trained in tactical questioning and, depending on the intensity of the anticipated conflict, may be very valuable in identifying potential ambushes, impending demonstrations, critical government and religious sites to avoid, and other population and infrastructure-related information. Their contribution might be something as simple, yet as important, as gathering from a local citizen that the bridge the SBCT plans on using for its main attack has been mined. The human intelligence (HUMINT) information travels up its chain of communication to the SBCT's HUMINT officer, unless of course, the information is time-sensitive or units are in impending peril. In that case, a report would go directly to the threatened force.

The Stryker (Reconnaissance Variant) in the Urban Fight

Brigadier General John Hunt Morgan used horses to rapidly maneuver his infantry to decisive points on the battlefield. But when entering a town, he dismounted and fought as infantry. In modern warfare, the Stryker vehicle (infantry carrier vehicle) is the infantryman's mount. It may eat petroleum products instead of hay, but make no mistake, it is still fundamentally a *mount*. Yes, there may be times that infantry will remain buttoned up in their Strykers when moving through an urban area, and they may even employ the remote weapons station (RWS) from which to fight. The Infantry School has developed, and will continue to develop, techniques, tactics, and procedures that govern infantry remaining mounted or dismounting in an urban fight. Our purpose here it to discuss how the Stryker vehicle can enable the scouts of the cavalry squadron (RSTA) to conduct reconnaissance that enables the infantry to fight effectively in an urban area.

The Stryker vehicle (reconnaissance variant) brings several characteristics to the table that will make the scout's life better during an urban fight.[4] First, the Stryker offers protection from small-arms munitions without the addition of bolt-on antitank-guided missile armor. What this means for scouts conducting reconnaissance of a suburb that will serve as the lead battalion's foothold, is that the crew can likely survive small-arms fire if

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ambushed — small-arms fire that would have either killed or rendered ineffective a scout team in a high-mobility, multipurpose wheeled vehicle. Additional bolt-on armor can enhance the Stryker's protection by defeating RPG strikes, but there exists a trade-off in time to apply the armor, as well as vehicle maneuverability and transportability by airframe. Unlike the infantry variant, the reconnaissance variant of the Stryker mounts an LRAS3 in place of the RWS. Avoiding decisive engagement (as is the cavalry's mantra), that scout team might return fire, if attacked, by using its MK-19 to suppress the enemy while the team moves to a position of safety; but design-wise, the vehicle has traded the RWS for the LRAS3. But the effective use of the suite of electronic collection tools should minimize those circumstances.

FBCB2 mounted inside the Stryker helps the crew maintain situational awareness and their presence is populated on the squadron common operational picture within the TOC, thus enabling effective command and control. In the confined space of an urban area, with many dismounts operating in and around vehicles, fratricide prevention is a key concern. The Stryker has an external communications system that will allow dismounted scouts, or infantry operating in conjunction with recce platoons, to communicate with the Stryker's intercom system. This becomes particularly important in controlling fires, from the Strykers, as well as from a mobile gun system (MGS) that might have been pushed forward in support. The dangers of collateral damage to infantry from main gun barrel blast are well documented and still remain a training and execution concern. While FBCB2 enables good situational awareness for vehicles, it does not, at present, track dismounted soldiers.

The 1st Squadron, 14th Cavalry, the Army's first cavalry squadron (RSTA), discovered during training that an enhanced position locating and reporting system and FBCB2 operation was generally the most reliable form of communication when operating in an urban area. FM communications via all-source imagery processors are often spotty and sometimes unreliable, since properties, such as power, distance, and line-of-sight, while holding true in 70 to 80 percent of situations, sometimes precipitated temporary communications outages at distances as short as 200 to 300 meters.[5] Still, as noted during the recent war in Iraq, FM communications can be used to rapidly and efficiently vector dismounted infantry, MGS, or tanks in fire support to attack a given target. This will often be controlled much like a ground controller might maneuver aircraft to a target. Major Ben Watson makes an observation about tanks in support of infantry during the recent war in Iraq: "As long as the supported unit can talk directly to the tanks [or Strykers, or MGS], it is fabulous. We blocked, numbered, and phase-lined the entire city [Umm Qasr], and that system worked as well. Often, I could hear guys coordinating tank fires by saying, 'they are in building A3.' We have also just told them things like 'do you see the 2-story house with the rusty roof? The bunkers are at the base of the white house to the east of that one.'"[6]

The LRAS3 mounted on the reconnaissance variant is a tremendous "see first" tool, but its value becomes attenuated when employed in an urban environment. The LRAS3 is excellent for seeing enemy troop formations in broad, sweeping terrain such as the desert. But when employed in dense undergrowth, and as in the case of urban areas, the crew will have to be very creative to get the kind of observation "shots" needed to make the LRAS3 effective.

The squadron has 120mm mortars that can be employed in an urban fight. Adding 60mm mortars to the recce troops (a modification currently under consideration) would simply increase the squadron's tools. Often, in an urban fight, the 120mm creates too much damage and is sometimes less effective due to its increased minimum range and minimum safe distance. The 60mm is more portable, can be employed directly with the scout teams, and can deliver a higher volume of fire.[7]

Javelin antitank weapons in the hands of recce platoons provide an effective response to enemy armored vehicles, medium-to-heavy trucks, and in some cases, can be employed to excellent effect against bunkers and buildings.

The cavalry squadron (RSTA) has the equipment, manpower mix, and capability to effectively conduct reconnaissance in urban terrain. But like any intelligence, surveillance, and reconnaissance (ISR) mission, good planning and execution must be based on sound principles. These principles apply not only to ISR operations in support of the SBCT, but also to urban reconnaissance missions in general.

Planning ISR operations in urban terrain includes:

- Conducting urban intelligence preparation of the battlefield.
- Using the "reach" of all collection assets.
- Developing a HUMINT collection plan.
- Developing a HUMINT collection matrix.
- Determining ISR objectives.
- Refining an effects plan (both lethal and nonlethal).
- Communicating the plan.
- Detailing the rules of engagement.
- Planning infiltration and exfiltration lanes.
- Preparing a medical evacuation and logistics resupply plan.
- Synchronizing aerial and ground reconnaissance.

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German Combat and Gunnery Training — Preparing for Future Challenges

by Captain Maximilian Pritzl, Germany Army

"The timely and coordinated concentration (due to new intensities) to deliver devastating strikes will increasingly become a decisive leadership task. …The strikes themselves must be conducted with recklessness and at a high tempo. When armoured forces encounter each other, they conduct the firefight with high intensity — often without (too time-consuming) target differentiation, particularly because so-called "hot spots" are predominantly taken under fire in an environment characterised by an increasing multispectral camouflage and well-established intercept ranges."

- LTC Schneider
Combat Development Section,
German Armour School

Real armor soldiers think that "direction as indicated — destroy targets!" is an effective operational order. The world in which we live today is not that easy — armor troops have to comply with various mission profiles.

When the "new army for new tasks" structure was adopted, for the first time German army units and formations were designated as crisis reaction forces, and training standards and operational readiness levels were redefined.

While the German federal armed forces (Bundeswehr) restructures into the "army of the future" (to be accomplished by 2004), immediately available reaction forces will be provided by armored combat forces, which will increase about 50 percent. As a result, the Bundeswehr is subjected to a fundamental change and will no longer be a "peacetime and training army" but become a "mission-oriented army."

In this article, the term "crisis reaction forces" refers to units that include career/temporary-career soldiers and voluntarily enlisted other ranks. The term "augmentation forces" refers to units that include conscripts.

According to the directive from the German army chief of staff regarding the training concept for crisis reaction forces, "the leadership and unit-level training to be conducted by crisis reaction forces serves to prepare for an employment and has to comply with the various operation and employment possibilities of the overall task spectrum — especially with those of a combat operation."

For this reason, the complementary training for reaction forces has to include one special training element in the following areas to be accomplished once a year:

- Rotation to the National Combat Training Centre (or Regional Training Centre North).

- Various combat exercises.

- Live firing at unit and/or formation levels.

The leader-training directive also addresses the augmentation forces. The directive stipulates that these companies have to rotate through the Regional Training Centre at least twice every 3 years. After completing an AGDUS-based two-party exercise (AGDUS is a MILES comparable system), the company commander has to lead his reinforced company during a combat exercise with both mock and live ammunition.

Principles Governing the Conduct of Combat Exercises

Today, armored combat troops cannot focus on an enemy whose actions are predetermined by his structure and doctrinal principles. However, when accomplishing their operational missions, armored combat troops are confronted with different enemies who make use of various employment procedures, including covert operations.

Armored combat troops must prepare themselves for these complex and varying conflict situations during unit-level crisis and contingent training, and, as in the past, for conducting combined-arms combat. At present and in the future, this kind of training will be conducted as a sequence of individual and unit-level training events across the various command echelons. Further qualification is offered at central training installations, such as the Regional Training Centre

North, and during the course-based leadership training conducted for field units and future military leaders at the German Armour School.

German armor forces use the following principles for live firing:

- Only the company commander is responsible for training his soldiers.
- Firing exercises with the main gun are to be controlled by the company commander.
- Combat exercises with mock/live ammunition are to be controlled by the superior command echelon.

Therefore, the gunnery training of German armor forces does not constitute an independent training phase, but an integral part of combat training. This becomes apparent if we visualize the training sequence of armor forces as a whole:

- Weapons and equipment training.
- Simulator-based gunnery training.
- Combat training.
- Gunnery with on-board weapons.
- Combat exercises with mock/live ammunition.

German armor troops learn how to fire their weapons system during the simulator-based gunnery training, this means that formal range practice does not occur. This becomes even more evident if we take a look at the final training phase of the simulator-based gunnery training.

During this training phase, the tank platoon being employed as the fire unit receives a tactical mission task, which it has to accomplish according to the tactical doctrinal principles. The AGPT, a simulator system for training a tank platoon that is similar to the close combat tactical trainer, is generally used to complete this training. The AGPT is commanded by the platoon leader and controlled by the company commander. Thus, the tank platoon's firefight constitutes only one part of the execution of the tactical decision, which is made by the platoon leader.

Beginning with the first firing exercise, "MG exercise l (KS/ES/D)," this principle of tactical mission firing is taken up during live-firing practice. The platoon leader acts according to the company commander's intent to accomplish the unit's mission, employing his platoon as the fire unit. Although initially, only one main battle tank gets permission to fire, the tank platoon is assigned the appropriate amount of targets to be engaged. From the very beginning, training is conducted at tank platoon level. Appropriate fire control and maneuvering the tank platoon are determining factors in accomplishing the platoon's mission.

The practice-fire and live-fire exercises of the German armor corps clearly show the orientation along doctrinal tactical principles and the respective command echelons. At subunit level, the tank platoon will reach its field serviceability on successfully completing three consecutive firing exercises:

- Firefight of a main battle tank at platoon level (BK Üb 1).
- Firefight of the platoon at company level (BK Üb 2/3).

- Combat exercise of the (reinforced) platoon at company level (BK Üb 4).

At unit and formation levels, one exercise each will be conducted to reach serviceability in the field:

- Combat exercise of a (reinforced) company at battalion level (BK Üb 5).
- Combat exercise of the (reinforced) battalion at brigade level (BK Üb 6).

The training goal of the combat exercises with mock/live ammunition consists of correctly applying doctrinal tactical principles, orchestrating fire and movement, correctly choosing the most efficient weapons in cooperation with other branches, and orchestrating these weapons so that the weaknesses of one weapons system are compensated by the strengths of another weapons system.

Conducting combat exercises with mock/live ammunition at the level of the reinforced platoon is required for all armored battalions. The armored battalions of the crisis reaction forces conduct combat exercises with mock/live ammunition at (reinforced) company and (reinforced) battalion levels.

Utilization Concept for German Training Areas

Combined arms live firing has always occurred in the Bundeswehr, but usually only on a special occasions, it is often the focus of the organizer's annual planning, and its realization requires a lot of time and tremendous assets — especially for the control and safety organization.

The combined arms exercise aims at demonstrating the effects of the weapons employed by multiple branches presenting their interaction on the battlefield. Therefore, central-viewing stands were established for a limited number of spectators. This either causes an unrealistic compression of an exercise phase in a very confined area due to the limited number of observation possibilities, or the time-consuming task of relocating spectators to another observation point.

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Photos courtesy German Liaison Officer, Fort Knox

"Armored combat troops must prepare themselves for these complex and varying conflict situations during unit-level crisis and contingent training, and, as in the past, for conducting combined-arms combat. At present and in the future, this kind of training will be conducted as a sequence of individual and unit-level training events across the various command echelons."

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During the planning phase of this demonstration, planners failed to account for the rapid course of the battle — especially one fought by armored combat troops. At any rate, these exercises constitute special projects for both the training area headquarters and for the forces involved, and are only conducted occasionally.

Normally, regular unit-level training takes place on the well-known firing ranges of the training areas, and is oriented toward the mandatory lanes and firing halts. This is the right approach because learning how to shoot means learning by doing, which requires using the existing infrastructure on the firing ranges.

The German Army Training Establishment Shilo/Canada (GATES) is one exception. GATES has firing ranges with dimensions that allow the realistic employment of a reinforced company and battalion, which are interconnected by corridors. There are no spectators preventing a realistic task organization on the battlefield. Tanks, mechanized infantry, and artillery stay together in the training area, under the uniform command of a tactical commander of a major formation, without having to accomplish any additional missions. Training results are very good because the first two criteria are met and the units have completed mandatory preliminary training courses, which is not an easy task.

The concept. Regularly scheduled combat exercises cannot be carried out on the training area's firing ranges, which have been optimized specifically for formal combat exercises. All German firing ranges do not allow the regular extension of a combat sector or a company's position area. Furthermore, the infrastructure of the practice firing ranges that were built

several decades ago was marked by tank trails and signs, which impeded realistic tactical maneuvering.

Changing the unrealistic training approach was taken into consideration by the new utilization concept for training areas, which was issued in 1998. Depending on the size of the training area, the training area headquarters must establish areas that allow subunits and reinforced formation-level units to conduct combat exercises with mock/live ammunition under realistic conditions.

While at training areas, company and battalion commanders must prepare their forces for employment intensively and realistically. The infrastructural preconditions have to be provided to allow the following training phases:

● Qualified training for general mission tasks from subunit level upward.

● Cooperation of different branches during combat exercises with or without mock/live ammunition, up to battalion/brigade levels.

● Preparing forces — especially crisis reaction forces — for tasks to be performed in the extended task spectrum.

● Establish full operational readiness — especially augmentation forces — during crisis preparation training.

As a result, there are three major innovations, which are consistently oriented toward the mission-training requirement,

and take the realistic combat and firing training of armored combat troops into consideration:

● All German training areas have to ensure that combat exercises can be carried out with or without mock/live ammunition.

● On German training areas, formal service firing ranges will only be used for a transitional period.

● Tactically sound maneuvering shall only be restricted if range operating, safety, or environmental regulations have to be followed.

Basic restructuring of German training areas has facilitated individual training such as checkpoint training, observation-point training, and objects-to-be-secured training. Thus, the provision of large areas for combat/firing exercises ensures the freedom of action of instructors and military leaders. Furthermore, it guarantees that training will be conducted under operational conditions.

It is important to note that the apparent extension of available maneuver space for combat/firing exercises on German training areas constitutes the best precondition for considerably improving leader abilities and skills at all levels. This is valid for combined arms combat as well as employment of combined forces. Figure 1 illustrates the dimensions of the new combat training boxes on German training areas.

To ensure the internal and external safety of these combat training boxes, additional target sector markers or prominent terrain features are used from time to time, depending on the terrain characteristics and the proximity of the respective training area boundaries. In this context, identifying combat training boxes that allow an in-stride firing practice constitutes a special challenge.

FTX With Live Firing	Width	Depth
Armor platoon	2000m	3000m
Armor platoon (reinforced)	2500m	4000m
Armor company (reinforced)	3000m	6000m
Armor battalion (reinforced)	5000m	15000m

Figure 1

The rationale that friendly combat vehicles can be easily identified and that identified targets are set up to ensure external safety is logical, but does not exclude all risks. Most of us remember combat vehicles shooting at unauthorized hard targets, bushes or other objects, because under blurred vision, they appear to be an identified target. To decrease the risk of maneuvering combat vehicles violating pertinent safety regulations, a range safety control management system was considered.

The Range Safety Control and Management System (RSCMS) for the Bergen Major Training Area

Five years ago, following the example of combat training centers, such as the U.S. Combat Maneuver Training Center at Hohenfels, establishing a German combat training center was discussed. During initial test trials, a combat training center prototype (GUZ prototype) was used to facilitate an AGDUS (BT 46)-based live simulation of combat operations at the reinforced company level. This prototype could be employed for different purposes, as both infrastructure and technical installations have undergone further development during the course of several construction phases.

The proposal to use and optimize this prototype as a firing safety system for live-fire exercises outside permanent firing ranges was finally adopted in April 2001.

The first construction phase of the overall system has a decisive advantage over all the conventional systems employed for establishing and maintaining firing safety. The responsible supervisor at the training area headquarters has numerous data for situation assessment in quasi-real time, and a means of communication for information transmission, enabling him to make a decision on clearing weapons systems, which is always based on the latest information. For the first time, he is quicker at making a decision, and therefore, at issuing range clearance for different firing phases.

The first test trial. During the first test trial of a combat exercise with mock/live ammunition, conducted at formation level by Armored Brigade 12 during June 2001, firing safety was ensured by a simple redundancy system in the terrain. An observer controller who knew the training area's characteristics trailed each platoon. During this combat exercise, the observer controller, the safety officer, and a control assistant used an armored trans-port vehicle to ensure mobility. With this conventional equipment, it was only possible to support daytime firing because the weapons systems could not be observed in the dark without night-vision capability.

The observer controllers at the training area headquarters had their own radio sets and used the training area headquarters control net. They were tasked to confirm the position of vehicles to be observed by the control center (redundant spot report provided by the user identification unit), and to ensure external safety by monitoring the direction of the turret guns.

The modules of the RSCMS Bergen. The RSCMS Bergen consists of the basic organization, a control center, battlefield equipment, and a communications system.

The control center consists of three sections. During the combat exercise of Armoured Brigade 12, the tasks were allocated as follows:

● Section 1 for situation and introductory briefings into the overall system.

● Section 2 for the firing safety organization, with the responsible firing safety

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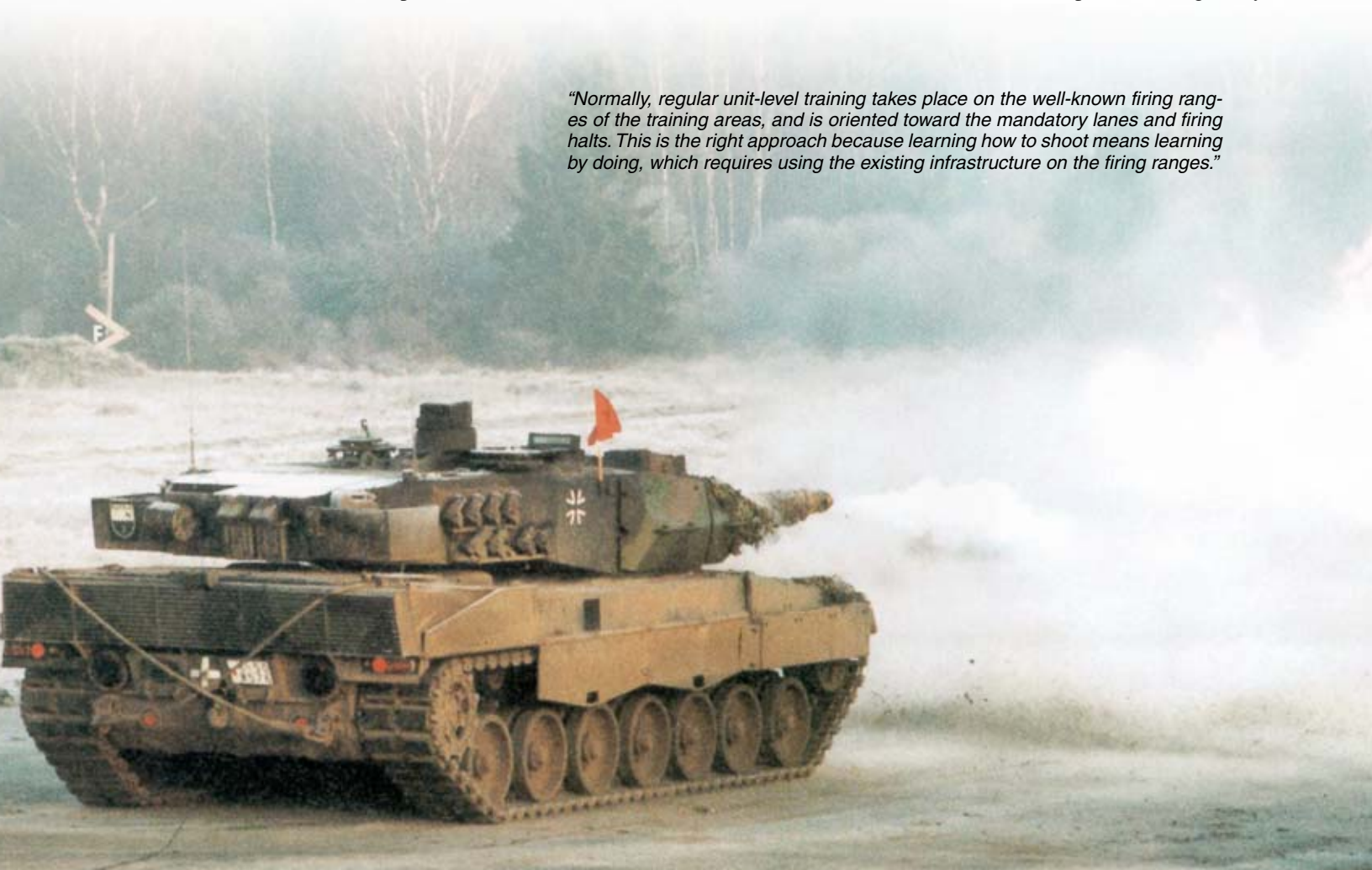
officer of the training area headquarters (in charge), the safety officer for overall safety and indirect fire, the liaison officer to the range officer in charge in accordance with the German Joint Service Regulation ZDv 44/10, and the G3 of Armoured Brigade 12 as the control assistant, with two officers employed as support personnel.

• Section 3 for the brigade's evaluation personnel to evaluate the exercise under the auspices of the deputy brigade commander (5 workstations); observers from the Armour School, Combat Development Section, Branch 7 (2 workstations); and one civilian technician (1 workstation).

To prepare this combat exercise, the following data has to be entered in the respective database:

• The tactical grouping (task organization) of the exercising units — enables a link to the user identification unit.

• All targets erected in the terrain (with an icon on the screen).

• The positions and firing areas for the exercise, which were reviewed by the training area headquarters after evaluation of the exercise notification.

• The arcs of fire of the main weapons systems (direct fire) and the danger areas (target areas for indirect fire weapons).

• The radio links (combat net radio/observer controller radio) had to be configured.

• Operational plans and phase sequences have to be entered.

At present, targets, positions, and surveyed areas for firing exercises still have to be entered manually in the form of an overlay. This is very time-consuming.

During this first combat exercise, the respective overlays provide nearly all required firing safety data. By enlarging or reducing the display, these targets and positions can be observed, which is important to this phase of the exercise. It is possible to track, with high accuracy, the position of the vehicles used by the exercising units, the training area headquarters, and other participants.

The user identification unit reports the position of the respective vehicles every 11 minutes or every 20 meters. The firing safety officer of the training area headquarters used handmade plastic overlays on the screen to quickly make a decision because the respective display, which should be electronically produced by the system, was not yet available.

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Battlefield equipment. With the exception of high-angle weapons and antitank helicopters, all vehicles and weapons systems, with a caliber greater than 20 millimeters, employed during the combat exercise were equipped with a user identification unit. This device determines the vehicle's position by using a global positioning system and the pertinent radio data transmission to the control center. For attaching and operating the user identification unit and the vehicle interface, special conversion kits (mount, adapter, and cable) are needed. These conversion kits have been optimized for employment in the combat training center and include all accessories such as user identification units and light fixtures. This technical equipment puts the supervisor at the training area headquarters in a position to immediately identify safety hazards on the screen.

The communications system. Four remote radio stations with stationary radio towers, a radio operations section, and a fixed radio network (optical fibre cables), enables communications between 19 radio circuits, and can provide radio coverage of 95 percent of the Bergen major training area. According to mission, out of these 19 radio circuits, up to eight different ones can be configured for each workstation, and up to four radio circuits can be monitored simultaneously using headphones available at each workstation. Out of these 19 radio circuits, eight can be chosen at the discretion of the subscriber. They can be used simultaneously by all control center workstations.

Any one of the eight available workstation circuits can be immediately chosen by a mouse-click. The configuration of the radio circuits can be changed at any time for each workstation. Furthermore, this system is equipped with a communications system that ensures the rapid exchange of information either by voice or by e-mail between the control center workstations. This system covers all safety-relevant radio circuits as required by the German Joint Service Regulation ZDv 44/10.

Other Performance Specifications of the Facilities

Digital map display. With the help of the communications system, the map of the Bergen major training area can be displayed in a scale as desired by the operator. Several settings, from a total view (scale of 1:4) to representing details (scale of 16:1, displayed at 100 x 100m), can be obtained. The map sheets used are based on the German electronic PC-MAP map series. By default, the scale of 1:50,000 is used.

Lists and charts. Lists and charts can be displayed at once with a single mouse-click. Position coordinates, associated targetry, lists of voice radio circuits, and code names can be saved as a file and are available at every workstation. Individual vehicle data can be displayed quickly and easily on the screen.

Targetry. Targets are conventionally activated. Target activation teams stay near the exercising units with target activation devices. Targets located near these teams

have to be cleared and activated by the observer controllers in cooperation with the responsible supervisor of the training area headquarters. Target information is only available if the target activation team or observer controller can see it, and if this pertinent information is sent to the control center via radio.

Employed personnel. The training area headquarters has two officers assigned to the control center of the Bergen range safety control and management system. The battlefield equipment (user identification unit and vehicle accessories) is prepared by six civilian employees of the training area headquarters prior to rotation, then managed by 16 employees during the actual employment on the training area.

The training area contractor employs approximately five employees on site. Two engineers direct the employment of the system, a technician assists in the control center and two technicians provide battlefield equipment support to training area headquarters personnel. All support personnel are required to be familiar with

necessary procedures to train the headquarters personnel. To ensure simple employment and compensate safety gaps, 15 additional observer controllers were employed in the terrain.

During the combat exercise with mock/live ammunition conducted by Armoured Brigade 12, the RSCMS Bergen clearly demonstrated and proved its functional capability. Thanks to the range safety control and management system, one reinforced company can use the four combat training boxes simultaneously. Furthermore, one reinforced battalion (task force) conducting a combat exercise can also use the entire major training area with mock/live ammunition under realistic conditions.

For the first time in the history of combat exercises with mock/live ammunition outside well-established firing ranges, the responsible supervisor of the training area headquarters was able to monitor the overall situation in quasi-real time and make a safety-related assessment.

This led to the unknown phenomenon that it had not been the safety officer who

asked the onsite observer controller whether the firing could begin, but the observer controller who asked the safety officer why the firing had not begun.

From a training area headquarters point of view, a realistic combat exercise with mock/live ammunition at unit and battalion level, which exploits realistic operational areas, will for the first time, not be obstructed by internal and external safety issues. Now, it is up to commanders and instructors to make intelligent use of this new realism for combat training success.

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Cavalry Squadron

Executing ISR operations in urban terrain includes:

- Approaching the urban area.
- Isolating/reconnoitering the area.
- Entering the area by overt patrol or infiltration.
- Conducting reconnaissance patrols.
- Collecting combat information.
- Spotting and assessing HUMINT contacts or sources.
- Occupying urban surveillance sites and operations.
- Reporting information.
- Employing effects.
- Conducting battle, target, or reconnaissance handover.
- Exploiting contacts or sources.
- Assisting in isolation.[8]

This article represents how the SBCT's primary reconnaissance capability will likely be employed in an urban environment. The first SBCT and cavalry squadron (RSTA) underwent an operational evaluation in May 2003 at the Joint Readiness Training Center. Pending Congressional approval of that evaluation, the first SBCT and its cavalry squadron (RSTA) will be subject to deployment and a real-world mission. And though we may not currently have a perfect picture as to how these units will best be organized, equipped or employed, the lessons learned and conclusions drawn will form the doctrine and training of future squadrons.

Notes

[1]Major General R.W. Grow, "Operation of Cavalry Recon Squadron Integral to the Armored Division," A Research Report, The Armored School, Fort Knox, Kentucky, 1949-1950, Foreword.

[2]Louis A. DiMarco, "The U.S. Army's Mechanized Cavalry Doctrine in WWII," Thesis, Master of Military Art and Science, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas.

[3]How scouts track locations, both enemy and friendly, in an urban area must be synchronized with how maneuver units track maneuver forces, and the traditional pattern of phase lines and checkpoints may not be sufficient in a dense urban area.

[4]One of the most attractive aspects of the SBCT it that virtually 90 percent of its vehicles are all built on a single chassis, six-wheeled, 18-ton interim armored vehicle. A variant of this basic chassis exists for various components of the SBCT, such as the reconnaissance variant for the scout, the command variation for leaders, the fire support variant, and the engineer variant.

[5]Major Michael Kasales, "Collected Squadron AAR Comments from Urban Reconnaissance FTX, SCLA," Headquarters, 1st Squadron, 14th Cavalry, 3d Brigade, 2d Infantry Division, Fort Lewis, Washington, 5 December 2002.

[6]Major Ben T. Watson, email to various recipients, including Directorate of Training, Doctrine, and Combat Development, Fort Knox, Kentucky, from a Marine Expeditionary Unit operating inside Iraq, 14 April 2003.

[7]Kasales, 25.

[8]Ibid., 3.

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The Maneuver Task Force Commander Expects His S2 to Collect and Deliver

by Major Richard M. Monnard

"But at my back I always hear Time's winged chariot hurrying near."

— Andrew Marvell

On today's battlefield, the battalion task force continually operates in a time-constrained environment; however, the Army's technique for planning and preparing for combat has not changed.

The commander remains in charge of the military decisionmaking process (MDMP) and ultimately decides what procedures to use in each situation. From start to finish, the commander's personal role is central: to provide focus and guidance to the staff. The S2, as part of the staff, has one mission — to collect and deliver information that will assist the commander in making decisions. This article provides a quick, yet thorough, technique for task force intelligence officers to organize, prepare, and present intelligence information to the commander and staff.

Mission Analysis

Weather analysis. Most tactical intelligence officers fail to understand the meaning of the word "analysis," which is loosely translated as "so what!" Almost any-one can recite beginning morning nautical twilight (BMNT) and early evening nautical twilight (EENT), as well as the high and low temperatures for the next 24 hours.

Most maneuver commanders need direct and indirect effects of the light and weather on operations, such as identifying the periods of total darkness and how they will influence enemy reconnaissance, or how temperature changes from day to night of almost 30 degrees can affect soldier endurance for long-range infiltrations or the boresighting of main guns on tanks and Bradleys. This information can be easily portrayed graphically in a bubble chart with bullet comments.

Terrain analysis. The most effective way to describe the battlefield and evaluate the military aspects of terrain in an area of operations is still observation and fields of fire, cover and concealment, obstacles, key terrain, and avenues of approach. However, at the task force level, the time-constrained environment does not allow lengthy briefings. Therefore, the S2 should focus on the critical terrain from the line of departure (LD) to the objective. Regardless of whether the task force is attacking or defending, there is an LD and an objective. The terrain analysis should always include avenues of approach, critical intervisibility (IV) lines, and key terrain. But more importantly, the S2 should focus on the significance of the terrain. For example, "in the north, the distance between this IV line and our objective is 4000 meters. At this distance, antitank fires can range us as we crest the IV line and we cannot return effective fires. However, in the south, the distance is only 1000 meters and we can immediately engage the enemy." The best way to portray this information is by using satellite imagery and Terrabased products.

Describe the enemy. The S2 must introduce the commander and staff to the enemy. An enemy composition chart or simple line-and-block chart will suffice. Add to the chart the enemy's key weapons systems and ranges, and identify their strengths and weaknesses, and everyone will understand what they are about to come in contact with.

Detailed enemy course of action. The S2 must identify the enemy commander's task, purpose, and decision points by wearing the enemy S3's and command-

"After the S2 and S3 have received the commander's guidance, they can begin to develop a tentative reconnaissance plan. They are both responsible for planning and preparing the task force plan."

er's shoes. With an understanding of how the task force is going to fight, the intelligence officer can easily develop an accurate and realistic enemy course of action (ECOA). A quick, yet thorough way, to do this is to develop an enemy timeline and course of action (COA) sketch — but the job does not end there. The S2 must answer the five basic interrogatives — who, what, where, when, and most importantly, why. If the S2 fails to explain the task and purpose for each enemy set and describe the scheme of maneuver, the task force will be unable to exploit the enemy's vulnerabilities.

Recommended priority intelligence requirements (PIR) and high-payoff target (HPT). More often than not, an S2 recommends PIR that can already be answered, such as the enemy's use of chemical munitions. If you can answer the PIR without reconnaissance or assistance from higher, it is not an intelligence gap. PIR should answer the commander's key questions and should be tied to his decisions. Early on in the MDMP, a few decision points were identified, but regardless of the mission, there are a couple of decisions that will always have to be made: where the best point is to breach the enemy's defense (location, type, and disposition of obstacles, and location and disposition of battle positions); which is the most secure route to the objective; and if the enemy will commit its main effort north or south of Hill 876.

Intelligence officers should also recommend high-value targets (HVT) to the commander for targeting by the task force. Remember, HVTs are assets that the threat commander requires to successfully complete his mission. Additionally,

identifying HVTs early can assist in developing the reconnaissance and surveillance (R&S) plan, as well as focus the entire staff during wargaming. During wargaming, the HVTs will become HPTs as decisions are made as to which ones to attack, based on the friendly concept of the operation and scheme of maneuver.

COA Development

"Not everything that can be counted counts, and not everything that counts can be counted." — Albert Einstein

Initial R&S planning. After the S2 and S3 have received the commander's guidance, they can begin to develop a tentative reconnaissance plan. They are both responsible for planning and preparing the task force plan. Despite the complexity and importance of reconnaissance, most units relegate it to a corner of the tactical operations center. It is here that the night battle captain and the battlefield information control center develop an R&S matrix and named areas of interest (NAI) overlay. Generally, units fail to resource this plan with fires, casualty evacuation, and combat service support. To correct this deficiency, the S2 and S3 must be involved in the process. Success requires a well-written R&S order, as well as a plan for the next operation before the current fight ends.

Task force COA development. While the S2 has no formal requirements, at a minimum, he should ensure the arraying of friendly forces is logical versus possible ECOAs, assist with force ratio calculations, and serve as another set of eyes as the task force plan takes shape.

The Wargame

This is the S2's opportunity to fight the enemy against friendly COA. To do this effectively, several tools must be available, including a blow-up map of the area

Event Matrix

	24 EENT COA 1	25 BMNT COA 2	25 EENT COA 1	26 BMNT COA 2	26 EENT COA 1
PSOC	Insertion of 1 x CO (-)	Insertion of 1 x CO (-)	Recon	Recon	Recon
T: Recon					
P: Obtain Info					
DIV RECON	5 x BRDM, 2 x V-150	5 x BRDM, 2 x V-150			
T: Route Recon	35 Dismounts	35 Dismounts			
P: Confirm Enemy	Infiltrate in Zone	Infiltrate in Zone			
BDE RECON			7 x BRDM	7 x BRDM	Harass BPs
T: Route Recon			35 Dismounts	35 Dismounts	
P: Confirm Enemy			Infiltrate in Zone	Infiltrate in Zone	
ARTILLERY			RL-21 in Range	RL-21 in Range	
T: Attrit			Chemical Attack	Chemical Attack	
P: Establish POP			6 x 81mm w/Dismnts	6 x 81mm w/Dismnts	
DISMOUNTS			Begin Infiltration	Begin Infiltration	
T: Seize and Clear			3 x Co (100 Pax)	3 x Co (100 Pax)	
P: Pass Mech					
AVIATION	Resupply Flight	Resupply Flight	1300 Recon Flight	1000 Recon Flight	
T: Attack			1700 Air Attack	1500 Air Attack	
P: Pass Mech			2000 Recon Flight	1800 Recon Flight	
ADA				9 x SA-18 w/Dismnts	
T: Destroy					
P: Deny					
ENGINEERS			1 x Pltn w/Dismnts	1 x Pltn w/Dismnts	
T: Breach					
P: Pass Mech					
CRP					
T: Fix					
P: Pass Main Body					
M ATTACK					
T: Destroy					
P: Pass Division					
HPTs	C2, Radars, Hvy Tm, BSA, Aviation AA, FARP	C2, Radars, Hvy Tm, BSA, Aviation AA, FARP	C2, Radars, Hvy Tm, BSA, Aviation AA, FARP	C2, Radars, Hvy Tm, BSA, Aviation AA, FARP	C2, Radars, Hvy Tm, BSA, Aviation AA, FARP

Figure 1

of operations (satellite imagery preferred), a replication of enemy assets (pins or stickers), a situation template, ECOA sketches, an enemy timeline, Terrabased products, and an NAI overlay.

The most important thing is that the intelligence officer be an uncooperative enemy and fight — to win! If the S2 rolls over, he is not testing or helping to synchronize the friendly plan. To be effective, he must show and explain to the staff what the enemy will do at critical times and places on the battlefield. The event matrix in Figure 1 is a good tool to use for this.

The Operations Order

The audience for the operations order (OPORD) is different than mission analysis and requires a different presentation. Since the task force's company commanders have not seen the S2's products, they will be looking for something tailored to their level. Therefore, S2s must focus on the enemy timeline and the five basic interrogatives for each enemy set. By doing this, the company commander walks away with an appreciation of how the enemy is going to fight and with overlays that can be refined for specific zones or sectors.

The Combined Arms Rehearsal

The S2 must be prepared to discuss any new information that has been obtained since the OPORD. Additionally, he should provide commanders with updated situation templates based on that new information.

The S2's portion of the rehearsal should be briefed using the enemy timeline and event matrix. Again, he should portray an uncooperative enemy that intends to defeat the task force.

Battle Tracking

Reconnaissance and surveillance. Part of battle tracking is understanding the R&S plan and knowing how it is progressing. If the scouts were told to line of

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departure (LD) at 1800 hours, and be in position to observe and report on NAI 2 and 3 no later than 2330 hours, then the S2 section should be tracking their movements as well as their reports. Additionally, the S2 needs to track whether or not the commander's PIR have been answered.

Situation development. S2s should develop a system to track the enemy during both the attack and the defense. This can be done by individual formation, when the enemy attacks, and by battle position when he defends.

This type of battle tracking and battle damage assessment will allow everyone to see the enemy and assess his strengths and weaknesses. Furthermore, it increases the commander's ability to make informed decisions.

Predictive Analysis

S2s are not just historians who simply disseminate combat information. They make their money by conducting analysis for the commander while he is on the battlefield. Not only can a successful S2 identify what has happened and what is going on at the moment, but also can predict what is going to happen next. To do this, the S2 must take each report of enemy contact and ask what it means. If and when we begin to understand the indicators of enemy actions, we can then inform the commander, XO, and S3 what the enemy's next move will be, so it can be countered.

"We didn't lose the game, we just ran out of time." — Vince Lombardi

The battalion task force's key to success is to issue quick and clear orders, parallel plan with higher, adjacent, and subordinate headquarters, and rehearse the plan thoroughly. In the foreseeable future, units will continue to conduct operations in time-constrained environments, and unless each member of the staff modifies their requirements during the MDMP process, they will not accomplish proper coordination and synchronization. The task force intelligence officer plays a critical role in setting the conditions for the entire MDMP. If the S2 is not quick, clear, and concise when he prepares and briefs the intelligence preparation of the battlefield, the entire process can, and will, be severely hindered.

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Rounding Out the "Tip of the Spear!"

by Captain Mark C. Weaver

Communicating through an interpreter, the engineer asks the Afghani school principal to describe what the school was like before it was destroyed in the civil war. The principal points to the ruins and describes how the mud wall remnants used to be fully functional classrooms with chalkboards, desks, doors, and windows before the civil war. The engineer measures the classrooms, gathers additional details, and returns to the safe house compound in Kabul where he sits at a laptop in a converted garage to write a technical statement of work, which soon becomes the key component of a contract for local Afghani contractors to bid on. Although this overseas humanitarian, disaster, and civic aid (OHDACA) project is one of over 200 being worked by civil affairs tactical teams, it is unique because of who is providing the engineer support. It is not an Army Reserve civil affairs engineer officer, nor is it an Active Duty engineer officer — it is, surprisingly, an active duty armor officer on loan from the 1st Cavalry Division as an augmentee to Operation Enduring Freedom.

When lieutenants select their branch assignments, there are select few who choose, for their own reasons, to be com-bat arms officers. These lieutenants know that at the conclusion of their career, there will be little practical application of their combat arms skills that relate to civilian jobs. However, they are more concerned with being leaders at the "tip of the spear," who, as part of their job descriptions, can feel the rush and adrenaline of com-manding great soldiers on the world's greatest tanks. Soldier Training Publica-tion (STP) 17-12AII-OFS-1, *Officer Foundation Standards, Armor Company Grade Officer, 12A, Captain*, lists the tasks a com-pany grade Armor officer must be able to perform.[1] A partial list of these tasks in-clude:

- Conduct intelligence preparation of the battlefield.
- Conduct maneuver.
- Conduct a breach.
- Conduct an attack by fire.
- Conduct an assault.
- Conduct a defense in sector.

One of the last things an armor officer expects to do when he initially branches armor is to conduct stability and stabili-zation or peacekeeping operations such as providing humanitarian support and presence patrols. But, in today's ever-changing Army, an officer can expect to participate in a multitude of deployments other than combat training center rota-tions and combat operations. With the ex-ception of the recent Operation Iraqi Free-dom, the U.S. Army has been transition-ing from full-scale combat operations to peace enforcement and security opera-tions.

Since 1982, the United States, along with 10 other nations, has been participating with the Multi-National Forces and Ob-servers (MFO) in the Sinai. The MFO ob-serves, verifies, and reports on Egyptian and Israeli forces to enforce the 1978 Camp David Accords and 1979 Treaty of Peace.

In December 1995, the 1st Armored Di-vision's Task Force Eagle, as part of Op-eration Joint Endeavor, led the 12-nation coalition Implementation Force (IFOR) into Bosnia-Herzegovina to implement the Dayton Peace Accords. As the situa-tion in Bosnia improved, the IFOR tran-sitioned to a Stabilization Force (SFOR), Operation Joint Guard, during Decem-ber 1996, and then transitioned again in June 1998 to Operation Joint Forge, with the arrival of the 1st Cavalry Division. Finally, the 1st Infantry Division formed the first Task Force Falcon in February

"Once in theater, individual augmentee assignments are widely varied. These assignments are challenging and will expose augmentees to higher echelon operations and planning processes. Additionally, since most of the assignments are conducted alongside our sister services and allies, augmentees gain invaluable insight into joint and coalition operations."

1999 to participate in the NATO-led, seven-nation coalition, Multi-National Brigade (MNB) (East). As an extension of the Bosnia mission, the MNB(E) is a component of the Kosovo Force (KFOR) and conducts peacekeeping operations in the Federal Republic of Yugoslavia's Serbian Kosovo province.

All of these missions share a common theme, in that combat arms forces are conducting peacekeeping-focused operations with vehicles and weapons systems other than the M1 main battle tank and the M2 Bradley Fighting Vehicle. However, they are not the only examples of armor officers conducting other-than-armor operations. Due to other worldwide events, such as counter-narcotic operations and the global war on terrorism, the military is conducting an increasing number of worldwide operations.

In previous years, these operations, which are usually limited in nature, have fallen under the operational control of the Special Operations Command (SOCOM) at McDill Air Force Base, or under brigade combat teams such as the IFOR, SFOR, and KFOR; however, the recent trend of employing conventional with unconventional forces in so many locations requires the military to stand up joint or coalition headquarters. One of the effects created by adding these headquarters is the need for additional personnel to operate them 24-hours a day for extended time periods. The Army meets this need by using individual augmentation orders.

Individual augmentees help fill various positions such as manpower, planning officers, and battle captains. Due to the general nature of augmentee assignments, the Army classifies the majority of these taskings as 01A non-branch specific. The U.S. Army Personnel Command (PERSCOM) then assigns these requirements to be filled by the various divisions throughout the Army. Individual augmentation orders are growing increasingly frequent throughout the Army.

Once a soldier is alerted for one of these individual assignments, they report to the CONUS Replacement Center (CRC) at Fort Benning, Georgia. The CRC is operated by the 11th Infantry Regiment (Garrison Command) at Fort Benning, and has the sole mission of processing individuals and units for deployment to theaters of operations.[2] Along with Army augmentation missions, the replacement center also prepares Navy, Marine Corps, and Air Force personnel from all components, as well as civilian contractors, Department of Defense civilians, Army and Air Force Exchange Service employees, American Red Cross volunteers, and U.S. Army Reserve units.

Upon arrival, the CRC begins deployment preparation validating soldier readiness processing (SRP), individual common task training (CTT), weapons qualification, and special equipment/clothing issue. Typically, arriving on Sunday night, individuals conduct their SRP on Monday, followed immediately by required training and clothing issues. By Thursday, most individuals have completed their paperwork and training and are prepared to depart. The CRC then coordinates transportation into theater and the individuals usually leave by Saturday afternoon. This coordinated and stream-

"All of these missions share a common theme, in that combat arms forces are conducting peace-keeping-focused operations with vehicles and weapons systems other than the M1 main battle tank and the M2 Bradley Fighting Vehicle. However, they are not the only examples of armor officers conducting other-than-armor operations. Due to other worldwide events, such as counter-narcotic operations and the global war on terrorism, the military is conducting an increasing number of worldwide operations."

Making the Eight-Step Training Model Work

by Captain Jeffery L. Howard, Captain John F. Blankenhorn, and Captain Douglas A. Keeler Jr.

"Leaders use the Eight-Step Training Model as their template for planning, preparing, executing, and assessing training. Just as we execute Troop Leading Procedures for tactical operations, execute the Eight-Step Training Model for training."[1]

I was assigned to the 1st Squadron, 5th Cavalry, and had just returned from a yearlong deployment. I arrived at home station with the realization that the skills needed to successfully accomplish our wartime mission essential task list (METL) had diminished. Lieutenant Colonel Thomas Jones, the new squadron commander, stepped into the squadron S3 shop Monday morning, after block leave, and asked, "Captain Smith, do you want to join Major Connor and myself in his office?" As the assistant S3, I had not been "invited" to many discussions with the S3 and the old man and I anticipated the worst. As he took a seat, the squadron commander opened with a simple statement, "Gentlemen, I know we returned only 2 weeks ago from a major deployment. You are aware of our current METL training needs. I feel we need to take an aggressive step forward to get the squadron back on track." Lieutenant Colonel Jones looked at both Major Connor and myself and announced, "I want the S3 shop to develop a squadron training plan within 2 weeks to get us training again. I want a "road to war" that maps out how the unit will regain its wartime readiness with the capstone exercise being a National Training Center Rotation." With that, he jumped to his feet and turned to leave. "Well, I'd better get going, I have to restart my routine of meetings followed by more meetings. Come by my office around 1500 hours and I will provide guidance for the coming quarter. By the way, I just talked to an old buddy of mine in command at Fort Hood and he mentioned an eight-step model to guide training. You might find that useful. Later gentlemen, have a great day!"

As the assistant S3, I found that my experiences as a platoon leader, executive officer, and even as a graduate of the Armor Officers Advance Course and CAS3, did not fully prepare me for the complex task laid before me. The tools necessary to plan, resort, and execute training were not in my kit bag. Up to this point, I understood the importance of training, but not the methodical way to ensure a successful training event. Taking Lieutenant Colonel Jones' suggestion, Major Connor and I looked at this new stepwise technique to planning and executing training. That was my introduction to the Eight-Step Training Model. I now had the tools, but no instruction manual. After several miscues with the training plan and being asked to brief the S3 and squadron commander on this new model, I researched the Eight-Step Training Model. I found through research, trial and error, and coaching from superiors and peers, the following lessons that helped me use the Eight-Step Training Model to make our unit better.

The Eight-Step Training Model is a relatively new rationale for the U.S. Army. Some members of the active force have used this concept for almost 10 years. Only recently has the model been approved for publication in doctrinal manuals.

A problem for many junior leaders is that doctrinal manuals do not provide explanations on how to use the model. Manuals simply show the methodology in graphic format and identify the steps.

Through research in doctrinal manuals, observations, and personal experiences, we determined that junior leaders need a more formalized explanation of the training model.

As leaders at all levels, it is our commission to ensure soldiers are properly trained. Many leaders struggle to plan training effectively. For years, we have been coached to be battle focused in our training and to understand the training cycle. There is little discussion on conducting detailed planning for each training event within the training cycle to create a battle-focused event. This article attempts to close the gap between understanding and applying effective training and provides a detailed examination and explanation of the Eight-Step Training Model.

The Eight-Step Training Model provides a sequence for planning, coordinating, and executing individual and collective training. This methodology fills the gap between what field commanders expect and what the formalized education system provides for training event planning and execution.

The information in this article explains the procedures and considerations for each step of the model. This article is based on a collective 12 years of research and practical experience. It is directed to young leaders in the Army charged with training soldiers. The methodology of the Eight-Step Training Model is applicable to all branch or military occupational specialty (MOS) training requirements. Leaders can use this sequence of planning and execution in small or large units and for field, garrison, or specialized training requirements.

You should take time to investigate this process and make it relevant to your organization. Start with the premise that every leader must understand how to plan effective training. As leaders of soldiers, it is the ultimate mandate to properly train America's young men and women to win on the battlefield and return safely to their homes. Tough training that meets or exceeds standards established by doctrine and regulations ensures this.

Effective training is essential for building a cohesive unit prepared to execute its assigned missions. With effective training focused on wartime missions, important aspects of soldiers' lives ultimately

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benefit. Some results include an increase in morale, stability in retaining quality soldiers, and a potential reduction in adverse administrative actions. Soldiers want to remain a part of an intelligent team that trains hard and maintains a reputation for being mission ready.

Before embarking on the first step of the Eight-Step Training Model, we must understand three imperatives: training planning is conducted at all leadership levels to varying degrees; planning is a continual process; and finally, training time is precious and must be preserved. We must also understand there are various sources of directed training from higher levels of command that impinge on and complement a unit's total training time.

After taking these factors into consideration, and fully understanding their impact on effective training, the Eight-Step Training Model can be a successful tool if used properly.

Plan Training

Determine the training priorities of your higher headquarters, two levels up, and those of your next higher headquarters. Analyze potential war plans and missions for the unit. These results will determine your unit's METL or critical task lists. Training planners at all levels must use their own METL and that of their parent unit, if it is a company or larger size unit. This ensures a focus on training those critical tasks that ensure wartime mission accomplishment.

From the same research, you develop training guidance derived from the METL

or critical task list, directed training, and a unit assessment. A firm grasp on higher level training guidance leads to the conduct of a deliberate unit assessment to determine current training levels in the organization. Research and information gathered from multiple sources allows the conduct of the unit assessment. Places to research include training and evaluation programs, combat training centers, after-action reviews (AARs), unit statistics, personal observations, and unit leaders. This assessment assists in determining training needed to improve the unit in areas identified as lacking in documentation.

Various techniques for conducting the assessment to determine current training levels in the unit include an informal process, which involves a simple discussion over coffee, or a formal assessment during a scheduled meeting with a specific agenda. Soldiers have great ideas and insights into the strengths and weaknesses of the unit. With a little massaging, these ideas can be vital to the plan. The ideas can foster ownership of the training plan and cultivate commitment to the plan's success. Continual unit assessments will determine the training plan's effectiveness.

Now it is time to determine the type of training the unit conducts and to what standards they execute. To do this, you must define the point of success, which can be found in doctrine, external guidance provided from higher headquarters, and current soldier focus and direction. Combine the defined point of success with the revised unit METL, external

"Effective training is essential for building a cohesive unit prepared to execute its assigned missions. With effective training focused on wartime missions, important aspects of soldiers' lives ultimately benefit. Some results include an increase in morale, stability in retaining quality soldiers, and a potential reduction in adverse administrative actions. Soldiers want to remain a part of an intelligent team that trains hard and maintains a reputation for being mission ready."

guidance, and unit assessment to create the commander's training guidance.

Once training guidance is identified, it is then published. It is a living document or idea that needs dissemination to the lowest levels. Either written or verbal guidance is acceptable, depending on the unit level. Once the training guidance is published, you must analyze the product and identify the specific training events needed to accomplish your intent. Once training events are identified, use the unit's training calendar to synchronize the events to available time. It is important that you communicate the vision

within the framework of a timetable. Once events are matched to a timetable, a "road to war" is created to guide you through the time period.

Constant review of the training guidance will ensure feasibility and applicability. For example, a company commander identifies a METL task from the battalion METL and applies it to the company METL. The commander ensures that the training considerations of higher-level leaders are addressed. The company commander then selects platoon critical collective tasks to train that support the company METL. A platoon leader then con-

ducts the same process by identifying key leader, crew, and individual tasks that support the platoon critical collective tasks. This ensures platoon preparation for a company-level training event. The platoon leader then plans platoon-level training to complete the required training prior to the company-level training event. This ensures soldiers and leaders are mentally and physically prepared to fully participate in the company event.

Strive to incorporate as much multiechelon training as possible. Integrate tasks that provide additional training synergy. This ensures units train tasks from the individual to the collective level. After thorough research, coordination, and resourcing, you can produce a document that addresses major issues and provides the higher commander, or staff-level planner, a snapshot of your proposed training events. This ensures that key planning and resource aspects are considered and addressed.[2]

Training and Certifying Leaders

Completing the first step of the eight-step model provides focus on the tasks to be trained. Next, ensure that subordinate leaders are trained and certified. This step is vital — second only to conducting the AAR. Soldiers look to leaders for direction, confidence, and decisions in combat. The ability to understand the training subject matter is key for a trustworthy leader. It is important to certify leaders not simply to conduct certification of a subject matter expert but to train soldiers. Certifying unit leaders builds confident, respected individuals that superiors, peers, and subordinates look to for mission accomplishment.

Observer controller (OC) teams for a training exercise must also receive training and certification. This ensures a focus on critical areas of evaluation or observation. The key to future success of training starts with this step. If training and certification are not conducted to standard, overall training quality suffers. Some key points to remember during the training and certification process are:

- Involve all trainers, evaluators, and leaders.
- Identify leaders vital to training success.
- Identify skills that contribute to training success.
- Develop a plan to train leaders on the skills.
- Use a certification method to validate skill proficiency.
- Plan retraining and continuing training to maintain skills.

For example, a company commander identifies essential leaders and trainers involved in a training event. Soldier attendance is deemed essential and is communicated as such. The commander researches the skills needed to properly execute the training event. The commander conducts a "leaders teach" on administrating the training event and tactical scenarios. This allows leaders and trainers to comprehend how to train a particular unit and what the commander views as training success. This is otherwise known as the leader's training objectives. The commander then moves to a terrain model, sand table, or terrain tarp and executes a leader's back brief by key event. If time is available, the commander and subordinate leaders conduct a walk through of the event at the training site, which ties into the next step.

Reconnoiter the Site

The training and certification is complete when all leaders and trainers have a thorough understanding of the training objectives, expectations, and skills needed to conduct an event.[3]

After leaders, trainers, and evaluators are certified, they must reconnoiter the site. A successful reconnaissance ensures that leaders, trainers, and evaluation teams understand what the training expectations are and where they may occur based on a trainee's reaction to a stimulus. During the reconnaissance, ensure that the site meets the essential resource requirements for the planned training. In addition, you and key leaders can envision the overall mission and how the terrain effects the tactical or operational aspects of the training. The reconnaissance provides an opportunity to rehearse the training scenario on the terrain where the event will occur. Even a limited rehearsal provides unit leaders an opportunity to verify that administrative aspects and tactical scenarios are synchronized to fully support the training objectives. At the end of this step, you can produce necessary graphics or terrain products.

One possible sequence starts with a commander determining that the unit requires training on reaction to indirect fire during dismounted operations. The commander then determines the stimulus necessary to produce a reaction or outcome that meets the training objective and standard. In this case, a barrage of artillery simulators and direct fire from a machinegun position delivered by an opposing force provides the training scenario stimulus. During reconnaissance of the dismounted training lane, key leaders, trainers (opposing force leaders), and evaluators determine the best location to situate an ambush in the lane. The trainers and

leader shape the training lane and the ambush site to elicit a reaction from the unit executing the training. Trainers also select alternate sites for the ambush and artillery in the event the training unit's tempo of execution is different than anticipated, or the original site is bypassed or compromised. Sites are recorded for incorporation into an enemy situation template or other products.

Issuing the Plan

The fourth step of the model, issuing the plan, occurs after planning and coordination is complete. This step is time sensitive. Issue the operations order (OPORD) timely to allow subordinate leaders time for Troop Leading Procedures, and sufficient time for preparatory training and logistics preparation. Information in the OPORD that is as accurate as possible and published timely, promotes event success. An 80-percent solution on time is better than a 100-percent solution too late. Issue the plan in an OPORD format with standards and the training end-state clearly defined.

The OPORD communicates information and provides an opportunity for embedded training by allowing subordinate leaders to analyze the order, produce and brief an order, and conduct back briefs.

A successful method is to issue a training event OPORD prior to the event that explains the event, issues instructions for conducting the training, and denotes necessary coordination. This is separate

from the tactical order that drives the scenario for training. Develop the tactical order separately and issue it as a fragmentary order (FRAGO) during the training event or as an annex to the base training event order.

Rehearsal

Never underestimate the value of a rehearsal — a critical step in every training event. Never bypass an opportunity to rehearse to save time or resources. When developing the training event timeline, include adequate time for detailed rehearsals prior to execution of the training. Strive for multiple dry runs prior to execution. In a compressed timeline, insist on a minimum of one dry run. Use imaginative rehearsal techniques to build soldier and leader confidence. Interweaving twists during execution will test leader reaction and initiative. If possible, rehearse on the terrain where the training event will occur.

Many types of rehearsals exist. Decide on a technique based on time available and the amount of unit participation. It is best when more than one type of rehearsal is used while preparing for a particular training event. The best methods for rehearsing allow hands-on participation by the entire unit. The unit develops a mental picture of the training event with a good rehearsal. This helps soldiers and leaders better understand the operation, contingencies, and actions/reactions for various situations that may arise. The rehearsal level is a sliding continuum var-

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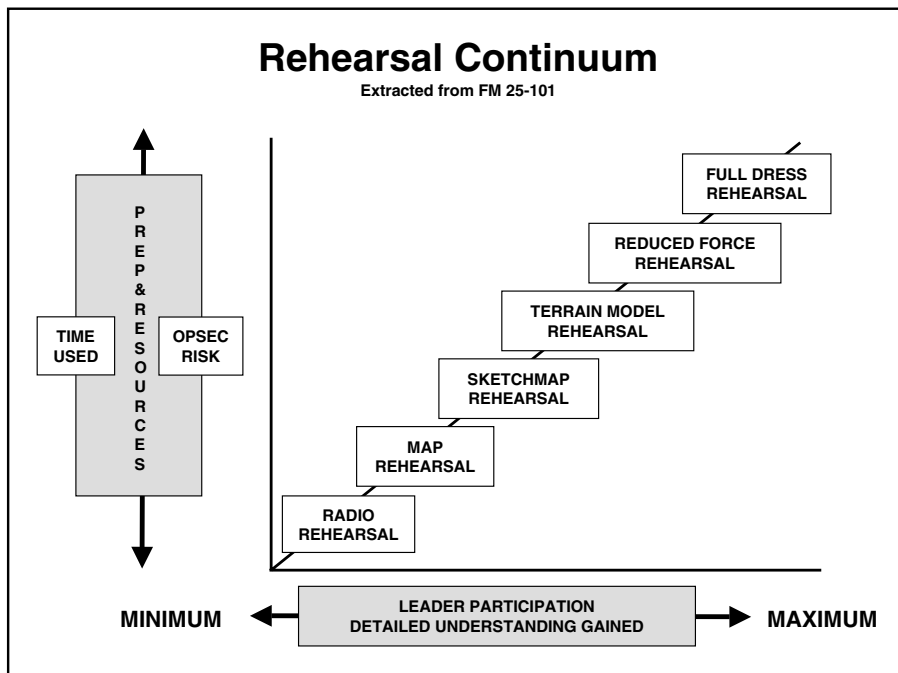
Rehearsal Continuum
Extracted from FM 25-101

Figure 1

ied by time available, participation, and level of understanding.

An example of executing an event rehearsal incorporates several techniques. Begin with a concept sketch or graphics to allow subordinates to envision the training event either from an execution or tactical standpoint. Then move to a map, with graphics, and review the concept to allow subordinates to develop an appreciation for the terrain. After subordinates have an understanding of the terrain, move on to discussing the training event by phase. Focus on the tactical aspects of the training. Once subordinate leaders understand the overall concept of the operation, move to the training site and conduct a tactical exercise without troops (TEWT). This rehearsal is conducted with a similar scenario, if not the same scenario, that will drive the training event. When the TEWT is complete, all subordinate elements can conduct a similar sequence of rehearsals. Once they are ready, the entire unit can conduct a coordinated rehearsal. This rehearsal can take a variety of forms such as mounted, dismounted, key event, dry run, or full scale. A clear understanding of the training event signals the end of the rehearsal step.[4]

Execution

Move into execution only when the unit has a clear understanding of how to execute the training. The unit must have all prerequisite training and necessary resources to establish the right conditions for training. The execution plan must allow for multiple repetitions and for an incremental increase to training-condition challenges. A key to successful execution is to focus on the published standards. A direct correlation between expectations and results exists. Set high, realistic expectations and hold subordinates to them.[5]

The After-Action Review

The AAR is the most important part of the Eight-Step Training Model. The unit must receive a complete AAR from the OC or training leader during the training event. Conduct the AAR during, or immediately following, a training iteration. As this is the most important of the eight steps, the AAR must be a professional discussion with active participation from the soldiers of the training unit. The full-learning process begins during the AAR. It is important for all AAR facilitators to learn methods for conducting a structured review. Facilitators require the appropriate tools to coach soldiers into self discovery concerning what happened, why it happened, and how the unit can improve performance during current training events and future training events. Ensure the AAR facilitator plans and rehearses the main AAR points prior to presentation. A facilitator may employ methods that include a detailed terrain model, an easel that outlines a specific set of training objectives, a slide show, or a HMMWV-top briefing book.

Ensure the AAR facilitator captures critical behaviors to sustain and improve. It is important to identify what occurred, but more critical is why the event occurred. The AAR provides candid insight into specific soldier, leader, and unit strengths and weaknesses from various perspectives. The facilitator guides and focuses soldiers into articulating "what and why." Soldiers can then determine specific behaviors to sustain and improve. The unit can develop a strategy for improvement and identify an enforcer for the strategy. Insist the AAR remains focused on the identified training objectives. The AAR facilitator involves all participants in the discussion by using open-ended questions. By focusing on the action and standards, and by describing specific observations, leaders and soldiers identify strengths and weaknesses and decide together how to improve performance.

Use an informal AAR as an on-the-spot coaching tool while observing soldier and unit performance. For example, after a scout section destroys an observation post during a zone reconnaissance, the platoon leader can conduct an informal AAR to make corrections and reinforce strengths. The section quickly evaluates the performance against a published standard, identifies weaknesses, and decides how to improve performance. The section can implement the corrections and see immediate improvement when training resumes. This provides a rapid-feedback process to reinforce correct procedures. An informal AAR can maximize training value because units receive quick feedback during the event and soldiers can immediately improve their actions. A successful AAR begins early and incorporates:

- Planning.
- Preparing.
- Conducting.
- Follow-up (using AAR results).[6]

Planning begins with selecting and training leaders on the AAR process. The facilitator and leaders identify when the AAR will occur, who will attend, the potential site, and produce training aids during the planning phase. The AAR plan identifies observers, AAR facilitators, critical places and events to observe, attendees, and required training aids.

Initial AAR preparation includes a review of training objectives, orders, METL, and doctrine. From the AAR plan, the facilitator and OCs identify, record, and communicate information on key events. The collected information is organized and packaged to present key discussion or teaching points. Preparation also includes reconnaissance and preparation of the AAR site and AAR rehearsal.

While conducting the AAR, always seek maximum participation, maintain focus on the training objectives, constantly review teaching points, and then record key points. One of the strengths of the AAR format is its versatility. However, remain specific, thorough, and avoid gen-

eralizations. Do not dwell on issues unrelated to mission accomplishment. Trainers must ensure AARs are focused on training actions. Facilitators must relate performance to accomplishment of training objectives. An AAR format should include:

- Reviewing the training objectives.
- Commander's mission and intent.
- Introduction and rules.
- Relevant doctrine and tactics, techniques, and procedures (TTPs).
- Summary of recent events.
- Discussion of key issues.
- Discussion of optional issues.
- Discussion of force protection issues.
- Closing comments.

Follow-up is the most vital part of the AAR process. During an AAR, leaders determine aspects of training to improve on. The unit begins to address the areas through action. This can encompass revising standing operating procedures or changing TTPs. It is important for the unit to determine improvement needs, develop a strategy to make improvements, and then implement the strategy. Identifying a problem and a solution means little if the solution is not implemented. Begin with small improvements immediately and work toward major corrections. The facilitator ensures the unit identifies an individual responsible for improvements. The unit's improvements should be monitored during subsequent training.

Retraining

After completing the AAR process, participants collectively determine one or two tasks for immediate improvement during the final step of the eight-step model. Any training plan devised for a unit must incorporate retraining into the critical training tasks and timeline. Too much negativity is placed on the term "retraining." The term often denotes failure, poor performance, or not measuring up in the eyes of a leader. These connotations are not the true spirit of retraining. We must think of this step as "reinforcement" training. Communicate the positive aspects of the completed mission to subordinates during the AAR process and stress the importance of building on these. Continued training allows the unit to improve warfighting skills and increase their confidence in mission accomplishment. Point out that mission success means a mission trained to standard.

Protect time set aside for retraining to ensure the unit is not deprived of the opportunity to achieve or exceed the standard. Use this step to raise the high bar or to step back and ensure success with

the basics. Reinforcement training is an opportunity to challenge a unit that needs additional challenges. This is also an opportunity for unit leaders to fix those one or two key tasks identified during the AAR. The retraining process is a never-ending cycle, always look back to completed training and find something to improve. With this understanding, do not view, or use, retraining as a punishment. It is a confidence-building opportunity. It is key to take the opportunity to reinforce positives and fix negative aspects of training and end the event with success and unit improvement.[7]

Nothing in this article is revolutionary, but the Eight-Step Training Model is an emerging rationale for the U.S. Army. The model presented to you in this article has roots firmly planted in U.S. Army Field Manual (FM) 7-0, *Training the Force*.[8] Properly using the Eight-Step Training Model allows leaders at all levels to improve their planning and execution of training.

Soldiers perform better when they understand what they are doing, why they are doing it, and how it ultimately allows them to perform essential functions — functions that may ensure their survival in combat. Use the training model not only for tactical training events, but also for garrison training such as sergeant's time or administrative taskings.

The use of the eight-step process by junior leaders during training planning also correlates with the use of Troop Leading Procedures during training and in combat. The similar sequential process of planning and execution allows junior leaders to develop a pattern of analyzing missions and fully preparing for them.

Remember the most important steps of the Eight-Step Training Model are training and certifying leaders and the after-action review. This model establishes a sequence for trainers to follow, at all echelons, to improve planning through the execution of training events. As stated in FM 7-0, "Training to the Army standard is the key to fighting and winning. Every commander and leader from squad through Army is expected to know, understand, and apply this capstone training doctrine."[9] Training excellence is the cornerstone of combat readiness. An ancient Chinese proverb simply states, "The more you sweat in training, the less you bleed in war." We must learn the model, use it, and train others. This can create a streamlined, logical planning process leading to the most important thing in the Army…winning in combat!

Notes

[1]General Thomas A. Schwartz, U.S. Army Forces Command Training White Paper, Subject: Train to Fight…Fight to Train, *http://www.forscom.army.mil/cgwelcome/WhitePapers/ default.htm*.

[2]U.S. Army Field Manual (FM) 7-0, *Training the Force*, U.S. Government Printing Office (GPO), Washington, DC, 21 October 2002, pp. 3.1-3.15.

[3]Army Training and Evaluation Program (ARTEP) 17-237-10-MTP, *Mission Training Plan for the Tank Platoon*, GPO, Washington, DC, 23 December 2002, p. 1-11.

[4]FM 101-5, *Staff Organization and Operations*, GPO, Washington, DC, 31 May 1997, p. G-3.

[5]Christopher D. Kolenda, *Leadership: The Warrior's Art*, Army War College Foundation Press, Carlisle, PA, 2001, pp. 309-326. Contribution from BG Robert W. Cone, Chapter 17, "Battle Focused Training."

[6]Training Circular 25-20, *A Leader's Guide to the After Action Review*, GPO, Washington, DC, 30 September 1993.

[7]Kolenda, pp. 323-325.

[8]FM 7-0.

[9]Ibid.

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and how to use IO as a concept early and often — IO or nonlethal engagements will be your primary asset. Although little information was available during the train-up phase of our stability operations and support operations mission, we developed and trained on negotiation scenarios with squad leaders and above when we could. When we got into theater, therefore, the men were confident in building relationships with the local leaders and gauging effects, further capitalizing on our predecessors.

Determining measurable IO effects was also difficult. Our advice is not to get too wrapped around the axle, as it will come in time. We converted traditional IO tasks, such as influence, encourage, promote, divert, warn, or isolate into measurable effects by using educational objectives, such as compare and contrast, explain, or identify as measures of effectiveness. The use of psychology, and not mathematics, was the best way to measure nonlethal engagements. For example, a task could be to persuade a local official to help facilitate a weapons harvest (a program to encourage the population to turn in weapons and ordnance left over from the war) by providing police support and by offering guidance where to go and what would best work. A possible effect or measure of effectiveness would be that the target agreed and offered at least some police support, and

was able to understand why it was important to get involved in the harvest. If all of these were met, then the target was coded green and no further targeting was required. If it was less than, then we coded it amber for retargeting. If none were met, then we coded it red, reengaged the target with another asset, or chose another target to achieve the EFST.

Case Study

Like most other stability operations and support operations, you may be ordered to conduct a weapons harvest to help ensure a safe and secure environment. Sticking with the mission statement of, "conducts stability operations and support operations in the AOR to deter hostilities, cooperates with the international community to develop self-sufficient institutions, and contributes to a safe and secure environment, eliminating the need for peacekeepers," here are some examples of some EFSTs that may be assigned at the IOWG by brigade or higher:

- T1: plan, prepare, and execute weapons harvest operations within the AOR IAW the provided timeline.

- T2: meet with local government leaders, police officials, and secure their support.

- T3: conduct planning and coordination with local government officials, including the police, to develop work-

"Like most other stability operations and support operations, you may be ordered to conduct a weapons harvest to help ensure a safe and secure environment."

able timetables and programs for a successful harvest operation.

- T4: Encourage local authorities to participate in talk shows and other joint forums to promote the harvest program.

With these EFSTs in hand, we converted them into measurable EFATs at our targeting meeting and began the MDMP by determining high payoff targets, such as the mayor, the police station, the institution, and the township. The staff then completed its initial estimate and continued through the MDMP until the commander was briefed. Once the general concept was approved by the squadron commander, the troop commanders and the squadron staff began to select specific targets. We decided to invite local leaders on post to co-opt their support and share our EFSTs, thus giving them ownership of the process, which nests with the mission statement, "contributes to a safe and secure environment, eliminating the need for peacekeepers." We also invited the local press to announce the program and to show our partnership with the local institutions. The effects of such meetings, of course, were wargamed at the team meeting. Once the local leaders were co-opted, the squads began to distribute PSYOP products to business owners, the police, local leaders, and the targeted populace. We even developed our own symbol, based on one of Ben Franklin's 1747 Pennsylvania Militia motifs, of two men shaking hands, one with the sleeves of a businessman (the local population) and the other with camouflage (the peacekeeper) to show partner-

"In determining who the right people are for this sensitive function, leaders must embrace the fact that above all else, IO is about people. In virtually every stability operations and support operations scenario, you deal with individuals and groups of individuals. The IO team must be fielded with people who can deal with other people. This is not an impersonal, backroom, computer interface; it is face to face and the soldiers selected for this position must be screened for their communications skills and their ability to understand individual and group responses."

ship. The symbol was transposed by PSYOP, duplicated, and then affixed to each harvest vehicle. Our soldiers also conducted radio shows with local leaders and worked closely with the local police by using talking points. For example, the PAO escorted the local press to highlight and congratulate local leaders, while brigade assets announced the harvest. We also had a local television station create a commercial that would best reach the targeted population.

Throughout the harvest, which lasted a full month, we refined our target lists on a weekly, if not daily, basis in concert with the squad and platoon leaders and the company commanders. We also tasked our assigned PSYOP team to study a post-harvest area to ensure that our message was being properly delivered. If it was not, we made adjustments for the next municipality.

At a tactical level, the stability operations and support operations environment is not the typical battlefield scenario. However, it is a hazardous environment — the transition between combat and social stability — and is best handled by trained combatants prepared to respond. During stability operations and support operations, there remains a need for traditional combat arms branches, such as armor, cavalry, infantry, and artillery, because effective peacekeeping must always be buttressed by heavy firepower. That said, the primary difference between peacemaking and peacekeeping is the need for deadly force in the former and the need for more subtle coercion in the latter. A battalion or company commander who takes the field knowing he has the support of artillery gains confidence from the knowledge that he is fighting with an advantage. The same holds true for the commander who has IO support in the stability operations and support operations environment. Advantage is what IO brings to this unique battlefield and it is why great effort must be made to develop the IO plan, train the right people who can handle what had formerly been considered noncombatant responsibilities (or not considered at all), and to incorporate the plan and the people into the implementation process. In short, any branch officer can be an S7 or an IO facilitator at his appropriate level, if he has the training and acumen to fill such a role.

In determining who the right people are for this sensitive function, leaders must embrace the fact that above all else, IO is about people. In virtually every stability operations and support operations scenario, you deal with individuals and groups of individuals. The IO team must be fielded with people who can deal with other people. This is not an impersonal, backroom, computer interface; it is face to face and the soldiers selected for this position must be screened for their communications skills and their ability to understand individual and group responses. The ability to shape the peacekeeping landscape — one populated by concerned, confused, and capricious human beings — is something any armor battalion or company commander would like to have in his back pocket.

Notes

[1] U.S. Army Field Manual (FM) 100-6, *Information Operations*, U.S. Goverment Printing Office (GPO), Washington DC, 27 August 1996, and FM 3-13, *Information Operations: Doctrine, Tactics, Techniques, and Procedures*, GPO, Washington DC, 9 November 2001, p. 2, superseded by FM 3-13, *Information Operations: Doctrine, Tactics, Techniques, and Procedures*, Final Draft, GPO, 1 October 2002.

[2] FM 3-13.

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lined approach to deploying individuals is highly beneficial because it consolidates all resources and is focused on the individual, something not typically available for a lone soldier attempting to deploy from home station.

Once in theater, individual augmentee assignments are widely varied. These assignments are challenging and will expose augmentees to higher echelon operations and planning processes. Additionally, since most of the assignments are conducted alongside our sister services and allies, augmentees gain invaluable insight into joint and coalition operations. While the skills required by augmentees usually revolve around their ability to operate word processing, PowerPoint, and e-mail software, this is not their greatest contribution to the assigned headquarters. Unlike their combat support and combat service support brethrens, combat arms officers bring the ability to apply tactical knowledge to current situations and provide their respective staff sections with intelligent, experience-based input.

This type of deployment provides the opportunity to break the monotony of home-station training, gain understanding of higher echelon operations, work with allies, and participate in real-world operations. Tip of the spear combat arms officers may not be conducting combat operations from the tank commander's seat, but they will be better prepared to be professionals. The benefits of these augmentation missions far outweigh the costs associated with the temporary absence of an officer while he is deployed.

Notes

[1] Soldier Training Publication (STP) 17-12AII-OFS-1, *Officer Foundation Standards, Armor Company Grade Office, 12A, Captain* (Volume 1), U.S. Army Training and Doctrine Command, Fort Monroe, VA, 31 July 2000.

[2] *http://www.benning.army.mil/crc/*

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as practiced by Russians are significantly mistaken. Some important points must be noted.

Army EOD doctrine is found in U.S. Army Field Manual (FM) 9-15, *Explosive Ordnance Disposal Service and Unit Operations*, May 1996, (currently being replaced by FM 4-30.5). Performing missions designed to enhance a commander's mobility, security, survivability, logistics, and intelligence, focus our doctrine on preserving combat power. Editorial space prevents a full discussion on EOD tasks that fall into that category. Suffice to say that the roles described in 1LT DeRosa's article fall so far out of the parameters of the Army EOD soldier's role that to call them "nontraditional," as the author does, is a dangerous oversimplification.

Another difference between U.S. Army and Russian army EOD forces is in our institutional alignment. Our EOD soldiers are proud members of the ordnance corps. Although we work well on the battlefield with our comrades in the engineer corps, we are not engineers and we do not entertain thoughts of performing engineer missions. Others that attempt to perform our missions do so at their own peril. Those activities described in the article are solely within the realm of the combat engineer. Employing U.S. Army EOD assets to reduce structures and obstacles on the battlefield would be a negligent misuse of a small corps of specially trained soldiers — EOD soldiers. While both engineer and EOD soldiers, along with others, such as ammunition specialists and Special Forces, are trained in the use of explosives, only EOD soldiers receive specific training regarding the identification and functioning of explosive ordnance. The identification, render safe, and disposal of munitions require a special course of study and a dedicated career path. Those who believe that all skills requiring the use of explosives are interchangeable are headed down a path guaranteed to cause military misfortune, a lesson that unfortunately requires reinforcement in every conflict, including Operation Iraqi Freedom. Like many military lessons, this one is often learned with an accompanying loss of life.

Using lessons learned from foreign military operations has great utility and is well established in our military history. All soldiers are encouraged to learn from others. The author states that the lessons learned from the Russian 13th Tactical Group have been placed in the Steel Tigers' military operations in urban terrain (MOUT) tool bag. I sincerely hope that when it comes to using explosive ordnance disposal assets that this is not the case. Rather, the more useful course of action would be for armored and cavalry soldiers to seek out their supporting EOD unit to learn directly how the specialized capabilities of these highly trained soldiers can help assure battlefield success.

JAMES H. CLIFFORD
Command Sergeant Major
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Simms Overlooks the Objective

Dear *ARMOR*:

In reference to the article, "Analysis of the Battle of Kursk," in the March-April 2003 issue of *ARMOR*, CPT Simms' analysis using the principles of war is informative, however, overlooks the most glaring failure on the part of the German High Command — objective. The Germans never had a clearly defined, decisive, and obtainable objective.

The Germans were clearly too weak to destroy the Red Army Forces within the salient, and they could not possibly strike deep enough to encircle the entire Red Army reserve positions. Hitler did not want to sit on the defensive. Hence, a city was pointed to on the map and declared the objective (much like the operations against Stalingrad and Leningrad) and the rest is history.

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

Scout CASEVAC Article Hits the Spot

Dear *ARMOR*:

I would like on comment on CPT Geoffrey Norman's article ("Planning Scout Casualty Evacuation," March-April 2003).

First, I am very excited and would like to congratulate *ARMOR* for publishing three casualty evacuation articles over the past year.

CPT Norman's article is an excellent example of a scout evacuation technique. What he did not come right out and say, although certainly inferred in his article, is that scout evacuation (brigade recon team or task force) is absolutely a combat mission, requiring meticulous planning across the brigade combat team (BCT). Detailed coordination and planning between task force and BCT planners, to include medical planners, field artillery for suppression of enemy air defense, forward support medical evacuation team, and standardized marking and recognition signals are critical to the success of scout evacuation. It is not a mission that any one element can plan in a vacuum and expect any measure of success; it truly takes a team effort.

Additionally, CPT Norman places all of the planning responsibility on the TF S4. I would simply ask all of those S4s to force their medical platoon leaders to be an active member of casualty evacuation/medical evacuation planning. Heck, make him help with all of the TF combat service support (CSS) planning; he has to learn this stuff someday, if we expect him to grow into a good medical/CSS planner.

DAN BRANT
CPT, Medical Service Corps
Adler 24

Doctrinal Confusion?

Dear *ARMOR*:

While I appreciate many of the concerns raised by CPT Thomson in his March-April 2003 article, "Focused Reconnaissance and Developing Battlespace in the Armored Cavalry Troop," he has missed the doctrinal answers already available. I do not criticize him, but rather the current state of doctrinal confusion that he rightly identifies.

While his article's focus is at the cavalry troop level, the tasking problems, such as insufficient time and too many named areas of interest, are at squadron and above levels. His crosswalk of doctrinal tasks is valid, but must be considered in the context of the appropriate echelon addressed. CPT Thomson is right on target for noting the utter uselessness of U.S. Army Field Manual 3.0, *Operations*, at squadron level and below.

However, the issue of "stealthy recon" versus "fighting for information" really is driven by mission, enemy, terrain, troops - time available and civilians (METT-TC). The cavalry troop has been reorganized many times and never will everyone be satisfied. It is always a debate between how much is overwatching the scout, versus giving the show away because of all of the armored fighting vehicles bringing weapons to bear. How many readers recall the 10-vehicle combined arms cavalry platoon with five M114s, three M551 Sheridans, an M106 4.2" mortar carrier, and an M113 Infantry squad?

However, "battlespace" and "force ratios" are terms applied to higher levels and have little application at troop levels. Cavalry platoons are rarely concerned with such and are satisfied to have survived the meeting engagement, while the proposed battlespace density only confuses the issue. Instead, there is a ready doctrinal answer.

Cavalrymen should use FM 17-95, *Cavalry Operations*, as their primary source. It is well laid out by echelon. Consider the article's concern with zone recon. See chapter 3, "Reconnaissance Operations," Section III, "Zone Reconnaissance." It presents the primary and associated tasks, and then addresses regiment, squadron, and troop planning considerations, in descending order.

Now, if the division commander cannot focus his named areas of interest, or the squadron commander cannot correlate tasks against time available, well that's a personal leadership problem that must be resolved by the chain of command, but it is NOT due to lack of doctrine.

But again, start with FM 17-95. It is a good guide. Then, at your leisure, pull out the old history books and study up on where we've been, what we've done, and how we got to be the way we are today.

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

Correction

In the March-April 2003 issue of *ARMOR*, Major Harold Buhl's article, "The Future of Scout and Cavalry Systems," contained an editorial error. On page 22, column 1, the first bullet comment on multispectral RS3 reads, "Identify the threat beyond the scout's recognition and weapons range." It should read, "Identify the threat beyond his recognition and weapons range." *ARMOR* apologizes to the author for this oversight.

CHRISTY BOURGEOIS
Managing Editor

REVIEWS

War With Iraq: Critical Lessons by Buster Glosson, Glosson Family Foundation, Charlotte, NC, 2003, 320 pp., $28.95 (hardcover).

Retired Air Force Lieutenant General Buster Glosson has written an autobiography based on his wartime daily diary during the first Gulf War. Like Richard P. Hallion's *Storm Over Iraq: Air Power and the Gulf War*, it is another argument over the dominant impact of air power. Glosson, however, tells his story, from a perspective of a major player who planned and executed the air campaign against the fourth largest field army in the world.

The book's thesis emphasizes the supremacy of air power in shaping the battlefield. He believes the use of brute ground forces is a thing of the past, criticizing General Colin Powell in reference to what he calls the "old school thinking" in Washington that modern wars are won with massive ground troops. He maintains war has an enduring nature; however, the conduct of war changes with technology. Thus, his focus is on precision air power as the deciding factor in the conduct of warfighting, especially with his favored weapons system, the F-117 Stealth Fighter. Glosson credits himself for developing a new strategy with the F-117s, the backbone of the air war in Iraq, because they provided surprise and delivered precision bombs.

Quite evident, the author is a strong proponent of strategic air power as a deciding doctrine in winning modern war as indicated by his admiration for the controversial BG Billy Mitchell, who after World War I, became a strong proponent for strategic air power that impeded the development of an air-ground tactical doctrine during the interwar period. In addition, President Bush comes under criticism for abruptly ending the war before Saddam Hussein and his regime was eliminated by air power. The author notes in his diary, "history will judge."

In conclusion, Glosson list numerous critical lessons as a baseline for future wars that can be summarized, as there is no substitute for winning with an emphasis on a minimum loss of lives. His solution is that precision air power combined with Special Forces is more decisive than an overwhelming force.

Generally, as with all autobiographies, *War With Iraq* explains history from a personal, one-sided point of view. Army readers may have trouble with the author's assertion that air power is the decisive arm capable of destroying the battlefield. This attitude brings forth the conflict between service cultures regarding the nature of modern warfighting. Air Force planners, like Glosson, viewed the application of air power as a separate campaign and as the deciding factor. Army leaders — like Generals Powell and Schwarzkopf — historically recognized the reality of wrestling terrain from an enemy, not only at the operational level, but the importance of ground tactics.

For years, Army leaders viewed air power as a means to degrade the enemy and shape the battlefield for ground operations, which was recently demonstrated during the Iraqi campaign. One serious omission is evident. Glosson does not integrate his strategic thoughts with the doctrine that won the war in 1991, *AirLand Battle Doctrine* that emphasized the importance of joint and combined operations.

GEORGE F. HOFMANN, PH.D.
Department of History
University of Cincinnati

Through Our Enemies' Eyes (Osama bin Laden, Radical Islam, and the Future of America) by Anonymous, Brassey's, Inc., Washington, D.C., 2002, 394 pp., $29.95 (cloth).

Historians have long debated the possible changes in world history had the leaders of Europe taken Hitler's *Mein Kamp* more seriously. In *Mein Kamp,* Hitler gave notice to all of his specific goals and aspirations: the conquest of Europe, the "final solution," and the germanization of much of the world were chronicled and detailed.

Now an anonymous, though obviously very well qualified, author has laid out Osama bin Laden's goals and aspirations in his war with the "Crusaders." The author believes that bin Laden's belief that the United States is intent on destroying Muslims, their religion, and the Islamic world has, in his mind, many parallels to the Crusader's attacks on his coreligionists nine centuries ago. This book provides a useful context in which to understand bin Laden's views and thought processes, bizarre as they may seem from our viewpoint.

The author points out that al Qaeda is larger, more ethnically diverse, more geographically dispersed, younger, richer, better educated, better led, and has better military training, and experience than previous terrorist groups such as Hizballah and the Abu Nidal organization. But, perhaps more ominously, al Qaeda is motivated to a far greater extent than other groups by Islamic extremism.

Bin Laden's early years are well chronicled with a clear focus on his development as a leader, who now claims to have been at war with the United States directly since 1996. We have, to our detriment, not been quick to pick up on this fact. We are accustomed to being at war with nation states and find it difficult to refocus on war with a worldwide terrorist organization, which is both difficult to find and difficult to counter by conventional means. The Khubar Towers bombing, attacks on tourists in Egypt, the destruction of U.S. Embassies in Nairobi and Dar es Salaam, the attack on the *USS Cole* in Yemen, and the 11 September attacks on the U.S., stand out as major events in his war. But bin Laden has also been instrumental in launching "Jihads" in Uzbekistan, Kashmir, Chechnya, and the Philippines against the "atheists and infidels" of the world.

Bin Laden's stated goals are to annihilate the U.S.-led enemies of Islam (the Crusaders), to restore Muslim dignity, holy places, and lost territory. He wants the U.S. out of Muslim territory and the complete restoration of Palestine to the Palestinians. The author describes how militants throughout the Islamic world are enraged by what they believe is Western aggression against their people, religion, and culture. Though bin Laden has declared war on America, not once, but twice, the author argues that American complacence in the face of such violent threats stems from the increasing secularization and moral relativism of our society and culture.

This is a book that all professional soldiers should read since it represents, in significant detail, the views and motivation of one of our primary adversaries, while clearly defining the severity of the ongoing threat. There are 107 pages of notes and sources, which clearly indicate the high level of scholarship put forth by the author. The author clearly supports his thesis, which generally is that bin Laden and his followers may represent the most dangerous and inclusive threat the U.S. has ever faced.

BG DAVID FUNK
U.S. Army, Retired

The World War II 100 by Howard J. Langer, New Page Books, Franklin Lakes, NJ, 2002, 335 pp., $27.99 (hardcover).

Often in reference works, there is no writing style, which can make a book boring, but this was not the case for me with *The World War II 100*. The more I read, the more I wanted to read.

What made it readable was the author's approach in rating the persons he has chosen as the top 100, and cross-referencing them throughout the book. I started reading at random, picking out names from the table of contents, just to get a sense of what was inside. Then as I began reading the book, I concentrated on the European theater of operations listings first, and then went onto the Pacific.

In the Preface, the author identifies the eight major powers of the time: The United States, Nazi Germany, Soviet Union, United Kingdom, Italy, France, China, and Japan, and he has chosen the 100 most influential persons of WWII, mainly from these countries, although other countries are represented.

He includes not only political and military leaders, but diplomats, scientists, intelligence people, and as he notes, "warriors and victims." Within this group, he selects those who had great influence and chose to use it, or in some cases, those who had great influence and chose not to use it. Some are well known, while others are not.

Each entry starts with an analysis of what the author feels the person's main WWII influence was (or could have been), followed by a brief biographical background, and then a description of what the outcome of that person's influence was, and what happened to the individual.

The author has maintained discipline in devoting two to three pages to each person or subject. It is a good formula, because you

know what to expect. It's not easy to summarize an individual's salient accomplishments in such a limited space, especially when one considers that most of these people had very full lives, but Langer has done a good job.

The author agrees that his selection of the 100 is subjective, and he can accept a reader's arguments that someone should be listed higher or lower, but he does so with the exclusion of the first eight, which he believes are entirely correct, as he has ranked them. These are Hitler, Roosevelt, Churchill, Stalin, Marshall, Yamamoto, Eisenhower, and MacArthur.

I honestly did not pay much attention to the number rankings, but I did take exception to the author's stated rationale for his write up on George S. Patton, whom he ranks number 11: "Patton is included here for one major achievement: the containment of German forces, coupled with the relief of Bastogne, during the Battle of the Bulge." While the importance of this action cannot be overstated, the author's comment ignores the earlier magnificent achievement of Patton and his 3rd Army when he drove the enemy across France, with speed and aggressiveness, in just a matter of weeks, from July to early September, to within 63 miles of Germany. Had fuel and other resources not been diverted for Market Garden, the conclusion of WWII in Europe would surely have been earlier.

I found somewhat disturbing a comment made by the author on page 10 of the Preface: "Sometimes I have described an event based on speculation..." Does this mean guesswork? If that is the case, it is unfortunate, because this can cast doubt on credibility.

A minus goes to one element of production. While the book is hardcover, easy to handle, and the type style legible, there is a screened background of a map on the first page of each sketch — the map is either of the ETO or the Pacific, depending on the person who is being written up — a clever idea that did not work out, because the screened background (at least in my copy) is very dark, and that makes the first page of each sketch difficult to read.

Probably every reader will have a nomination of someone who should be included in the top 100 and who does not appear in this book. Mine is Field Marshall Sir John Dill, head of the British Joint Staff Mission in the United States. He had been Chief of the Imperial General Staff at the time of Dunkirk, and in his position with the United States, he often acted as a conduit between Roosevelt and Churchill, accomplishing much to enhance cooperation between the Allies. He worked closely with General Marshall, who held him in high praise. He served both countries exceedingly well, and a joint resolution of Congress recognized his contributions. He died of illness in late 1944 and is buried at Arlington Cemetery. I believe him to be the only non-U.S. citizen to be so honored.

There are photos at the start of each sketch and most of these are very good. There is an appendix with a listing of "Also-Rans" not included in the 100, an appendix with the chro-

nology of WWII, an appendix with the nationalities of the 100, an index of names, an index of subjects, and a bibliography. There is also a brief history of World War II before the individual sketches.

I enjoyed reading this book, learned some things I didn't know, and am glad to have it in my library.

PAUL S. MEYER
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Judgment at Tokyo, The Japanese War Crimes Trials by Tim Maga, The University Press of Kentucky, Lexington, KY, 2001, 171 pp., $25.00.

The title of this short book is misleading. The major content concerns the Japanese war crime trials, this is true. However, the problems exposed and the concepts examined go far beyond those trials. Present day military, political, and social leaders should be interested in them. They loom large in the present-day problems concerning the UN and the situation in Iraq.

The author has conducted extensive research with respect to the Japanese trials and has chosen critical ones to examine. Generally credited to the work of the International Military Tribunal for the Far East (IMTFE) in Tokyo, during the period May 1946 through November 1948, trials actually took place before the establishment of the IMTFE in the Pacific islands (most notably Guam) and at least 10 locations in China, and continued into the 1950s. The most spectacular ones are associated with the IMFTE prosecution of Japanese leaders.

Almost every aspect of the trials can be questioned to some degree, from the legal code employed, to the most minor details. The author explains that the most basic issue questioned if the trials were the punishment of the loser of the war by the victors. Defense lawyers constantly advanced charges of racism, the inability to understand Japanese culture, and the misunderstanding of how the Japanese waged war based on that culture. They also brought up such actions as the U.S. employment of the nuclear weapon and the treatment of Japanese in the United States during the war. Also, as the author emphasizes, at what level of military command and civilian control could the responsibility be placed for the brutal actions charged, and did the upper levels of authority and command approve and know of the horrible deeds of lower levels.

The author points out that in one of the most sensational cases — that of General Yamashita — the U.S. Supreme Court accepted the case in December 1945 for review. In a majority opinion, the court concluded that he had failed to control the actions of his own troops — a violation of the laws of war and military conduct. However, at least one Justice criticized the evidence provided, saying much was raw opinion as opposed to fact. General Ya-

mashita was executed in February 1946 — a rush to judgment?

As pointed out in the book, the IMFTE justices' report suggested in 1948, a permanent legal apparatus to be ready in the future to try and convict war criminals. As a result of The Hague-based tribunal on crimes against humanity committed in former Yugoslavia, the concept was advanced to form a permanent war crimes court attached to the United Nations. In July 1998, an international summit of 160 nations in Rome proposed such a tribunal's jurisdiction and power to investigate any country at any time be established. The summit, with 10 nations dissenting, voted in favor of a permanent International Criminal Court, composed of 18 judges from 18 nations to serve 9-year terms. The U.S. was one of the dissenters. Sixty nations would have to ratify to bring the proposed court into being. Eighteen judges took their seats at the world's first permanent war crimes court at The Hague, Netherlands in February 2003.

The final question posed by the author in this book remains unanswered: "The question of what constituted 'proper' accountability still had no answer."

LEO D. JOHNS
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Lightning War: Blitzkrieg in the West, 1940 by Ronald E. Powaski, John Wiley and Sons, Inc., New York, 2002, 400 pp., $30.00.

It must be said to our shame that we sent our Army into that most modern war with weapons and equipment which were quite inadequate, and we had only ourselves to blame for the disasters which early overtook us in the field when fighting began in 1940.

— Sir Bernard L. Montgomery

On 10 May 1940, the quiet that was the "Phony War" ended as German tanks, infantry, artillery, and aircraft attacked all along the frontier borders with France, Belgium, and Holland. Holland and Belgium capitulated quickly, with France succumbing a scant 6 weeks after the start of the war on 25 June 1940. Only the brilliant and desperate evacuation of the British Expeditionary Force (BEF) from Dunkirk allowed 337,000 British and French troops, including General Montgomery and the bulk of his 3d Division, to escape capture and internment in German prisoner of war camps. Powaski examines the events and the individuals critical to both sides of the Battle for France in his new book, *Lightning War: Blitzkrieg in the West, 1940*.

In *Lightning War*, Powaski considers the entirety of the campaign in France, from its beginnings in the defeat of Poland in September 1939, through the final agonizing moments of the surrender at Compiegne on 25 June 1940. The book's strength is drawn from Powaski's ability to animate the various personalities involved in the critical decisionmaking and ac-

tions of the campaign, both Allied and German. He begins with a fascinating description of the 10 January 1940 crash in Belgium of the aircraft carrying Luftwaffe majors Erich Hoenmanns and Helmuth Reinberger. Reinberger carried the top-secret plans for the German invasion of France and the low-countries, and his capture, and the capture of the German plans, set into motion a series of events that led to the final German plan, and the advance through the Ardennes Forest.

Powaski is equally enlightening in his account of the events that led to the German decision to stop General Heinz Guderian's XIX Panzer Corps short of the English Channel on 24 May. He carefully and fully develops the personalities and the characteristics of each of the German commanders, presenting an intimate look at how the German high command arrived at its decision, and the effects on the campaign.

Lightning War is a great synthesis — a great narrative — of the campaign for France. While it adequately covers the campaign from its nascence in the defeat of Poland through the final capitulation of the French, there are two areas that detract from the final product. Powaski divides the book into literally hundreds of subsections, some as short as three sentences. Many pages have two, and sometimes three, distinct subsections divided by a stylized symbol. It is almost as if the author wrote each of the subsections at differing times, and then pieced them together chronologically in the final editing process. The end result is a choppy delivery and literary style that detracts from an otherwise fine narrative history of the Battle for France.

The second area that detracts from *Lightning War* is the author's documented sources. For a reason known but to the author, there are no footnotes in the book. Instead, Powaski chooses to group sources by section. For the reader, this means that discerning the actual source of a particular quotation or action is difficult for the shorter sections of the book, and problematic for the larger sections. It is an unfortunate choice that detracts from the body of work.

There is little attempt at analysis in *Lightning War*. Powaski makes no pretense of a theme or interpretation in the short two-page prologue. In the final chapter titled, "Aftermath," however, Powaski attempts to address many of the conundrums presented by the French collapse in 1940. Powaski writes that France was "too deeply divided by internecine ideological quarrels to pay serious attention to, and prepare for, the coming conflict with Germany." He also opines that the most important factor in explaining the French defeat was "the absence of the United States at France's side." Neither explanation is instructive.

France did, in fact, prepare for the next war with Germany, but it was simply the wrong type of war. The French wanted to fight a slogging, methodical, and controlled battle. The Germans did not allow the French the luxury of time or present them with the opportunity for a methodical battle. French leadership, training, and doctrine are the true culprits in this debacle. Robert Doughty's outstanding works on the interwar French Army and the 1940 campaign, *The Seeds of Disaster: The Development of French Army Doctrine, 1919-1939* and *The Breaking Point: Sedan and the Fall of France, 1940*, are much more illuminating and convincing on the subject of the French failure. As for the United States, it is difficult to imagine how a country that rejected both its own President's peace plan and the League of Nations could somehow maintain influence in Europe in the years following World War I.

The surrender of France in June 1940 stunned the world. Blitzkrieg — lightning war — entered the popular lexicon, evoking fear and awe. Despite its limitations, Powaski's new work, *Lightning War,* is an entertaining book that adds understanding to one of the most breathtaking military campaigns ever fought.

COL BUCK CONNOR
Commander, 1st Brigade
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Fort Riley, KS

Commander's Hatch continued from Page 6

strategy is on target. The Army's task of changing fielding priorities and deployment schedules to get the right units to the right place at the right time with the right equipment was absolutely bone-crushing work. He praised soldiers and units that met this challenge and stayed ahead of the next change — all with professional competence and an eye on the bigger picture. He described how Armor units were task organized with the 101st Airborne Division (Air Assault), the 82d Airborne Division, and Special Operations Forces (SOF) to support our light/heavy rotations to the Combat Training Centers. We must continue to develop the doctrine and tactics, techniques, and procedures to support these mission sets.

Sergeant Major of the Army, Jack Tilley, addressed issues effecting soldiers and their families, such as pay and ongoing efforts directed at stability and a more predictable deployment plan. Because of recent deployments, many soldiers have missed critical career schooling. SMA Tilley assured us of his commitment to get soldiers to school as their units return from deployments, and explained options under consideration such as mobile training teams and distance learning.

During the Armor Association Banquet, Retired Lieutenant General Funk left us with the message that the Cavalry and Armor Force is not platform driven, and we should be agile-minded as we move to what the future tank may be. "We want tank capabilities," and as the saying goes, "Cavalry is a state of mind."

Lieutenant General Jordan was here on his last visit in uniform and addressed the assembly during the Chief of Armor Luncheon. His encouraging remarks reiterated the importance of continuing to demonstrate Army relevancy, and that no matter what the Army looks like years from now, that Army will still be the Nation's force on the ground.

I offer my sincere gratitude to these senior leaders who have kept us on azimuth for so many years, and made Armor Conference 2003 top notch in every way.

You may have heard the good news concerning the Future Combat System (FCS) program. On 14 May 2003, the Defense Acquisition Board (DAB) approved the Army's requests to move the FCS program into the systems development and demonstration phase, as well as manage the FCS program as a family of systems. This means that the Armor Center, the Unit of Action Maneuver Battle Lab (UAMBL), and the TRADOC System Manager (TSM) FCS, along with our sister branch proponents and the joint community will continue to be lead agents in Army and joint transformation. You can be very proud of the Armor Center's role in bringing the FCS program to this point.

On 30 May 2003, we promoted our Deputy Commanding General, Robert W. Mixon Jr., to Major General. The bad news is that the Mixon family will be leaving us. The good news is that he and Ruth will move to Fort Monroe, Virginia, where MG Mixon will assume duty as the TRADOC Deputy Chief of Staff for Developments — the right man for a tough job. MG Mixon leaves having made incredible contributions to Armor's future, and we wish the Mixons all the best.

FORGE THE THUNDERBOLT!

The Stryker "Reconnaissance Vehicle"

The Reconnaissance Vehicle (RV) is but one of 10 configurations that make up the Stryker family of vehicles. The RV is designed to support the "see first" mission requirements of the reconnaissance, surveillance, and target acquisition (RSTA) squadron and infantry battalion scouts. It carries a crew of seven — two vehicle crewmembers, four scouts, and one augmentee.

The RV is equipped with the full-range command, control, communication, computer intelligence, surveillance, and recon-

naissance (C4ISR) suite. The C4ISR communications suite integrates the single-channel ground and air radio systems family, the enhanced position location reporting system, the force battle command brigade and below, and the global positioning system.

The RV is powered by a Caterpillar 350-horsepower diesel engine and an Allison transmission. The RV runs on eight wheels that have a run-flat capability and a central tire inflation system. It is capable of speeds up to 60 mph and has a cruising range of 330 miles. It incorporates a vehicle height management system that allows the vehicle to raise and lower its elevation for C130 loading. The RV has a cupola configuration, by which the vehicle commander controls the actions of his squad and employs the mission equipment package, the long-range advance surveillance system, into operation. The RV is armed with either a MK-19 automatic grenade launcher or an M2 .50-cal machine gun, and the M6 countermeasure grenade launcher. The RV increases crew survivability through its 14.5mm armor and has the capability of adding rocket propelled grenade add-on armor protection.

The RV is C130 transportable, and because it is significantly lighter and more transportable than existing tanks and other armored vehicles, the RV is strategically and tactically deployable and capable of intra-theater deployment by ground, sea, or air transport.