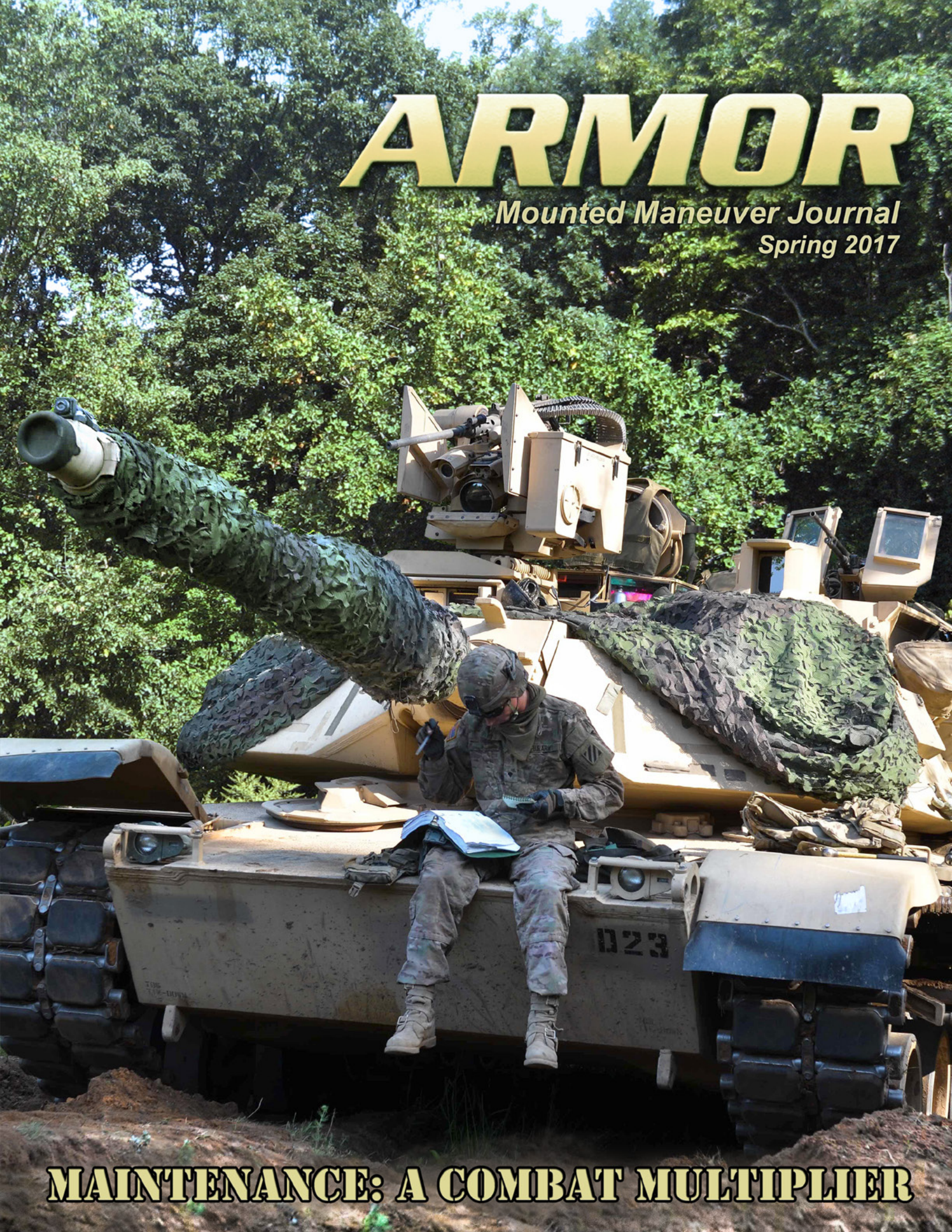
ARMOR
Mounted Maneuver Journal
Spring 2017
MAINTENANCE: A COMBAT MULTIPLIER

ARMOR

The Professional Bulletin of the Armor Branch, Headquarters, Department of the Army, PB 17-17-2

ARMOR (ISSN 0004-2420) is published quarterly by the U.S. Army Armor School, McGinnis-Wickam Hall (Bldg. 4), Suite W142, 1 Karker Street, Fort Benning, GA 31905.

Spring 2017, Vol. CXXVIII, No. 2

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***ARMOR* MAGAZINE ON-LINE: Visit the *ARMOR* magazine Website at *www.benning.army.mil/armor/eARMOR/*.**

ARMOR HOTLINE — (706) 626-TANK (8265)/DSN 620: The Armor Hotline is a 24-hour service to provide assistance with questions concerning doctrine, training, organizations and equipment of the armor force.

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CHIEF OF ARMOR'S HATCH

BG John Kolasheski
Chief of Armor/Commandant
U.S. Army Armor School

Preparing Armor Branch to Thrive

I want to open by stating what a distinct honor it has been to serve as the 50th Chief of Armor. I cannot begin to adequately express my gratitude to the Soldiers, leaders and civilians of the Maneuver Center of Excellence (McoE) and the Armored Force for their dedication, steadfast support and counsel.

In 1990 the Center for Army Lessons Learned (CALL) published ***The Musicians of Mars*** to emphasize the most critical synchronization tasks for maneuver units to be successful on the battlefield. This document demonstrated the importance of synchronizing and integrating available combat power and how this inclusion of combined arms and joint enablers creates a harmony that, when present, sets units and armies apart.

This publication was updated in 2016 as ***The Musicians of Mars II***, demonstrating the continued importance of harmony in today's operational environment. More so than at any other time since I have served, this harmony remains key to our Army as part of a joint, multinational and interagency team to "win in a complex world."

Since the original publication, the Army has continued to embrace combined-arms integration and, in bringing the Armor and Infantry Branches together at the Maneuver Center, set conditions for it to become a permanent fixture in our doctrine and how we fight. For the past 10 months, I have had the privilege to be a part of this team and represent our branch. The U.S. Army Armor School and organizations across the Maneuver Center, in partnership with the operational force, have worked hand in hand with units and commands throughout the Army to ensure that our training, doctrine and force development efforts are fully in line with the needs of the maneuver force, supportive of our sister branches and in overall harmony with the Army.

To take advantage of these opportunities and ensure the branch is prepared to thrive in a rapidly changing operational environment, we have implemented several significant undertakings I would like to highlight:

- **Branch training and leader-development strategy.** The Armor Training and Leader Development Strategy, published in March, provides a comprehensive guide for the training and education of Armor and Cavalry leaders to negotiate complexity and win on any battlefield. It is provided to complement and supplement unit training and leader-development guidance documents and strategies. It outlines the Armor School's vision, mission and key tasks, and how the institution – in partnership with the operational force – builds personnel and training readiness through a series of planning, training, maintenance, operations and assessment focuses. It can be found at https://www.benning.army.mil/Armor/content/PDF/2017-2018%20Armor%20Training%20and%20Leader%20Development%20Strategy.pdf?23MAR2017.
- **Soldier and leader education.** A critical underpinning of our branch training and leader-development strategy remains professional military education (PME) and functional/platform courses. The Armor School is committed to providing current, relevant and doctrinally based PME and functional-course education and training to every 19-series Soldier in the Army. We want to prepare you to carry out your responsibilities when assigned to your formations, so please let us know if we need to recalibrate our efforts – your feedback matters. Also, leaders, consider sending some of your best back to Fort Benning to be small-group instructors and course instructors to assist us in sustaining a culture of professional excellence within our branch.
- **Cavalry Warfighters Forum.** The Cavalry Warfighters Forum provides an Army-wide venue for reconnaissance and security (R&S)

stakeholders to collaborate and share information about observed trends and updates to current doctrine, organization, training, materiel development and education efforts affecting the conduct of R&S operations at echelon and across all formation types. It is hosted by MCoE's commanding general; the U.S. Army Forces Command's commanding general is senior mentor.

- **R&S handbook.** To assist maneuver commanders in planning and executing R&S training and operations, the Armor School developed the ***Commander's Reconnaissance and Security Handbook***. Authored by 316th Cavalry Brigade and slated to be published by CALL in May 2017, the ***Commander's Reconnaissance and Security Handbook*** offers a ready selection of doctrinal guidance, direction, observations and techniques for commanders, leaders and staffs at the levels of brigade combat team and below to use to conduct R&S training and operations. Many leaders from across MCoE, CALL, the combat-training centers and the operating force provided input to create this publication to accompany Field Manual 3-98, ***Reconnaissance and Security Operations***.
- **Soldier 2020.** Our Army and branch are best served by ensuring we have the right Soldier serving in the right assignment. In accordance with Office Secretary of Defense and Headquarters Department of the Army direction and policy on opening previously closed branches and military-occupation specialties (MOSs) to females, the Armor School began integrating female leaders and Soldiers into the Armor Basic Officer's Leader Course and initial-entry training. This effort expands the available pool from which to fill our ranks while maximizing the opportunity for each Soldier to realize his or her potential and contributions to our Army and nation. Once complete with their required training at Fort Benning, these Armor and Cavalry Soldiers will be assigned to 82nd Airborne and 1st Cavalry divisions. If you have any female noncommissioned officers or senior specialists interested in reclassifying into the 19-series MOS, let us know.

Acronym Quick-Scan

CALL – Center for Army Lessons Learned
MCoE – Maneuver Center of Excellence
MOS – military-occupation specialty
PME – professional military education
R&S – reconnaissance and security

Lastly, I would like to take this opportunity to extend a warm welcome to the 51st Chief of Armor, BG David Lesperance, and his wife Kelly as they join the MCoE and Armor School team. A proven leader, I am confident that BG Lesperance will lead the branch and Armor School with distinction.

In closing, it has been an honor to serve you. I leave Fort Benning inspired by and confident in the future of our officers, noncommissioned officers, Soldiers and branch, and our ability to fight and win anytime, anywhere and under any conditions of battle.

We are the Army's combat arm of decision! Forge the Thunderbolt!

GUNNER'S SEAT

CSM Alan K. Hummel
Command Sergeant Major
U.S. Army Armor School

Noncommissioned Officer Promotions, Opportunities

The U.S. Army Armor School and I would like to congratulate all the senior leaders selected for the Fiscal Year (FY) 2018 command sergeant major Centralized Selection List (CSL). The Armor Branch had a battalion selection rate of 18 percent out of 99 considered. All 18 who were selected were slated. The brigade selection rate was also at 18 percent; out of 51 Armor senior noncommissioned officers (NCOs) considered, nine were selected and slated.

The Armor School would also like to congratulate the 195 sergeants first class selected for promotion on the FY17 master sergeant list. Armor NCOs had a selection rate of 28.8 percent, which compares favorably to the Army selection rate of 20.2 percent; out of 681 sergeants first class eligible for promotion, 195 were selected.

I want to take the opportunity to point out that the Armor community has been selecting the best and brightest operational platoon sergeants to fill the needs of the Armor Project Warrior Program, which includes a nomination from the battalion and brigade chains of command, routed through Human Resources Command, and approval from the Chief of Armor. The Project Warrior, drill sergeant, master gunner, instructor, observer/coach/trainer and recruiter selections all continue to demonstrate we are selecting the best of the best – well done!

Your dedication to excellence has culminated with your demonstrated ability to continue to lead Soldiers across our incredible Army. Leaders like yourself continue to be the reason that the Armored Force remains the tip of the spear and a pillar of excellence for many years to come. For more information on Project Warrior as well as the CSL post-board and master sergeant post-board analysis, please visit the Army Career Tracker and the Armor School homepage under the Office Chief of Armor, http://www.benning.army.mil/Armor/OCOA/.

Lastly, I would like to ask for your help with the advancement and promotion of our specialist population. We continue to sit below 70 percent strength in our sergeant population. All I am asking of you is to sit down and counsel those specialists, and help develop them to grow and become Armor sergeants.

Acronym Quick-Scan

CSL – Centralized Selection List
FY – fiscal year
NCO – noncommissioned officer

2017-2018 Armor Training and Leader Development Strategy Released

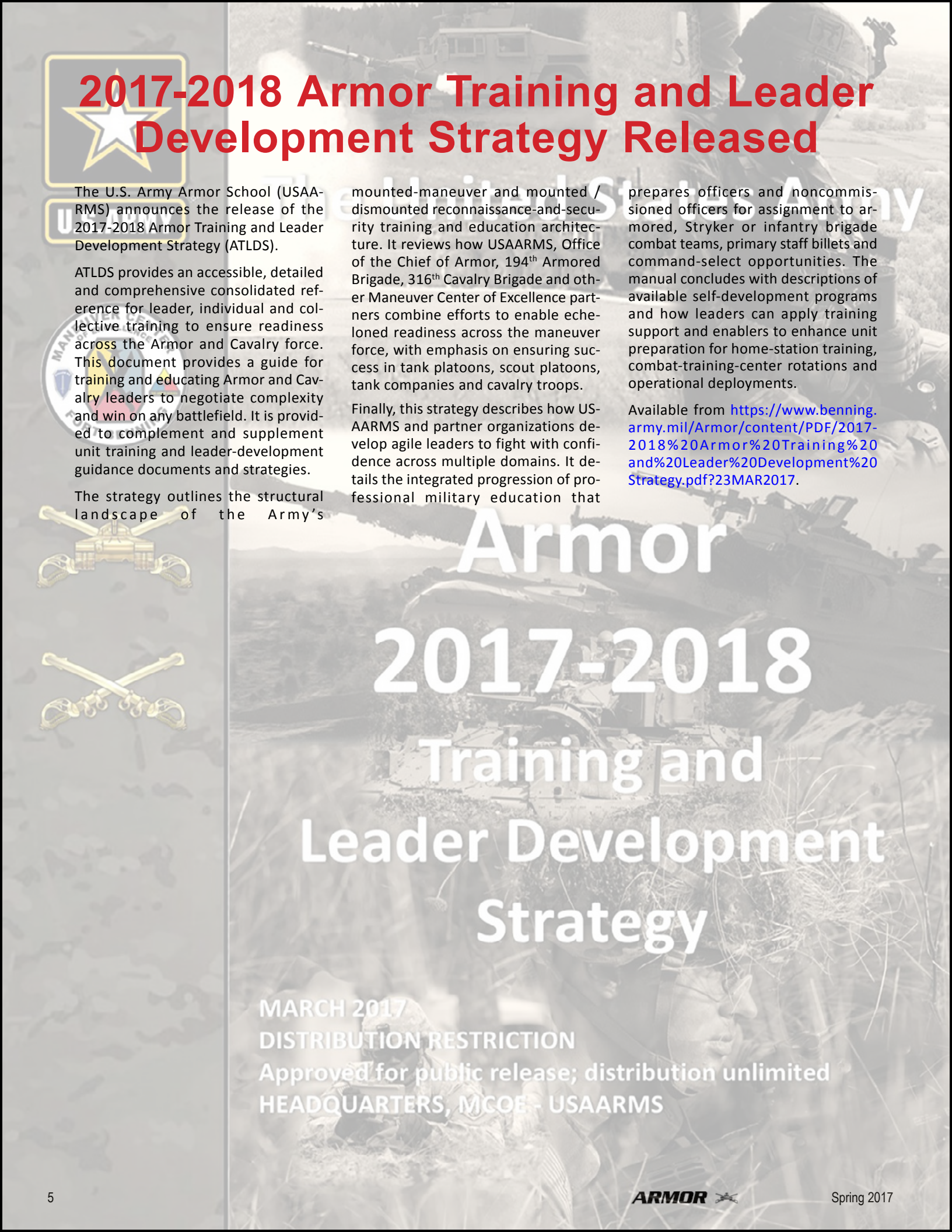
The U.S. Army Armor School (USAARMS) announces the release of the 2017-2018 Armor Training and Leader Development Strategy (ATLDS).

ATLDS provides an accessible, detailed and comprehensive consolidated reference for leader, individual and collective training to ensure readiness across the Armor and Cavalry force. This document provides a guide for training and educating Armor and Cavalry leaders to negotiate complexity and win on any battlefield. It is provided to complement and supplement unit training and leader-development guidance documents and strategies.

The strategy outlines the structural landscape of the Army's mounted-maneuver and mounted / dismounted reconnaissance-and-security training and education architecture. It reviews how USAARMS, Office of the Chief of Armor, 194th Armored Brigade, 316th Cavalry Brigade and other Maneuver Center of Excellence partners combine efforts to enable echeloned readiness across the maneuver force, with emphasis on ensuring success in tank platoons, scout platoons, tank companies and cavalry troops.

Finally, this strategy describes how USAARMS and partner organizations develop agile leaders to fight with confidence across multiple domains. It details the integrated progression of professional military education that prepares officers and noncommissioned officers for assignment to armored, Stryker or infantry brigade combat teams, primary staff billets and command-select opportunities. The manual concludes with descriptions of available self-development programs and how leaders can apply training support and enablers to enhance unit preparation for home-station training, combat-training-center rotations and operational deployments.

Available from https://www.benning.army.mil/Armor/content/PDF/2017-2018%20Armor%20Training%20and%20Leader%20Development%20Strategy.pdf?23MAR2017.



Protecting the Tail of the Tiger:
Reshaping the Way We Train Logistics

While supporting the fight is essential, combined-arms commanders should learn what it is like to go without during training

by CPT Travis Michelena

Throughout history, each powerful military either has learned to master logistics or has withered without it. Keen military strategists such as Julius Caesar and Genghis Khan recognized that if they cut off the supply lines (the tail), they could simply wait for the enemy to weaken or grind to a halt as its flow of logistics trickled and stopped.

As the Army shifts its training focus from fighting counterinsurgency to combating a hybrid threat, it is increasingly important to address how the Army's logistics infrastructure, security and training support the continued superiority of its combat forces.

Questions for future fight

During World Wars I and II, U.S. forces had advance warning and a period of protection from Allied forces in which to mobilize. Production facilities had years to ramp up the war effort. As the wars progressed, the United States' relative isolation kept its manufacturing resources safe. This may not be the case in the next major conflict. How long will U.S. stockpiles of materiel last? Are the nation's logistics assets ready to provide continual support across the world?

Current operational-logistics training includes abundant supply that is usually within close proximity and is provided with little regard to time, distance, priorities, repair or limitations. This raises the following questions: Can combat leaders function with limited supply? When was the last time they did? Are U.S. forces conditioned to expect bottomless supply?

Protecting the supply lines is important in sustained conflicts. No amount of combat power can win a battle while it waits for fuel and ammunition.

Figure 1. Soldiers from Dragon Troop, 4-10 Cavalry, 3rd ABCT, 4th Infantry Division, conduct recovery operations on a mired humvee. *(Photo by CPT Travis Michelena)*

Current training

The current Army training structure focuses on preparing the combat-arms branches for conflict anywhere in the world. The first-class training facilities and personnel at the National Training Center (NTC) in California, the Joint Readiness Training Center (JRTC) in Louisiana and the Joint Multinational Readiness Center (JMRC) in Germany do an excellent job of preparing forces for combat. However, they fail to stress logistics infrastructure or teach vital lessons in resource management and expectations.

While there are challenges, there are no true limits on available supply; no consequences exist for losing supplies during enemy action; and support moves over hours, not days.

I propose that because our logistics system is so reliable, some combat leaders dismiss proper logistics planning and have not experienced the effects of limited or lost supply. It is vital to stretch current logistics capabilities and allow limited disruption of the supply chain to reinforce proper contingency planning and resource management.

Training for distance

Logistics systems and units are designed to move supplies over the long distances that contingency operations will likely present, yet the Army trains with logistics in relatively close proximity. During training, even long-haul transportation assets drive just a few miles to resupply the sustainment brigade's combat-sustainment support battalion (CSSB) or the brigade combat team (BCT)'s brigade-support battalion (BSB). The availability diminishes the

Figure 2. Soldiers from Dragon Troop, 4-10 Cavalry, 3rd ABCT, 4th Infantry Division, conduct field-maintenance operations at a maintenance collection point at NTC. *(Photo by CPT Travis Michelena)*

need for correct tracking and reporting because resupply is never far away.

What happens when the CSSB is located 100 miles from the front lines and has to support several BCTs? There is no perfect solution, but it would add training value for both the logistics unit and their customers to push the CSSB and higher echelons of support from much farther away.

At NTC, the CSSB could be placed at Twenty-Nine Palms Marine Corps Base, or for JRTC, locating the CSSB at Barksdale AFB would create distances of around 150 miles. The extended distances would benefit both the supporting and supported units because it would ensure each forecasts and validates requirements prior to logistics convoys, and it would allow convoy commanders to gain experience with complex long-distance moves.

Supply

It is hard to imagine having a lack of fuel, ammunition or parts. In my experience as forward-support company (FSC) commander in a cavalry squadron, the FSC did its best to provide as many supplies as possible. The logistics status reports sent from the supported companies were not accurate, but it did not matter that much. The FSC pushed fuel and food daily, and mission-configured loads of ammunition any time there was a firefight.

The FSC's Soldiers took a lot of pride in not allowing logistics to be the point of failure. However, this is not realistic and does not teach the supported company executive officers how or why to track their internal supplies, especially fuel.

There is value in limiting available supplies. For instance, given a constrained amount of fuel and ammunition, what units have priority for the next mission? How much fuel is held in reserve? I would wager that in this scenario the senior commanders would pay more attention to logistics movements, distribution and sustainment rehearsals, which, in turn, would result in more well-rounded leaders.

Consequences of loss

Perhaps the most important element missing in training logistics is the consequences of loss. Too often, logistics assets are soft targets with limited radio or battlefield tracking systems. Units are frequently left to defend their own convoys, even though they do not have the equipment or personnel to do so. Vehicles are retrofitted with radio mounts and machinegun ring mounts, but security has not been made a priority.

The combat battalions resist losing forward assets to defend supply routes and convoys. Logistics units are most often left to defend themselves and, for the most part, do a fine job of executing missions. However, they are also left relatively undisturbed during combat-training-center rotations. There may be an improvised explosive device here or there, or maybe some small-arms fire, or civilians blocking the road, but the supplies never stop.

If a convoy is attacked and the observer/coach/trainer assesses that one fuel truck and one palletized load system carrying meals-ready-to-eat have been destroyed, then why allow the resupply to continue to its destination? If that destruction were reality, the logistics planners such as the FSC leadership, battalion S-4s and the BSB support operations officer would have to work together to develop an integrated resupply plan. They would have to put thought into alternate routes, various start-point times and asset management. The logistics and combat elements would have to fully develop primary and tertiary plans, mitigate risks and provide cohesive support, rather than each element narrowly focusing on their supported battalion.

No Soldiers would starve, but they may have to eat two meals-ready-to-eat that day instead of three. The loss of fuel might require tanks to turn off instead of idling all day, or scouts to use

Figure 3. Sustainment Soldiers of a CSSB in thin-skinned vehicles must rely on crew-served weapons such as the M240 and M2HB for self-protection. The future operating environment of widely dispersed BCTs conducting semi-independent operations will require a renewed emphasis on security operations between unit areas. *(U.S. Army photo)*

humvees instead of Bradley Fighting Vehicles for a reconnaissance mission. Interrupting supply chains will not stop the combat missions, but it will broaden the scope for the commanders and staff officers taking part.

In the Maneuver Center of Excellence's latest Army Functional Concept for Movement and Maneuver (AFC-M&M), it describes a future in which the BCT will operate semi-independently at a high operational tempo for periods up to seven days over extended lines with reduced reliance on echelons-above-brigade support. For the Army to enable the freedom of maneuver described in the AFC-M&M, commanders and staffs must think through all the problems, not just the combat one. There is truth to the military adage "amateurs talk tactics, while professionals talk logistics," but we continue to ignore the potential weaknesses in our support structure.

In the current structured training scenarios, the supply flow is not touched for fear it will interrupt combat training. Disruption is exactly what will happen, but when properly administered, it will have positive training value for both logistics and combat leaders.

History implores us to train, build and protect the tail of the tiger as much as we do the teeth, and it is imperative that we do not wait. While both offensive and defense tactics and technology perpetually seek to counter one another, logistics remains the true linchpin in victory or defeat.

CPT Travis Michelena is a senior observer / coach / trainer and the S-3 for 1-351st BSB, 181st Infantry Brigade, at Fort McCoy, WI. Previous assignments include commander, Headquarters and Headquarters Company, 181st Infantry, Fort McCoy; forward-support troop commander, 4-10th Cavalry, 3rd Armored Brigade Combat Team (ABCT), 4th Infantry Division, Fort Carson, CO; security-forces adviser team, Afghan National Army brigade logistics adviser, 3rd ABCT, Afghanistan; aide de camp, 3rd Expeditionary Sustainment Command, Fort Knox, KY; and port logistics officer-in-charge, Operation Unified Response, Haiti (earthquake response). His military schooling includes Combined Logistics Captain's Career Course, Defense Support of Civil Authorities Course and airborne and air-assault schools. He holds a bachelor's of science degree in interdisciplinary studies from Tennessee Tech and is currently completing his master's of arts degree in emergency management and homeland security through Arizona State University.

Figure 4. Since the ABCT consumes more than 100,000 gallons of fuel a day, protecting its supply line is critical for operational success. *(U.S. Army photo)*

Acronym Quick-Scan

ABCT – armored brigade combat team
AFC-M&M – Army Functional Concept for Movement and Maneuver
BCT – brigade combat team
BSB – brigade-support battalion
CSSB – combat-sustainment support battalion
FSC – forward-support company
JRTC – Joint Readiness Training Center
NTC – National Training Center

*Reprinted from **Army Sustainment** March-April 2017 edition with author's revisions.*

Defeating the Russian Battalion Tactical Group

by CPT Nicolas J. Fiore

The Russian battalion tactical group (BTG) is a modular tactical organization created from a garrisoned Russian Army brigade to deploy combat power to conflict zones. BTGs were typically effective in combat operations in Ukraine from 2013-2015, but on several occasions, BTGs were tactically defeated by Ukrainian regular-army units despite Russian overmatch in firepower, electronic warfare (EW) and air-defense artillery (ADA).

This article researches the weaknesses that allowed Ukrainian Army units to defeat Russian BTGs and describes tactics that an American brigade combat team (BCT) can employ to create similar opportunities to tactically defeat a BTG if required in a future conflict.

Idea in brief

The BTG strategic imperative is to control[1] terrain to shape post-conflict negotiations. When possible, the BTG commander will employ his strike assets to cause casualties to pressure his opponent to negotiate a settlement, but he must also preserve his own strength because it cannot be regenerated operationally and casualties are strategically expensive. To preserve combat power, BTGs employ a force of local paramilitary units as proxy forces to secure[2] terrain and guard[3] the BTG from direct and indirect attack. Although Russian tactical defeats were uncommon and typically ended in an operational stalemate rather than decisive defeat, Ukrainian regular-army successes exist in sufficient number to suggest that Russian BTGs present tactical vulnerabilities that can be exploited by BCT commanders:

- Shortages in ready maneuver forces, especially infantry, significantly limit Russian maneuver capabilities. BTGs cannot simultaneously mass for offensive operations and maintain flank and rear security, and they struggle to concentrate artillery against attacks on multiple simultaneous axes.
- Command-and-control (C2) limitations require the BTG commander to concentrate mission-command and intelligence assets to direct-fires and EW shaping efforts and strikes. These assets are employed selectively to substitute for offensive maneuvers, are not available across the entire BTG's battlespace and can be overloaded by aggressive dispersion and displacement tactics.
- BTGs cannot quickly regenerate combat power without cannibalizing other units in theater or garrison. Once teams and units are degraded by casualties, they will rapidly lose effectiveness until completely reconstituted. In the face of a credible threat, maneuver and support assets will likely be withdrawn and conserved for future use.

Idea in practice

Although some BTG systems are technologically superior to the corresponding U.S. equipment, the BTG doesn't

Warfighting function	BTG vulnerability	BCT opportunity
Mission command	BTG C2 is centralized without a networked COP. Changes to the COP are difficult to disseminate.	Change the battlefield as often as possible through deception, repositioning and counterattacks.
Movement and maneuver	BTGs prefer to escalate contact after thorough reconnaissance from behind a proxy guard force to conserve regular forces and retain the initiative.	Penetrate proxy-force defenses and inflict casualties on the BTG regulars to force their withdrawal, then isolate and reduce paramilitary positions.
Intelligence	BTG collection concentrates narrow-FOV UAS, electronic listening and paramilitary HUMINT for detailed IPB of a single objective; little general coverage.	Use dispersion, camouflage and deception to reduce signatures; these increase the risk and resources required to gain adequate information.
Fires	BTGs concentrate artillery and observers to attack with overwhelming fires whenever contact is made.	Initiate contact at multiple locations to dissipate the BTG's fires superiority and overload their fire-direction center.
Sustainment	BTGs sustainment is *ad hoc*, under-resourced and overburdened by proxy forces. Medevac is extremely limited.	Add stress to the BTG's sustainment systems; cause battle losses to quickly degrade unit performance.
Protection	BTG soldiers and equipment are protected with modern armor and PPE, and use battle positions and fortifications.	Train precision marksmanship and gunnery, engage with HE rounds and grenades, train on breaching and trenches.

Table 1. Warfighting functions compared.

have the capacity to observe, target and attack the BCT simultaneously across a broad front. Not only can a BCT sustainably maneuver three times as many formations, the decentralized nature of U.S. mission command allows each formation to maneuver simultaneously, independent of brigade-level direction.

BCT commanders can maneuver against BTGs' vulnerabilities by avoiding static deployments of forces that allow the BTG commander to select, prepare and execute limited strikes. BTG capabilities are extremely lethal when concentrated against individual units but diminish rapidly against high-tempo distributed maneuver or defense-in-depth because a BTG can't resource economy-of-force missions. In contrast, American BCTs have asymmetrical advantages in maneuver and sustainment, which can be leveraged against a BTG. To defeat a BTG, increase uncertainty and shape the battlefield by "burning more calories" to overload the BTG commander's most valuable systems and personnel. Once hostilities are initiated, attack on multiple fronts to destroy his maneuver force, displace his mission command, EW and fires assets, and seize his sustainment area.

Control terrain

The Russian army deployed BTGs to control terrain. In the opening months of the 2013 Ukraine crisis, Ukrainian regular-army forces largely defeated the separatist militias in Donetsk and Luhansk in eastern Ukraine. To prevent the catastrophic defeat of the separatist movement, whole Russian Army units entered the theater, achieved tactical and operational surprise, and destroyed a large percentage of Ukraine's regular maneuver force. Russian military, intelligence and private contractors supported local militias. Ukraine mobilized its reserves and fought the Russian/separatist force to a geographic stalemate in 2014. In Spring 2015, both sides signed the Minsk II ceasefire protocol and fighting subsided to occasional sniper, artillery and EW attacks.

Russia's regular-army brigades usually deployed half their personnel and equipment to the Ukrainian theater as BTGs. A BTG had the entire brigade's support and enabling resources, but it had only one mechanized-infantry battalion, often supplemented by a tank company and additional rocket artillery.[4] (Figure 1.) The remaining personnel and equipment stayed at the brigade's garrison. As many as a third of the deployed soldiers were high-quality contract (volunteer enlistment) soldiers who were recruited to be the noncommissioned-officer corps of a modernized and professional Russian Army. They served primarily in the combat, EW and fires roles.

The supporting units consisted primarily of lower-quality conscript soldiers. This distinction is important: conscripts must be supervised continuously for even the simplest of tasks and are rarely used in combat.

The second issue was that the Russian Army had too few contract soldiers to man the current and future force structure. High casualties in Chechnya and Georgia significantly depressed volunteer recruitment. Russian military leadership wanted to avoid a similar situation where high casualties in Ukraine might further depress recruitment. As a result, even though the BTG represents the best personnel a Russian brigade can deploy, two-thirds of the deployed personnel are unsuitable for close combat, and the third that is combat-ready is too valuable to risk unnecessarily.[5]

In hybrid-war doctrine, a nation commits regular military forces (officially organized, active and uniformed military units) to "resolve contradictions" during a conflict to shape the post-conflict resolution.[6] In the 2014 Ukraine crisis, the contradiction was that both the Ukrainian national government and the separatist people's republics claimed to administer the same geographical region. Although Russian intelligence, special-forces and small artillery units had supported separatist militias since the annexation of Crimea in 2014, regular forces organized as BTGs were not committed until Ukrainian tactical success in July and August threatened to completely defeat the separatists, restore the international border and resume local governance.

Similar to Russia's expeditionary

Asymmetric calorie-burning strategy explained as sports metaphor

Imagine two teams with fixed rosters competing in a foot race. Team A chose to use a relay team of four runners. Team B is just a single runner who is much faster than any of the runners on Team A.

In the first race, Team B wins with a comfortable margin. Then the teams race again. This time B wins as well but feels more tired than the runners on Team A. The third race ends in a tie, and Team A finally wins the fourth race. In the fifth race, the runner on Team B starts cramping, and Team A comfortably wins every race after that, no matter how many times the race is repeated.

Even though the runner on Team B is a superior athlete, his metabolism can't sustain running four times his competitors' distance at a pace fast enough to win. Even with some time to rest, eat and hydrate between races, he can't recover from the repeated exertion fast enough; the lactic acid will still build up in his muscles and joints. He must either forfeit most races or rotate with other runners on his team.

Although the Russian Army has leapfrogged U.S. cyber, EW and ADA capability, in theater there are few of these systems relative to the number of U.S. platoons that need to be targeted. These systems and their personnel can't operate 24 hours a day/seven days a week indefinitely, and Russian sustainment can't rotate, repair or replace the systems fast enough to keep up with well-sustained U.S. troops maneuvering across a broad front. If a BTG tried to keep up with the 75 platoons in a BCT, they will wear out equipment and burn out key personnel – the equivalent of pulling a hamstring mid-race!

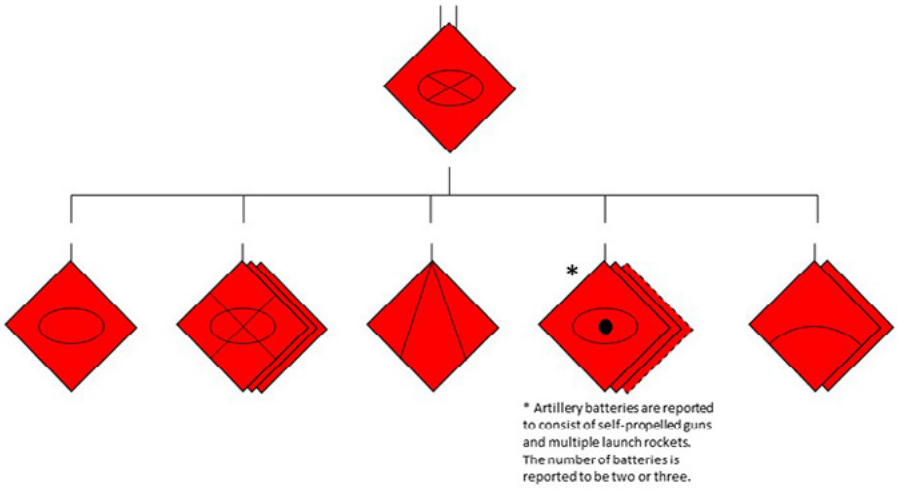


Figure 1. Task-organization of Russian BTG. *(Graphic designed by MAJ Amos C. Fox and reprinted from his article published in **ARMOR**'s July-September 2016 edition.)*

military interventions in Moldova (1990), Serbia (1998) and Georgia (2008), Russia committed a regular force organized as BTGs to the Ukrainian theater to ensure that Russia controlled enough terrain to shape a favorable negotiating position. Different from the previous campaigns, the BTGs sent to Ukraine had few maneuver forces and had to rely on paramilitary proxies to secure the necessary terrain.

Strike from behind

BTGs typically strike from behind a proxy guard force because their strategic imperative is to control terrain to shape post-conflict negotiations. When possible, the BTG commander will employ his strike assets to cause casualties, pressuring his opponent to negotiate the settlement, but he must also preserve his own strength because it cannot be regenerated operationally and casualties are strategically expensive.

Although the BTG deploys with a large complement of direct- and general-support units, only a reinforced battalion of maneuver forces are available to the BTG commander. To compensate for the shortage of maneuver forces, and to preserve combat power, BTGs employ a force of local paramilitary units as proxy forces to secure terrain and guard the BTG from direct and indirect attack. These units are comprised of local militia, Russian veteran volunteers and mercenaries who defend the line of contact and key infrastructure.

The guard force is also the source of the BTG's freedom of maneuver – its presence frees up the BTG's maneuver soldiers from security missions, protects them from attack and allows the BTG commander both free movement to his point of attack and time to prepare the battlefield for the attack. When opportunities to strike Ukrainian forces are identified or if the proxies are attacked, the BTG can employ indirect fires from behind the guard force to destroy its adversary with minimal risk to the regular force.

Operations in a BTG physically and geographically center on the group commander. He requests information, decides the course of action and then personally directs employment of forces, often using a physical map. This geographic concentration of leadership has the added benefit of reducing the BTG headquarters' electronic signature and traffic, but it will create a physical signature that can be observed through overhead reconnaissance.

Once the plan is issued, the lack of common operating picture (COP) technology at the platoon level limits the BTG's flexibility and its commander's ability to quickly disseminate enemy updates, change sub-units' orders and communicate with adjacent units. Communications between the BTG and paramilitary forces are particularly tenuous. Paramilitary commanders said they use cellular phones, satellite phones or unencrypted radios to communicate with the BTG headquarters.[7]

There were no reports of permanently assigned liaison teams. The BTG's C2 structure thus has excellent unity of command but may be vulnerable to raids, counterattacks and other surprise movements because reliance on analog C2 limits subordinate units' ability to understand and react to changes of circumstance.

BTGs are adept at combining high-end collection assets such as unmanned aerial systems (UASs), electronic listening and partisan human intelligence (HUMINT), but all these platforms have a limited capacity, so the BTG conserves and concentrates them to conduct intelligence preparation of the battlefield (IPB) for attacks. To coordinate these assets, BTG C2 requires co-location of maneuver companies and intelligence, surveillance and reconnaissance (ISR) personnel in tactical-assembly areas (TAA), which become high-payoff targets. The physical co-location also limits the geographic area these high-end assets can affect on the battlefield based on their range from the TAA. Consequently, ISR coverage outside the focus area is limited, and ISR assets are not usually used in a general protection role for the paramilitary guard force.[8]

BTGs field a brigade complement of artillery that outrange and outgun U.S. BCTs, but the BTGs only have a reinforced battalion of maneuver detectors. This is important because a BTG does not have the normal complement of mounted and dismounted personnel that would normally serve as forward observers. The ISR platforms must either serve double duty as forward observers, or maneuver personnel must move forward to the line of contact (LoC) to coordinate indirect fires. BTGs assume that fires and air-defense superiority gives them the freedom to employ long-range strikes whenever visual or electronic contact is made, regardless of infrastructure and civilian damage. Local fires superiority gives BTG artillery the confidence to remain in place, and it provides the BTG with constantly available indirect-fire support.

The BTG's four maneuver companies may not be required for flank and rear security, but they still must provide local and convoy security for the

enabling and supporting units. BTGs deploy from garrison with about 200 infantrymen in four maneuver companies. According to Russian Army manuals, in the field as many as 50 percent of infantry soldiers can be required for local security and routine administrative tasks. This leaves relatively few infantrymen available for mounted squads. Squads are usually organized *ad hoc* and are less than fully manned, which makes them less effective and less independent. For opponents, it also means that it requires fewer casualties to neutralize the Russian squads. Tank and *Boyeva Mashina Pekhoty* (BMP) (a Russian armored fighting vehicle) availability is less effected, but routine maintenance still reduces the readiness of the BTG's force of 50 armored combat vehicles.

The lack of infantry causes BTG commanders to prefer to isolate urban infantry strongpoints for prolonged sieges instead of assaulting to reduce them in the mode of Grozny (1999) or the American clearance of Fallujah (2004).[9] BTGs address this shortfall by incorporating light-infantry militia from the local area. Unfortunately, militia are difficult to coordinate, move and sustain in the offense — even in the defense, coordinating, supporting and sustaining the militia taxes mission-command and sustainment resources. For these practical reasons and the strategic issues discussed previously, Russian commanders in Ukraine were risk-averse in the employment of both regular infantry and mechanized fighting vehicles. Instead of executing combined-arms maneuver (CAM) to overpower inferior Ukrainian forces, Russian BTGs preferred to escalate contact, employ fires when possible and commit tanks only after thorough reconnaissance.

In many ways, BTGs epitomize modern individual vehicle and soldier protection. BTG tanks and BMPs are equipped with multiple active-protection systems and explosive reactive armor, rendering U.S. individual shoulder-fired anti-tank systems ineffective. The Ukrainian Army reported success using teams of tanks to destroy Russian T-72B3s on several occasions, but multiple hits were required to defeat the tanks' reactive armor.

BTG infantry has modern body armor and personal protective equipment (PPE) – even paramilitary units were equipped with basic helmets and torso protection. Russian forces also used terrain and entrenchment for physical protection. In 2014, battles focused on controlling mass-construction urban infrastructure, where small infantry teams relied on rubble-based simplified battle positions for effective protection against small-arms and artillery fire. As the LoC solidified in 2015, excavated fighting positions with overhead cover, communications trenches, bunkers and protective obstacles became the norm for both sides of the conflict.

Finally, the king of all Russian protection assets is their integrated air-defense system. Although Russian ADA was not employed against warplanes or bombers, the Ukrainian Army lost six helicopters and a transport plane early in the conflict to well-coordinated Russian ADA systems. Also, shoulder-fired missiles are ubiquitous at all levels of regular units.

There were no reports of chemical, biological, radiological and nuclear warfare (CBRN) protective gear deployed to Ukraine and no reports of CBRN use in the conflict.

BTG sustainment was typically *ad hoc* and conducted over large distances. Replacement personnel, equipment and parts were primarily drawn from the already reduced units that remained in garrison, which could be more than 500 kilometers away from the BTG's field site. This allows the brigade to surge replacements to the BTG, but it is not conducive to long-term regular sustainment. Consumable supplies arrived at depots from the Western Military District Headquarters (two echelons above brigade, similar to a U.S. corps headquarters) and were then delivered directly to the BTG deputy commander for distribution.

BTGs rapidly deploy from garrison by rail. However, for field logistics, the BTG requires a road and bridge network because its light trucks do not have the same mobility characteristics as its combat vehicles. Paramilitary proxies distribute supplies using private vehicles of varying (limited) mobility. A lack of tactical logistics support may have prevented Russian BTGs from pursuing defeated Ukrainian units, which were often able to reconstitute less than 50 kilometers from the old LoC. Medically, BTGs have very limited professional medical-evacuation (medevac) and field-treatment resources. Their inability to quickly get wounded soldiers advanced care increased deaths due to wounds, which had a large psychological effect, made their commanders more adverse to dismounted risk and reduced a BTG's ability to regenerate combat power.

In summary, a BTG is not a maneuver formation in the traditional sense; it will not close with its enemy to destroy them through firepower and maneuver. Instead, it is an asset provider to relatively static paramilitary units who, in turn, act as a guard force for the BTG and deny adversary personnel access to the geographic areas the BTG is assigned to control. However, the BTG is capable of extremely lethal strikes against its adversary and will execute those strikes whenever both assurance of success is high and the risk to BTG personnel and equipment is low. With that in mind, U.S. BCTs should employ tactics that make one or both of those criteria uncertain at best.

BTG's vulnerabilities

American BCTs, or at least American-led brigade-sized task forces of coalition units, may be deployed in the future to deter[10] or defeat[11] a BTG (in other words, keep the BTG from controlling territory through regular or irregular forces). The BCT will probably receive orders to execute both tasks, in order, depending on the operation's phase. If a conflict occurs in the near future, technology to overcome Russian ADA is unlikely to be available; therefore it is unlikely that the conflict will start with a high-intensity CAM attack. Instead, the conflict will open with Russian BTGs and American BCTs maneuvering in proximity to each other, with opposing allies and proxy forces deployed in between, but regular forces not yet in direct contact.

The BTG will presume fires, EW and ADA superiority in the anticipated fight, but numerically the BCT fields many more combat systems and has a much better sustainment reach. These

	U.S. ABCT		Russian BTG		**Ratio** (# of U.S. losses required to # of Russian losses required)
	Available	Losses required for "destruction"	Available	Losses required for "destruction"	
Tanks	90	30	10	3	10x
IFVs	140	47	40	12	4x
Squads	60	20	36	11	2x
Aggregate		**97**		**26**	4x
A Russian BTG must destroy four times as many targets to tactically "destroy" a U.S. ABCT than an ABCT must destroy to "destroy" the same BTG.					

Table 2. "Battlefield math," using a destruction threshold of 30-percent casualties.

two factors become the BCT's asymmetric advantage; the BTG knows it has to destroy four times more Americans than it takes in casualties[12] (Table 2) to consider an engagement a tactical success. The BTG commander will go to great lengths to only plan attacks that are certain to cause large enough numbers of American casualties to preclude an American counterattack.

The essential task for the American commander is to ensure there is a credible threat to deter the BTG. The BTG commander must be convinced that the expected benefit of attacking the BCT will be outweighed by a certain and unacceptably costly American counterattack. The American brigade commander must simultaneously decrease the certainty that a Russian strike will successfully defeat the BCT and increase assurance that the counterstrike will defeat the BTG. These two critical tasks are sides of the same coin: if more platoons survive a Russian artillery attack, they can conduct a stronger counterattack. The task then is to convince that Russian commander that no matter how well the BTG executes its strike, too few platoons will be destroyed to prevent a counterattack, and that counterattack will cause unacceptable casualties to the BTG.

Assume that the BTG strike will disrupt the U.S. C2 needed to coordinate a brigade-level attack. The attack may also neutralize the brigade reserve and fires batteries. Therefore, every U.S. battalion and company should have a ready-to-execute attack planned and rehearsed, including authority to initiate if communications are lost in an attack. The BCT must plan to counterattack on a broad front to assure that the threat is dangerous, because if the BCT counterattacks on a narrow front, the BTG will be able to mass to defend effectively.

Conducting visible rehearsals and publicly committing to massive retaliation will further increase the credibility of the counterattack threat to the BTG commander, just as dispersion and frequent displacements will decrease the expected effectiveness of an artillery attack. In the face of penetrations on multiple axes, the BTG must withdraw to protect its fires and sustainment assets, which would abandon the paramilitary guard force. American coalition forces can then surround, isolate and reduce them to seize their terrain. The combination of sustaining casualties, losing valuable equipment and abandoning territory would significantly erode the Russian negotiation position to an extent unacceptable to the BTG chain of command.

Before shooting starts

Before shots are fired on the battlefield, a key task is to shape the battlefield by overloading the BTG's critical systems. The BTG will attempt to defeat a BCT by concentrating effects on individual U.S. sub-units in sequence. Although several of the BTG's high-end systems are technologically superior to the corresponding U.S. equipment, the BTG doesn't have the capacity to observe, target and attack the BCT simultaneously across a broad front. Not only can a BCT maneuver three times as many formations, the decentralized nature of U.S. mission command allows each formation to maneuver simultaneously and independent of brigade-level direction. Therefore, the BTG must track, analyze and counter each movement. Unfortunately, the BTG is not resourced for a burden of that magnitude, and it doesn't have formal reachback protocols to use higher levels of analysis.

An aggressive BCT can sustainably maneuver three times more platoons on the battlefield, increasing its survivability and also increasing the BTG's effort required to track it. For the BTG to maintain contact and an accurate situational awareness, assets must fly more hours; analysts must examine more footage and photography; and targets must be constantly updated. The Russian commander must either burn out his people and systems or accept risk to his recon assets and uncertainty in his reconnaissance picture. In effect, by executing high-tempo dispersion maneuvers, the BCT can sustainably burn more calories than its adversary — if the BTG tries to keep up, its systems will degrade rapidly before the first shots are fired.

Finally, it is worth highlighting that the BTG commander is as risk-adverse as American commanders, although for different reasons. American tactical leaders know that loss of life can erode public support at home and in coalition-partner countries, but they are willing to accept more risk to equipment because they are confident that it will be repaired or replaced. Similarly, Russian tactical leaders are concerned with the impact that casualties have on public support and recruitment; the major contrast is that Russian leaders cannot accept as much risk to equipment because there is no assurance of speedy replacement. Even inexpensive, off-the-shelf equipment such as quadcopter unmanned aerial vehicles (UAV) are only available in limited quantities and take time to

acquire. High-end EW platforms are rare, expensive and crewed by small numbers of specialized personnel. Therefore, BCTs should make it harder for BTG systems to perform their function, not only to avoid detection but also to force the BTG commander to expose his reconnaissance platforms to risk of attack.

For example, a Russian UAS uses narrow-field-of-view (FoV) cameras to recon the battlefield. Dispersed platoons that reposition regularly require more recon missions to maintain contact. Adding to that idea, dispersed and camouflaged units are harder to find. They require more flight hours, UAS to fly at lower altitudes and closer to adversary ground-to-air defense systems. This combination accelerates the BTG assets' burn rate unless more recon assets can be brought to bear from elsewhere in theater.

Also, the reduced signatures are harder to detect and classify, so the BTG commander must either accept more risk to his UAS to conduct reconnaissance to the same standard, or he must accept more uncertainty. In other words, each repositioning of an American platoon requires an additional BTG flight to reacquire it, increasing the load on the aircraft, its flight team, the analysts and the tracking headquarters. Finally, if a UAS is lost — either shot down or out of action due to a maintenance problem — the future load must be borne by even fewer platforms and, at the same time, the BTG commander's tolerance for risk will decrease. He must accept even more uncertainty or even more risk to his remaining recon platforms (which will now be even more overworked), and the cycle repeats.

Conclusion

Will a BCT ever fight a BTG? This article discussed the reason Russia deployed its ground forces in a BTG configuration, described why and how BTGs fight, and proposes a tactical framework that BCTs can use to exploit BTG vulnerabilities. Would Russia deploy ground forces as BTGs in a conflict with U.S. ground forces that are organized as BCTs, given that one BTG is numerically inferior to an American BCT? Military experts on Russia at the Foreign Military Studies Office (FMSO), Fort Leavenworth, KS, believe that BTGs are an intermediate construct, temporarily employed to push modernization into Russia's current force, and that at the end of the modernization program, the Russian Army will return to a divisional structure with fully manned, equipped and deployable brigades – especially if faced with a peer competitor such as the United States.[13] There are, however, several reasons to predict that the return to a divisional structure could be several years away. In the meantime, the BTG may remain Russia's deployable organization of choice.

The most important reason to believe that the Russian Army will continue to deploy as BTGs is that the structure worked. It was effective at translating tactics and weapons into successful national strategy. Once the paramilitary guard force was established, the BTG's utility has proven extremely cost-efficient (in terms of minimizing casualties and lost equipment). Similar tactics and organization are currently being used in Syria. The Syrian army and pro-Assad militias serve as a guard force to allow Russian regular forces to deliver devastating artillery and armor strikes to reduce rebel strongpoints. The same military strategy is also being used: deploy regular forces if needed to control terrain as necessary to shape a favorable negotiated settlement.

Second, the pace of modernization slowed dramatically when the price of oil fell in May 2014. Recently the price of oil has recovered somewhat, but the revenue provided is 40 percent of the revenue Russia enjoyed from 2007-2014 (Table 3). At the same time, Russia's combat operations in Syria consume resources at the expense of modernization. Until the price of oil returns to 2010 levels and Russia increases modernization expenditures, triage in modernization funds will prevent the Russian Army from modernizing its entire force and then reorganizing them into deployable brigades and divisions.

Finally, in addition to monetary expense, there is a sunken psychological cost to breaking from the BTG construct. The current military and political leaders are the same leaders who introduced the BTG structure; their reputations and careers are closely tied to its success. Instead of moderating BTG rollout and keeping a portion of the Russian Army in a divisional structure to train for high-intensity CAM, Russia's leaders are accelerating the rate that units convert into BTGs. In a Sept. 14, 2016, press conference, Russian GEN Valery Gerasimov stated that the army will increase the number of BTGs from 96 to 125 in 2018, with a significant effort to man them with contract soldiers instead of conscripts.[15] This comment indicates that Russia's military leadership is committed to investing in BTGs during the next two years, perhaps longer. If faced with a peer-competitor threat such as the U.S. Army, it is likely that Russia will simply deploy more BTGs to the battlespace so that each BCT may face more than one BTG.[16]

At the end of January 2017, skirmishes and artillery strikes flared up again in eastern Ukraine after almost two years of relative calm. Similar tactics as before are reported in the media,

	2008-2014	Present
Average price of energy	$100	$55
Cost to extract, sell and deliver[14]	$20	$20
Net revenue to the Russian state	$80	$35
Bottom line: Current Russian state net revenues from energy cannot fund the same modernization period as before.		

Table 3. Energy prices, using the price of oil in $/barrel as a proxy.

indicating that similar organizations are involved. If the BTG construct continues to prove its utility in Ukraine, Syria and future conflicts, and American and Russian ground forces find themselves on opposing sides in a conflict, it is likely that BCTs will have to defeat Russian Army units organized as BTGs in the near future (before 2025). Major technology fielding is not expected prior to 2025, so in such a conflict, the BCT will deploy with a table of organization and equipment similar to the current modified table of organization and equipment – and the BCT can expect similar adversary overmatch in fires, EW and ADA. The BCT's asymmetric advantage in this fight is its maneuver and sustainment capacity, which can be leveraged to shape the battlefield, deter the BTG from striking first and, if necessary, overwhelm and defeat the BTG through dispersed CAM.

BTG battle summaries

Following are some summaries of battles to show tactics deployed against Russian BTGs.

Zubrowski's Raid: In early August 2014, Ukraine' 95th Air Assault Brigade (Mechanized) conducted the largest and longest armored raid behind enemy lines in recorded military history. The 95th was comprised of two mechanized-infantry battalions, one tank battalion and a battalion of self-propelled artillery. The brigade attacked on multiple parallel axes of advance, and combined-arms company-sized teams penetrated the thinly defended separatists' positions and regrouped in the rear. The brigade then penetrated in depth along the two separatist regions' internal border and maneuvered 200 kilometers east along the southern border of the Donbass. They destroyed and captured Russian tanks and artillery, relieved several isolated Ukrainian garrisons and, finally, returned to their starting position near Slovyansk. They marched 450 kilometers behind enemy lines and brought back captured Russian armor and heavy artillery as well.[17] The raid achieved its objective of relieving Ukrainian forces in the separatist provinces, and it proved that Russian regular units were operating in Ukraine. However, the gains were undone in November 2014 when Russia deployed BTGs to the conflict in overwhelming numbers to support the separatists directly.

- **Lessons for a BCT:** Look for opportunities to penetrate and inflict maximum damage. Even though 95th was inside enemy lines for days, the unit consistently surprised enemy units, including Russian regulars. This suggests the absence of theater-level battle tracking, cross-unit communication and a difficulty transmitting orders to create a coordinated response to the marauding Ukrainian brigade.

Figure 2. Separatist and Ukrainian regular-army forces' movements in February 2015. *(Map by Goran tek-en, used as licensed under the Creative Commons Attribution-Share Alike 4.0 international license)*

Battle of Mariupol: Toward the end of the war in February 2015, separatist militia attacked Mariupol from the east with only limited success. A Russian tank battalion was committed to the fight to capture the town before the Minsk II ceasefire was signed, but a company(-) of Ukrainian Army tanks were able to defeat them.[18] The infantry attack continued for three more months, with support from Russian artillery and multiple-launch rocket systems (MLRS), but the separatists were unable to penetrate the city's eastern outskirts. Ukrainian volunteer infantry, backed by army tanks and long-range artillery, prevented a Russian success because there were insufficient local separatists, and Russia was unwilling to commit enough regular infantry.[19]

- **Lessons for a BCT:** The Russian regulars involved in the attack to capture Mariupol were operating without the level of paramilitary support they enjoyed in the eastern parts of Donbass Province. Without these light infantry, even armored forces were unable to overcome the city's defenders. Articles and reports also comment on extensive use of MLRS rockets to bombard the attackers, but the defenders were not destroyed the way other Ukrainian units had suffered catastrophic casualties in other battles. This indicates that the forward observers had trouble calling for effective fire in an urban environment; perhaps the targeting was inaccurate due to fewer ISR or HUMINT assets, or perhaps the munitions were not as effective against dispersed targets using mass-construction urban terrain as cover. Ultimately, the Russian commander operated without enough paramilitary infantry and effective indirect fires, and he was unwilling to risk his regular forces to press the attack and overcome the defenders. The concurrent fighting at Donetsk Airport may also have consumed key assets and manpower that otherwise could have been used to support the Mariupol offensive, suggesting that the Russian theater headquarters could not coordinate and sustain multiple simultaneous offensives.

Siege of Donetsk Airport (September 2014-January 2015): From the outbreak of the war, both sides battled for control of Donetsk city. Much of the fighting centered at the Donetsk airport, but Ukrainian Army regulars had so far successfully defended from the airport terminal. As the conflict drew to a close, the separatists renewed their attack on the Donetsk airport, defended by a company(+) of light infantry. For months, buildings changed hands as first one side, then the other, would capture the four-story structures that comprise the airport. Both sides had supporting artillery and, after months of shelling, the airport was ruined. It was still partially in government hands when, in January, Russia broke the stalemate by driving tanks onto the runway and engaging Ukrainian positions at ranges of 400 meters. The defenders were forced to retreat, and the separatists were able to breach the final building and seize the airport before Minsk II was signed.

- **Lessons for a BCT:** Similar to Mariupol, Russian artillery was not as effective in urban areas, and Russian infantry was not committed to the fight. Even the tanks Russia used to support the final approach were only brought up when all other options were exhausted and the separatists had cleared enough of the structure to guarantee the tanks' safety. This is further evidence of risk aversion and over-reliance on artillery and proxy infantry. Video the defenders posted on-line shows the mass-construction building they defended held up remarkably well despite nearly constant suppression by artillery and heavy machineguns.[20] The target-tracking radar (TTR) report specifically commented that simple battle positions made of rubble were excellent cover against both types of fire,[21] but the tank-fired high-explosive (HE) rounds were extremely effective. Videos of separatist assaults do not show use of smoke grenades, fragmentary grenades or 40mm grenade launchers.[22] Therefore, extensive use of these weapons by American infantry may also be effective in similar environments.

Battle of Debaltseve (July 2014-February 2015)**:** A reinforced Ukrainian Army mechanized brigade defended the key road-rail junction of Debaltseve for five months, even though it was slowly being encircled by Russian-supported separatist units. Russian President Vladimir Putin used this as leverage in the ongoing Minsk II ceasefire negotiations, which only reinforced Ukrainian determination to hold it. Finally, Russia concentrated massive artillery strikes and armored assaults (including the use of T-90 tanks), which finally broke into the town of Debaltseve. Cut off, the Ukrainian brigade exfiltrated through the wooded countryside on foot, leaving behind their heavy equipment and supplies. Despite this, the brigade was able to reconstitute a new defensive line 30 kilometers to the rear because Russian and separatist forces were unable to exploit the success.[23]

- **Lessons for a BCT:** Russian forces were unable to pursue the brigade as it retreated on foot (slowly and in winter), even though the Russians were mechanized. Without heavy equipment, the brigade was able to reconstitute itself, form a new line and deter further attack from the superior force. This suggests an inability of the Russian Army to sustain a pursuit over 30 kilometers despite time to prepare and resource the maneuver. This may have been due to the difficulty of moving paramilitary units at the same pace as Russian regular units and an unwillingness to attempt a follow-on attack without sufficient paramilitary presence. This battle also fits the strategic pattern of last-minute Russian-led and resourced attacks, both here and at the preceding locations. Their objective was to gain territory and conclude the Minsk II negotiations with the most favorable conditions.

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Notes

[1] "Control," Field Manual (FM) 3-90-1, ***Offense and Defense Volume 1***: A tactical mission task that requires the commander to maintain physical influence over a specified area to prevent its use by an enemy or to create conditions necessary for successful friendly operations.

[2] "Secure," FM 3-90-1: A tactical mission task that involves preventing a unit, facility or geographical location from being damaged or destroyed as a result of enemy action.

[3] "Guard," FM 3-90-1: A security task to protect the main force by fighting to gain time while also observing and reporting information and preventing enemy ground observation of and direct fire against the main body.

[4] Dr. Lester W. Grau and Charles K. Bartles, ***Military Review***, Fort Leavenworth, KS: FMSO, 2016. Pages 49-53 discuss the formation of BTGs and analyze mission-command and strategy behind a BTG in-depth.

[5] Ibid. Pages 20-23 discuss the differences between contract (volunteer enlisted) soldiers and conscript (drafted) soldiers in the Russian army.

[6] Charles Bartles, ***Military Review***, FMSO, article on the Gerasimov doctrine, http://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview_20160228_art009.pdf.

[7] These videos interview two separatist commanders on the front line, Motorola and Givi, and are valuable for observing Ukrainian separatist organization, equipment and tactics, techniques and procedures: https://youtu.be/xP_ozv0qgXU,

and https://www.youtube.com/watch?v=OEriH__M6AI.

[8] Disclaimer: Much of this analysis is my opinion from "reading between the lines." The idea that BTG assets are not used to protect the guard force comes from reading common Ukrainian narratives along the lines of "We were guarding our position and heard a UAV – all of a sudden the radios stopped working and we started receiving artillery fire." What I never read or saw was a narrative along the lines of "Here we are under constant surveillance – Russian UAVs check on us every day or so and occasionally direct fire on our position." Thus, I conclude that ISR is not used regularly for routine surveillance but intentionally to support specific attacks.

[9] U.S. Army Training and Doctrine Command (TRADOC), ***G-2 ACE Threats***, "[TTR] Report on Russia," July 2015. The report describes Russia's current military and analyzes combat operations in Georgia, Crimea and Ukraine. The Ukraine section specifically reports on the battle for Donetsk airport.

[10] "Deterrence," Joint Publication 3-0, ***Joint Operations***: The prevention of action by the existence of a credible threat of unacceptable counteraction and/or belief that the cost of action outweighs the perceived benefits.

[11] "Defeat," FM 3-90-1: A tactical mission task that occurs when an enemy force has temporarily or permanently lost the physical means or the will to fight. The defeated force's commander is unwilling or unable to pursue his adopted course of action, thereby yielding to the friendly commander's will, and can no longer interfere to a significant degree with the actions of friendly forces. Defeat can result from the use of force or the threat of its use.

[12] A U.S. BCT fields 600 riflemen and 250 armored fighting vehicles compared to 200 and 50 in a Russian BTG. Thus, to destroy a BCT requires destruction of 180 and 75, whereas destruction of 60 and 15 will force a BTG to withdraw and reconstitute.

[13] Grau and Bartles discuss the reasons the Russian Army may return to a divisional structure.

[14] Although this data is a year old, it shows the relative cost of extraction per barrel of oil in April 2016: http://graphics.wsj.com/oil-barrel-breakdown/.

[15] GEN Gerasimov's comments were translated on https://russiandefpolicy.blog/category/order-of-battle/, referring to a report on http://militarynews.ru/story.asp?rid=1&nid=425709.

[16] For perspective, as many as 33 BTGs may have been deployed to Ukraine (https://burkonews.info/identification-units-russian-armed-forces-deployed-fight-eastern-ukraine). If they were all there simultaneously, deployed linearly along the 500-kilometer front line, each BTG would have been responsible for 15 kilometers of front, roughly the same as a U.S. combined-arms battalion. It is unlikely, however, that all 33 BTGs mentioned were in the Ukraine theater at the same time, and it's also unlikely that all were simultaneously on the front. If 1/3 of that force was deployed to the theater, and 2/3 of it was operating with 1/3 in reserve, an average BTG would have been responsible for 60 kilometers of front – roughly equivalent to a U.S. BCT.

[17] Dr. Phillip Karber, ***Lessons Learned from the RussoUkrainian War***, Potomac Foundation and the Army Capabilities and Integration Center, July 8, 2015. ("Zubrowski's Raid" is recounted.)

[18] Oleg Mysko, ***UA Press***, Sept. 6, 2014, http://uapress.info/uk/news/show/37882.

[19] Karber. The 2015 offensive to capture Mariupol is described.

[20] TRADOC, ***G-2 ACE Threats***, "TTR Report on Russia," reports on the battle for Donetsk airport.

[21] Ibid. Discusses cover-and-concealment lessons learned.

[22] Separatist paramilitary commander Givi leads an attack on the Donetsk airport and then breaks contact https://youtu.be/xP_ozv0qgXU.

[23] Karber. He describes the Battle of Debaltseve.

Acronym Quick-Scan

ABCT – armored brigade combat team
ADA – air-defense artillery
BCT – brigade combat team
BMP -- *Boyeva Mashina Pekhoty*
BTG – battalion tactical group (Russian Army)
C2 – command and control
CAM – combined-arms maneuver
CBRN – chemical, biological, radiological and nuclear (warfare)
COP – common operating picture
EW – electronic warfare
FM – field manual
FMSO – Foreign Military Studies Office
FoV – field of view (camera)
HE – high explosive (rounds)
HUMINT – human intelligence
IFV – Infantry Fighting Vehicle
IPB – intelligence preparation of the battlefield
ISR – intelligence, surveillance and reconnaissance
LoC – line of contact
Medevac – medical evacuation
MLRS – multiple-launch rocket system
PPE – personal protective equipment
TAA – tactical-assembly area
TRADOC – (U.S. Army) Training and Doctrine Command
TTR – target-tracking radar
UAS – unmanned aerial system
UAV – unmanned aerial vehicle

Strength Punishes, Speed Kills:
the Stryker Weapons Troop at National Training Center

by CPT Jared Wayne

Two historic "firsts" occurred during decisive-action-training Rotation 15-10 at the National Training Center (NTC), Fort Irwin, CA, in 2015.

The 1st Stryker Brigade Combat Team (SBCT) of 4th Infantry Division became the first Stryker BCT to achieve a decisive victory at NTC, and its assigned Troop E, 2nd Squadron, 1st U.S. Cavalry Regiment, fought as the Army's first Stryker weapons troop.

It was not a simple fight because 1st SBCT had to defeat an opposing force that was skilled and determined with considerable experience against Stryker organizations. Fortunately, the brigade's newly formed weapons troop changed the dynamic by providing the brigade's commanders a fast, lethal organization that was highly flexible and could be employed using a variety of methods to achieve or enable dominance at the decisive point.

Eagle Troop activated in April 2015. Four months later, the troop and 1st SBCT deployed to NTC. Eagle Troop's experience from activation through validation at NTC is my focus here. I will briefly discuss weapons-troop theory, organization, scenarios, capabilities and recommendations for increased effectiveness. My conclusions and observations are influenced by my time as the Troop E commander, during which I led the troop from its consolidation with the Stryker anti-armor company and activation as the weapons troop through the brigade's home-station field-training exercise at Pinion Canyon Maneuver Site (PCMS) and our validating rotation at NTC.

Historical perspective

The Army's decision to organize a Stryker weapons troop in each SBCT can be traced to our tank and tank-destroyer experiences in the first half of the 20th Century. The anti-tank vehicles (ATVV) and the Mobile Gun System (MGS) have striking similarities to the U.S. Army's World War II tank destroyers. Troop E explored some of the anti-armor and tank-destroyer concepts, capitalized on some of the Army's experiences and offered some examples of "a way" to lead, train and employ the formation.

At the outbreak of World War II, the U.S. Army watched the massed German armor formations decisively defeat the Polish and French armies. The German blitzkrieg's tremendous success in Poland and France convinced the United States that "the principal agent of the Allies' demise had been the German panzers … [resulting in] an exaggerated fear of the tank that overlooked Allied strategic blunders in France and obscured the combined-arms nature of the panzer division."[1] Having defined the anti-armor challenge as one of massed tank-pure formations, the U.S. Army's response was, in part, to create tank-destroyer units whose sole purpose was the destruction of massed tank-pure forces. The Army's rationale during World War II for tank destroyers was one of economy.

The rapidly deployable SBCT (relative to an armored BCT) is equipped with tube-launched, optically tracked, wire-guided (TOW) missile-equipped ATVVs that are light enough to rapidly deploy, but it lacks the M1 Abrams armor and tracks. The ATVVs formed the SBCT's anti-armor company and became the nucleus of the weapons troop.

The MGS arrived in the weapons troop by a different path. The MGS was not intended as an anti-heavy armor platform and was assigned to the infantry companies to support infantry operations. However, the low platform density, coupled with the challenges associated with having a low-density military-occupational specialty in each infantry company, meant that consolidating the MGS fleet and crews in the cavalry squadron would improve training and administrative effectiveness. However, it also meant new tactical opportunities beyond those for which the MGS was originally designed.

Much like the tank destroyers of World War II, the ATVV and MGS are heavily armed, lightly armored and highly maneuverable. They also support the SBCT's rapid deployability. The tank-destroyer experience serves as a primary backdrop to understand the weapons troop and can guide our development of the formation in a positive direction.

Tactical employment theory

Each vehicle platform in the weapons troop has a unique purpose and must be considered during task organization and tactical employment to produce maximum effects on the enemy while minimizing losses. To accomplish this goal, we centered our strategy for employment of a weapons troop on heavy exploitation of a potential adversaries' weaknesses.

Armies train armor crews to identify threats, prioritize them from most to least dangerous, and engage accordingly in rapid fashion. To that effect, the U.S. Army developed principles to help Soldiers make these assessments, followed by requiring their mastery during gunnery. Tank trainers teach crews to conduct single-target engagements rapidly and deliberately set the standard for loaders so they can load tank rounds at the same speed as the vehicle engages targets. Heavy-armored vehicles are now also increasingly capable of firing while moving, using equipment that greatly increases accuracy. Their gunnery practices also incorporate more difficult engagements where both the shooter and the target move.

By comparison, the ATVV can destroy heavy armor, but it can only fire while stationary and requires a significantly longer engagement time relative to its target. If an opposing tank can accurately engage a point target four times faster than an ATVV, this means the ATVV could potentially be destroyed four times before it has a chance to engage with a single TOW missile against a target. On the other hand, the MGS is capable of firing on the move but its

105mm main gun and automatic loader means that reloading each round may take twice as long as an opposing tank. These technical aspects are absolutely critical to consider when employing a weapons-troop platoon.

With these time standards as a guide, we developed a strategy that reduced an enemy's potential to engage accurately and rapidly. We determined that the main objective during any weapons-troop engagement was to enable the ATVVs – not the MGS – to successfully engage enemy heavy armor without being destroyed. We accomplished this by firing single rounds from each position before displacing since the firing signature alerts the enemy to its location. (There are exceptions that would permit multiple shots from the same firing position.) To do that, multiple alternate battle and firing positions are necessary. Leaders must also consider weapon ranges and munition flight times.

Another option is to use the MGS to force the enemy to concentrate on them. Their maneuverability allows greater survivability than the ATVV. Also, the engagement of an enemy vehicle's crew is just as debilitating to the target as is damage to the platform itself and can be conducted at the section or platoon level. This engagement can be coordinated by the weapons-troop commander. The damage inflicted by an MGS may also be sufficient to allow the ATVV to engage the target with less risk. To execute this maneuver, MGSs can engage while rapidly moving toward or adjacent to the enemy. The MGSs can also engage at close ranges, particularly from the flank or rear. These maneuvers can be initiated from multiple positions, preferably reconnoitered in advance.

A third option is to fire volleys in succession or simultaneously, using multiple weapons systems. The effect of these fires either distracts the enemy from targeting subsequent friendly shooters, or through the volume of signatures, it obscures which munitions are the most dangerous to the enemy. Friendly units can also use cross, depth, frontal or a mix of the three fire patterns to increase survivability by masking or obscuring the types of weapon systems being fired.

Task organization

Strength through flexibility. The weapons troop's main strength is its flexibility; its organization can be configured to meet a wide range of individual scenarios. The brigade commander determines the weapons troop's task organization, using the brigade S-2 section – with its information-gathering assets and ability to generate intelligence – to make the decision. The keys to the troop's flexibility are the habitual relationships between platoons and their supported units. These relationships increase the effectiveness of deliberately planned actions as well as enabling the troop to hastily re-task-organize if necessary.

We established external and internal habitual relationships with Troop E's platoons. Figure 1 illustrates the external relationships between platoons and with the infantry battalions and cavalry troops. We also established relationships between platoons within the troop. The external relationships enabled trust, familiarity, improved logistics support and increased tactical effectiveness. The internal relationships enabled platoons to "weaponize" by altering their platoon-internal compositions through platform exchange. There are several task-organization techniques, each with their own set of advantages and disadvantages that, when coupled with habitual relationships, increase the troop's effectiveness. They are also not the only task-organization techniques, but additional options add unit training objectives with their associated costs.

Methods, scenarios

This section discusses some of the methodologies and processes used as well as scenarios that demonstrate Troop E's implementation at PCMS and NTC. The keys to the unit's success were flexibility, speed, violence of action and an intimate understanding of the enemy. We focused training on performing a limited number of basic collective tasks well and on conducting leader development that emphasized situational understanding, comfort with ambiguity, a willingness to exercise intelligent initiative and creative problem-solving. Our efforts created a unit that was very good at a few things, could confidently and effectively execute tasks that were not explicitly trained and had mentally adaptable leaders who could take advantage of enemy weaknesses, knowing when and how to do so.

Engagement-area (EA) template. EA development is critical to the execution of the anti-armor mission. Every EA is also subject to mission, enemy, terrain, troops available, time and civil considerations (METT-TC) and is therefore unique. Every EA also requires considerable planning by commanders and leaders, but the weapons troop may find itself in a situation where it must use a number of EAs while lacking the time to thoroughly plan each one. An approach to this problem involves creating an EA template that can be applied to every potential EA. These EAs can then be prioritized, modified and planned to standard with the time available. The remaining EAs can be modified hastily as conditions permit, including when activated, thereby reducing the amount of communication to subordinates, adjacent units and higher headquarters by transmitting only information pertaining to the template modifications.

It is important to note that the weapons troop does not necessarily initiate an engagement at the leading edge of the EA. If it does so, it reveals its positions and exposes the troop to unnecessary retaliatory fire, allows the enemy to decline to enter the EA or change its plan or method of attack. If the weapons troop initiates at a range with the MGS capabilities in mind, the enemy is already committed to the course of action (CoA) that takes them through the weapons troop's EA and forces them to lose combat power regardless of whether they continue or abort the attack.

Follow and support a zone reconnaissance. One task that the weapons troop can perform is to follow and support reconnaissance elements as they conduct zone reconnaissance. Weapons-troop platoons supporting a cavalry troop generally follow a terrain feature behind their supported elements, or they move from hide site to hide site to conceal their presence and preserve the element of surprise when committed. The rest of the weapons troop follows behind the

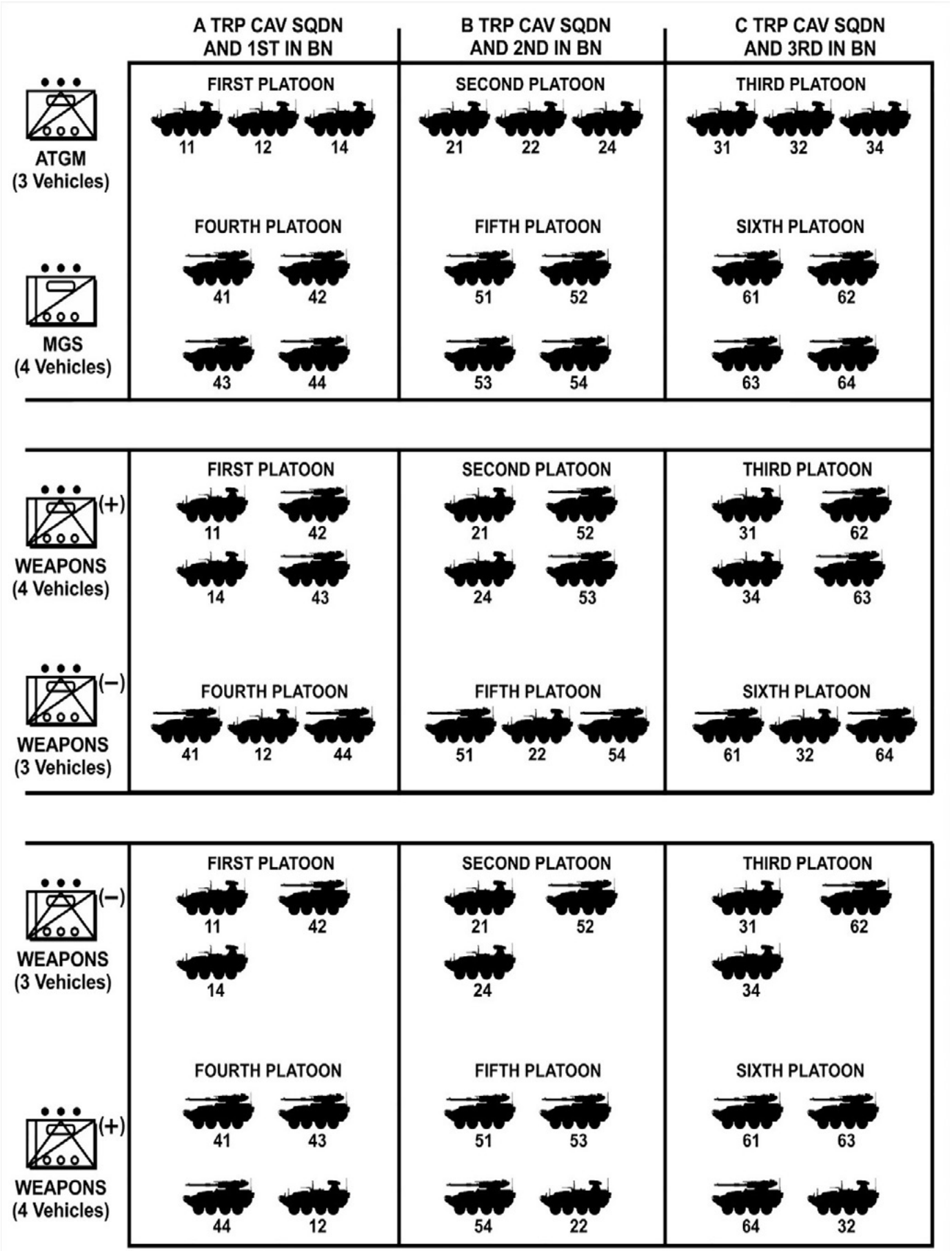

Figure 1. Task organization. *(Graphic by CPT Jared Wayne)*

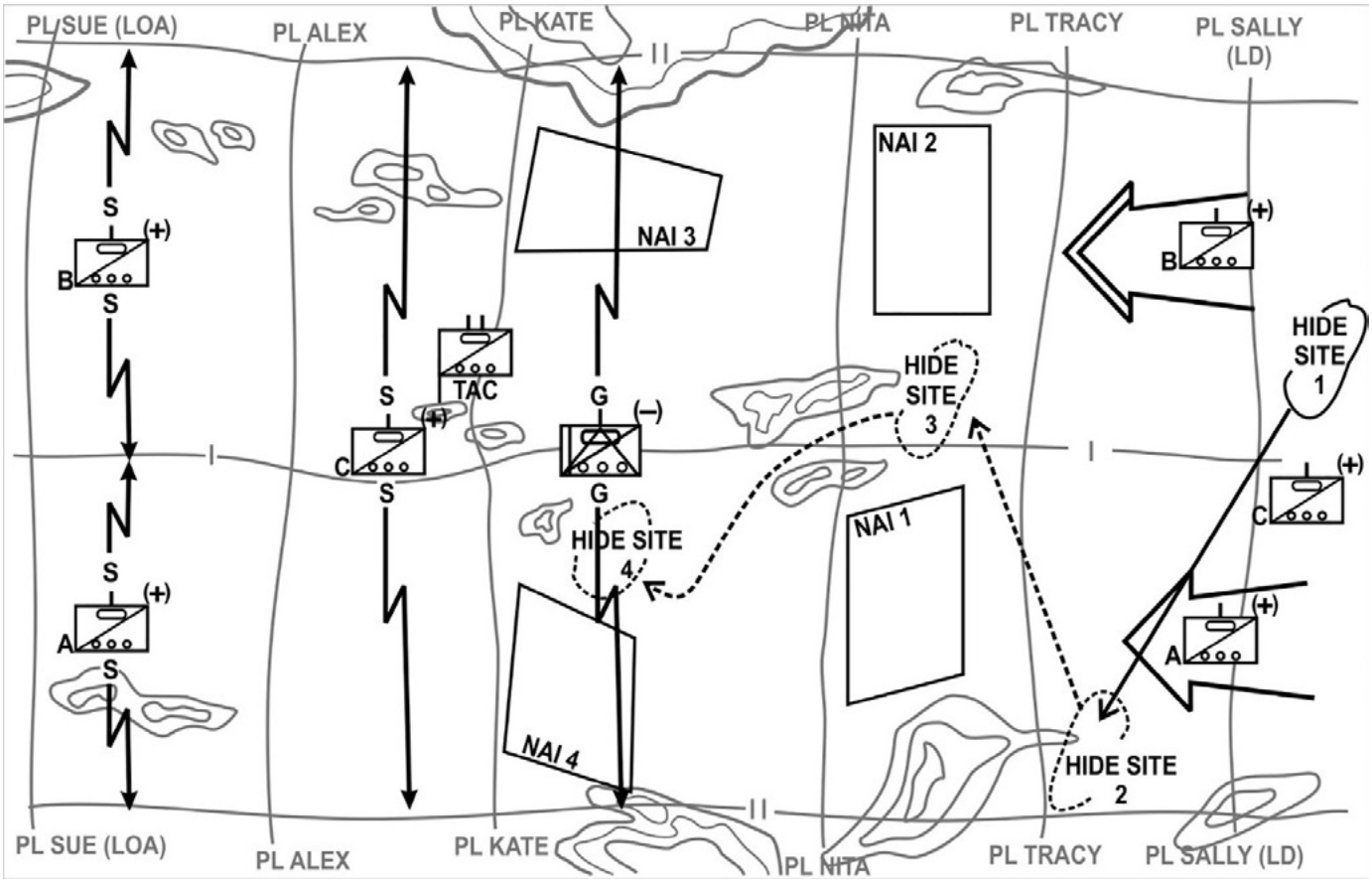

Figure 2. Follow and support a zone reconnaissance. *(Graphic developed by CPT Jared Wayne for Army Technical Publication (ATP) 3-21.91,* ***SBCT Weapons Troop****)*

weapons-troop platoons attached to cavalry troops, using positions that enable rapid movement to support the cavalry troop if their assigned weapons-troop platoon encounters a threat that exceeds its capability to destroy quickly. This method allows reconnaissance elements to remain concealed to facilitate the continuance of the reconnaissance mission while providing more lethality to destroy enemy forces.

As described in Figure 2, weapons-troop platoons follow their assigned cavalry troop. They occupy hide sites along the axis of attack to conceal themselves. Once the supported reconnaissance units make contact with an enemy force, the cavalry-troop commander decides whether to employ his attached weapons-troop platoon. Depending on the enemy's composition, the weapons troop can commit elements to support an attached weapons-troop platoon.

This method allows the destruction of enemy forces while preserving the weapons-troop platoons' combat power to the greatest extent possible. However, METT-TC conditions and the higher headquarters' guidance will dictate the degree of acceptability for lost combat power, which may mean re-engaging from the same positions. In practice, weapons-troop leaders must be comfortable with dynamic tactical conditions that affect position placement but also require the troop to rapidly change missions.

Guard. The weapons troop destroys enemy reconnaissance forces in support of a screen line in much the same way as it does while supporting a zone reconnaissance. The primary difference is that the operation is defensive rather than offensive. The key components of success are to remain concealed from the enemy except when engaging targets, use covered and concealed routes to and from friendly EAs and associated battle positions (BPs), and ensure the battle handover from the forward reconnaissance units to platoons in support of a cavalry troop and the weapons troop that are supporting the cavalry squadron or troop.

As illustrated in Figure 3, a cavalry troop is supported by a weapons-troop platoon, with the remaining weapons troop supporting the squadron. Both the larger weapons troop and its platoon attached to the cavalry troop are in separate hide sites, and the cavalry troop is deployed in depth on its screen line. Engagements occur based on the identified enemy's composition and disposition to maximize enemy casualties while minimizing target overkill.

Defend. More complex than supporting screen-line operations, a defense requires significant planning by the weapons-troop commander and his/her higher headquarters. A defense can be conducted at one or multiple locations, and it's limited primarily by the weapons-troop commander's ability to mission command the operations and by the disposition of the SBCT's defense. Depicted in Figure 4, the weapons troop has been tasked to

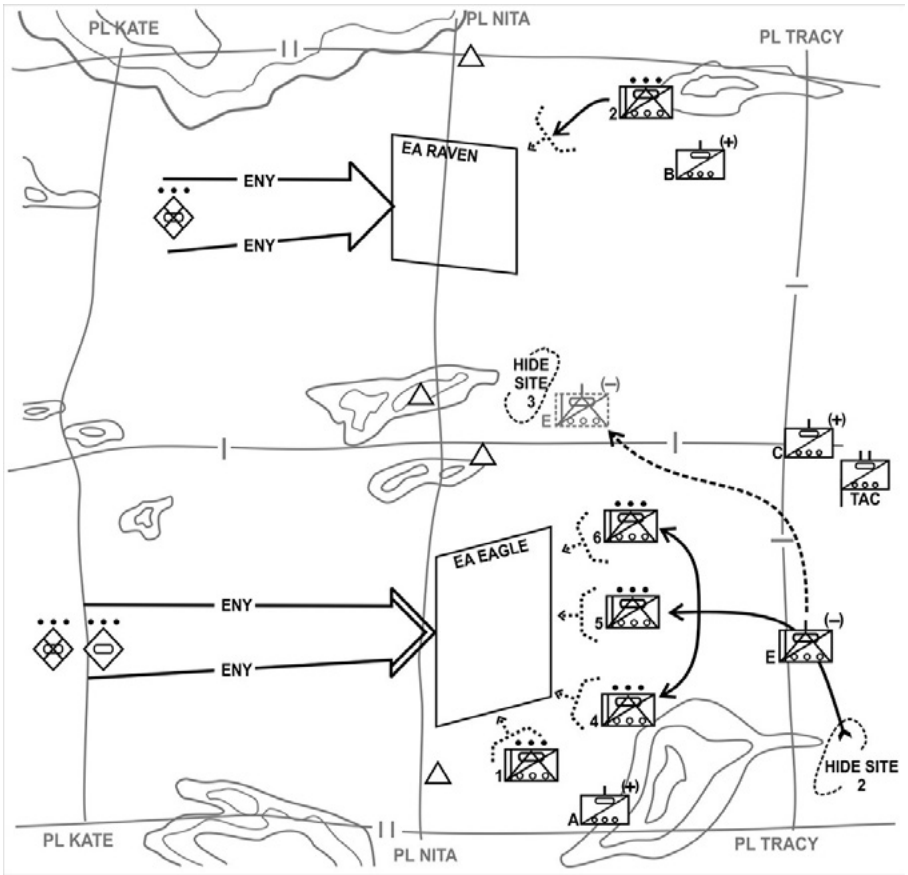

Figure 3. Guard. *(Graphic developed by CPT Jared Wayne for ATP 3-21.91)*

defeat an enemy's mechanized penetration of the SBCT defense.

The weapons troop initially conducts a defense in depth using multiple EAs. This plan supports the mobility advantage of the Stryker platform and slows the enemy's rate of march. By trading space for time, the weapons troop can inflict casualties with multiple volleys using several EAs while preserving its combat power. However, once clear of the SBCT's primary defensive positions, a counterattack becomes a possible CoA.

Attack. The weapons troop also has the ability to conduct offensive operations. It attacks using two primary methods: a flank attack or a penetration. The flank attack is the preferred method because it uses an assailable enemy flank and allows the weapons troop to maintain its ability to maneuver. Any attack, such as a turning movement, where the weapons troop engages from a static position is less preferred because it fixes the troop once it occupies its primary BP. It also exposes the troop to enemy indirect fires and aviation assets.

Conduct a task-organized attack. To conduct a task-organized attack, heavy armor, infantry or reconnaissance units must be attached to the weapons troop. These capabilities enable the weapons troop to conduct a penetration and keep the passage lane open if necessary. A penetration can also allow a raid that disrupts enemy operations in depth, seizes key terrain that enables another unit's attack or diverts the enemy's attention from the location of the main effort. It can also be used to destroy critical enemy support units, mission-command nodes or indirect-fire assets. However, like other deliberate or special-purpose attacks, they require a significant commitment of reconnaissance assets to provide the necessary enabling combat information. Each has risks.

An example of a task-organized attack is included in Figure 5. This particular attack was a spoiling attack planned for Troop E at NTC, and it included two weaponized platoons (two ATVV and two MGS), a tank platoon and a Stryker scout platoon. The troop's mission was to destroy the opposing force's indirect-fire assets, logistics-support vehicles (Class III and Class V in particular) and mission-command nodes. The attack was conducted at night in less than 5 percent illumination, and it was heavily supported by aerial reconnaissance.

The plan used the scout platoon to locate enemy units in the vicinity of the western entrance to Hidden Valley and destroy them with the tank platoon to allow the weapons-troop platoons to penetrate the enemy's line. The tank and scout platoons then occupied a position overlooking the central corridor and engaged the enemy, compelling a response in force. This diversion enabled the weapons-troop platoons to move east and destroy the logistics, fires and mission-command nodes identified by aerial reconnaissance. Once complete, the weapons-troop platoons exfiltrated using the route secured by the tank and scout platoons.

The weapons troop's ability to rapidly move and maneuver was critical to the unit's successful employment. It allowed the troop to engage, disengage and re-engage on favorable terms. This increased lethality and preserved combat power. However, sustainment and mission command also contributed significantly to Troop E's success.

Sustainment

Sustaining the weapons troop is challenging. Our experience had three recurring difficulties:

- Understanding and forecasting requirements;
- Casualty evacuation; and
- Maintenance.

By the time of our NTC rotation, the brigade-support battalion, cavalry squadron and brigade headquarters became very adept at supporting the weapons troop. Our keys to successfully overcoming the challenges lay in predicting requirements, flexible plans, expertise and resources as far forward as possible. Then we had to communicate the requirements and capabilities to supported units. These keys facilitated planning and reduced the frequency and severity of reactive sustainment.

Mission command

Weapons-troop mission command can be challenging as well. Our goal was to rapidly achieve subordinate understanding of a situation and a leader's intent, and do so under combat conditions. In our experience, we found some techniques to be particularly helpful: doctrinal understanding, succinct orders using truly useful templates and formats, graphics standard operating procedures, battle drills and aggressive use of parallel planning at echelon.

Influencing the enemy's command and control (C2). At NTC, the weapons troop made a deliberate decision to degrade the enemy's C2 system. Reducing their ability to react to our actions increased our lethality and survivability.

Our plan inflicted significant casualties on the enemy early in the rotation. We did this through careful planning and violent execution, accepting greater amounts of risk initially if it yielded considerably more damage to the enemy. In some cases, we even dismounted and destroyed enemy vehicles that failed to locally secure themselves. The confidence boost to our formation – coupled with the corresponding increased frustration in the opposing force – helped set the tone for the rotation. It also convinced the opposing force of our lethality and capability. This allowed us time to use other assets (such as indirect fire and aviation) to affect the enemy operations that attempted to fix or outmaneuver us.

When we executed a hasty defense in depth, our aggression also encouraged the enemy to overextend by having an element execute a retrograde. The advancing enemy was drawn into an EA overwatched by the weapons troop or another weapons-troop platoon, and was rapidly destroyed to prevent the communication of critical information to their higher headquarters.

The destruction of the enemy's observers and reconnaissance elements reduced the enemy's situational awareness and ability to execute operations. It therefore slowed the speed of enemy decisions. Also, it allowed us to influence their observations. For example, prior to destroying an enemy scout

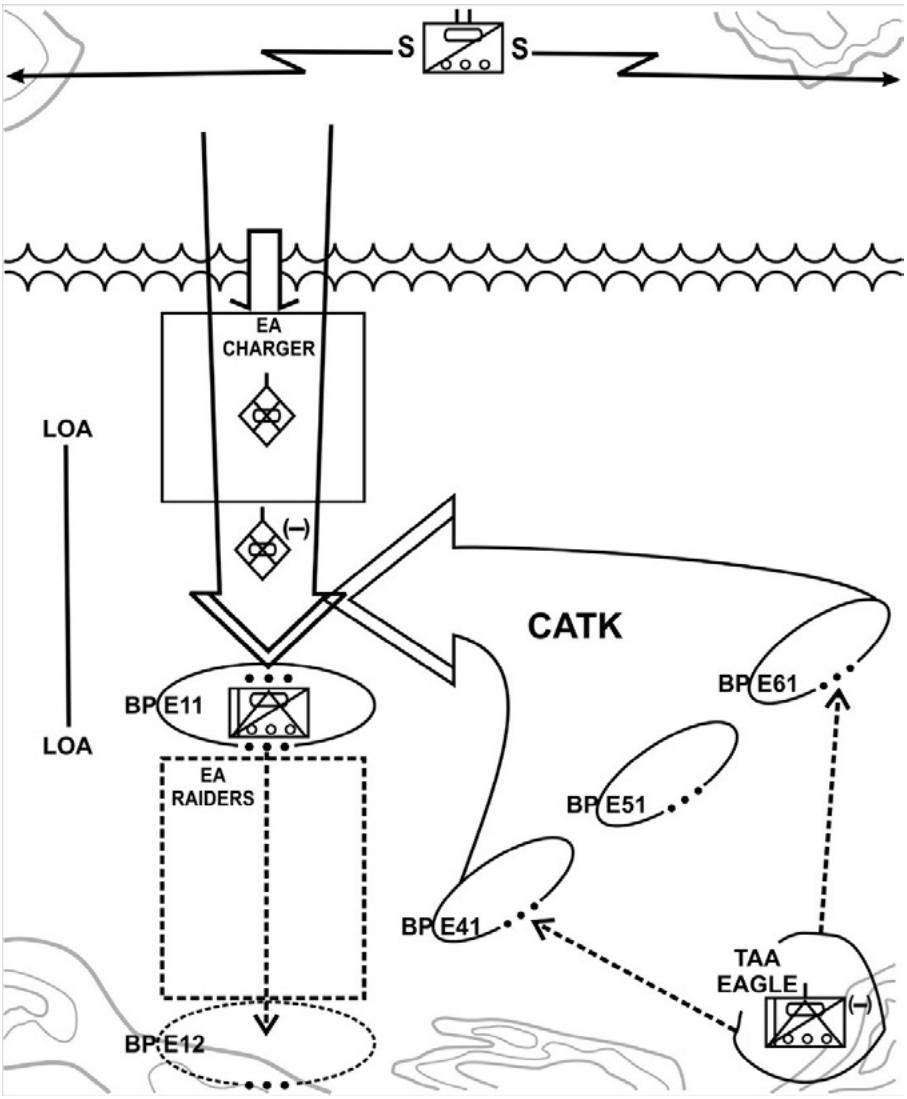

Figure 4. Defend. *(Graphic developed by CPT Jared Wayne for ATP 3-21.91)*

section, we might present the troop's guidon or additional forces to the observer and simulate an enduring presence. Once the observer was destroyed, we would rapidly move the troop to either exploit an enemy counterattack or move to another cavalry-troop sector in anticipation of an enemy response there. By doing so, any enemy retaliatory action was often against unoccupied terrain, and it sometimes unnecessarily revealed additional enemy forces that we could destroy.

We also presented multiple troop-level signatures in rapid succession when and where possible. The foundation of this strategy was the attachment of weapons-troop platoons to each cavalry troop, thus increasing the difficulty of determining whether the weapons-troop elements in the cavalry-troop sector were a platoon or the entire troop. This generated multiple reports from several enemy observers with seemingly conflicting information. Even if the enemy analyzed the reports correctly, determining the chronology of the weapons troop's actual actions and its current disposition was a difficult task. These actions allowed us to convince the enemy we were in a location of our choosing while simultaneously concealing our actual location. In several cases, the enemy committed forces to destroy the weapons troop at the false location, in turn allowing us to achieve surprise and engage on advantageous terms, inflicting considerable casualties.

Conclusion

The weapons troop's strengths are

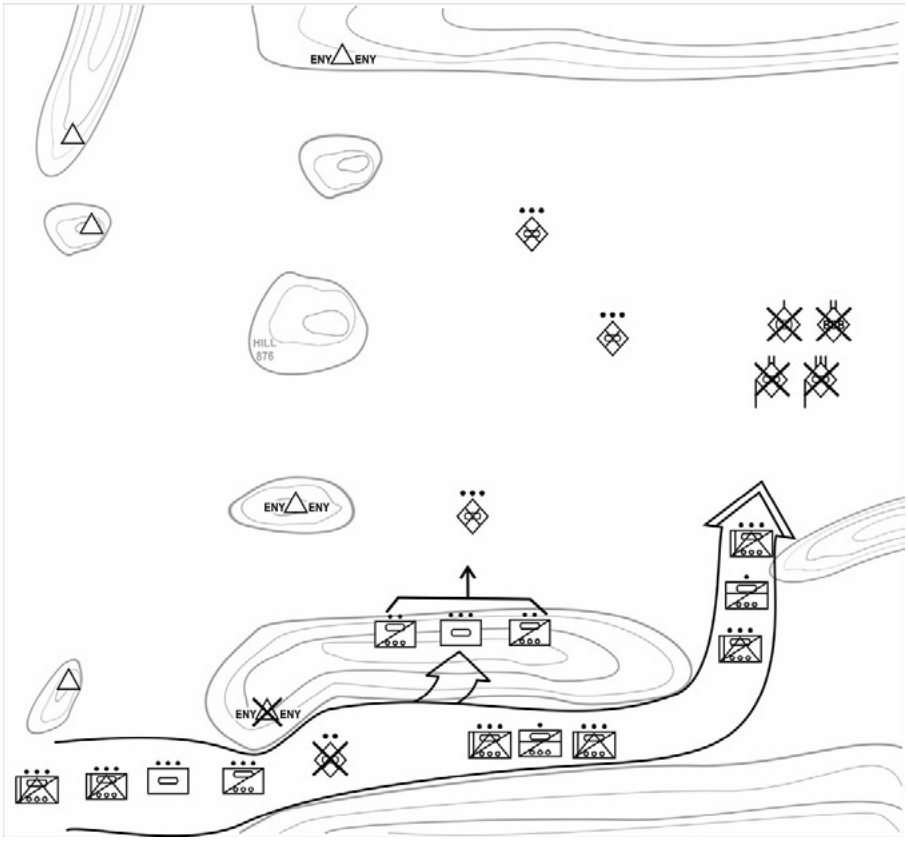

Figure 5. Task-organized attack. *(Graphic by CPT Jared Wayne)*

flexibility and speed. The unit can be task-organized to meet specific force requirements across the brigade, further enabled by habitual relationships. The weapons troop can also be committed at a location and time of a commander's choosing, optimizing the conditions under which the unit will fight. It can also be used to provide anti-armor capabilities across the brigade's area of operations, thus providing options for battalion- and company-level commanders. The most important asset is the unit's speed that allows it to rapidly relocate and reorganize to adapt to changing conditions.

Figure 6. Soldiers of 1st SBCT, 4th Infantry Division, tactically move a Stryker over the Mojave Desert during Decisive Action Rotation 15-10 at NTC, Fort Irwin, CA, Sept. 24, 2015. *(Photo by SGT William Howard)*

Of course, the weapons troop's flexibility is only as good as the intelligence driving the decisions on where, when and how to employ it. The weapons-troop commander is an important part of the intelligence flow within the brigade. He/she must be able to outthink the enemy and exploit the enemy's weaknesses – ruthlessly. When engaged with enemy heavy armor, every shot counts, and every vehicle protected to continue the fight is significant.

Take-away

The weapons troop is capable of influencing the battlefield in a far greater way than its modified table of organization and equipment might suggest. Much like the Army's World War II tank destroyers, the weapons troop's strength in flexibility allows it to mitigate the advantages an enemy may have via its heavy armor. The weapons troop can also support reconnaissance and security, plus offensive and defensive tasks. It can even conduct its own offensive and defensive missions if properly task-organized. Employed correctly, the weapons troop is a formidable organization for the brigade and any unit that it supports.

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bachelor's of science degree in political science from the U.S. Military Academy at West Point.

A related article is available on-line at https://army.deps.mil/army/sites/StrykerNet/Main/Weapons%20Troop%20Paper%20(20170223)%20(Final).pdf. Note: A Department of Defense Common Access Card is required to access the article.

Notes

[1] Christopher R. Gabel, "Seek, Strike and Destroy: U.S. Army Tank Destroyer Doctrine in World War II," ***Leavenworth Papers No. 12***, Combat Studies Institute, U.S. Army Command and General Staff College, Fort Leavenworth, KS, 1985.

Acronym Quick-Scan

ATGM – anti-tank guided missile
ATP – Army technical publication
ATVV – anti-tank vehicle
BCT – brigade combat team
BP – battle position
C2 – command and control
CATK – counterattack
CoA – course of action
EA – engagement area
LD – line of departure
LoA – limit of advance
METT-TC – mission, enemy, terrain, troops available, time, civil considerations
MGS – Mobile Gun System
NAI – named area of interest
NTC – National Training Center
PCMS – Pinion Canyon Maneuver Site
PL – phase line
SBCT – Stryker brigade combat team
TAA – tactical-assembly area
TAC – tactical-actions center
TOW – tube-launched, optically tracked, wire-guided

Armor School Book Offers Free Professional Development to Individuals, Units

Students from Armor Basic Officer Leader's Course practice tank gunnery at the Digital Multi-Purpose Range Complex, Fort Benning, GA. The course, administered by 2nd Squadron, 16th Cavalry Regiment, trains Armor Branch lieutenants to provide the Army, Marine Corps and allied nations with armor officers capable of conducting unified land operations as part of a combined-arms team. *(Photo by Patrick A. Albright)*

Armor in Battle: Special Edition for the Armored Force 75th Anniversary offers examples of the tactical employment of armored combat organizations from the interwar years through Operation Iraqi Freedom.

Based on first-person accounts, after-action reports, interviews, special studies and other source material, this book also includes sections devoted to the early development of armor, including the full text of the orders that established the Armored Force. The material readily supports professional development at platoon, company and battalion levels.

Armor in Battle can be ordered directly from the Army Publishing Directorate by providing the title and PIN number (106431-000) to either (703) 614-3727 or usarmy.pentagon.hqda-apd.mbx.customer-service@mail.mil.

There is no cost to military organizations.

Bringing the Future Back to Combat Systems: Recognizing the Need for a New Main Battle Tank

by MAJ Michael J. Trujillo

The Army's current stagnation with developing a fully capable and modern armored-combat platform to replace the aging M1 Abrams main battle tank (MBT) promises to degrade our ability to deploy, fight and win our nation's wars on the future battlefield. With potential and realized adversaries developing and purchasing modern combat systems that may outmatch our armored fleet, the Army must reinvigorate a more realistic version of the Future Combat Systems (FCS) initiative, focusing first on the development and fielding of a new MBT.

History is cyclical; just as the genesis for the development of the M1 Abrams was in response to what was then Soviet-era tank developments during the Cold War, we again find ourselves in a race to field the most capable, lethal and deployable platform ahead of our competitors/adversaries. The development of a new MBT does not, however, require a "blank sheet" way ahead. The intellectual capital, infrastructure and pre-existing requirements already live in the archives of the Army's cancelled initiative to achieve what GEN Eric Shinseki, former Chief of Staff of the U.S. Army (CSA), called "the objective force."[1]

FCS

In October 1999, GEN Shinseki began the path that would lead the U.S. Army, Department of Defense and acquisition community down a 10-year, multi-billion-dollar stretch to a vision that completely reorganized and transformed the U.S. Army. GEN Shinseki's vision involved achieving "the objective force." The objective-force transformation promised to create a family of vehicles (FoV) and systems that would increase the Army's lethality, decrease force build-up timelines and decisively execute cross-domain fires through a highly effective and integrated communications system.

GEN Shinseki envisioned a highly capable land force capable of deploying a brigade in four days, a division in five days and five divisions in 30 days.[2] In addition to the 14 combat and combat-support platforms, the plan called for both manned and unmanned systems

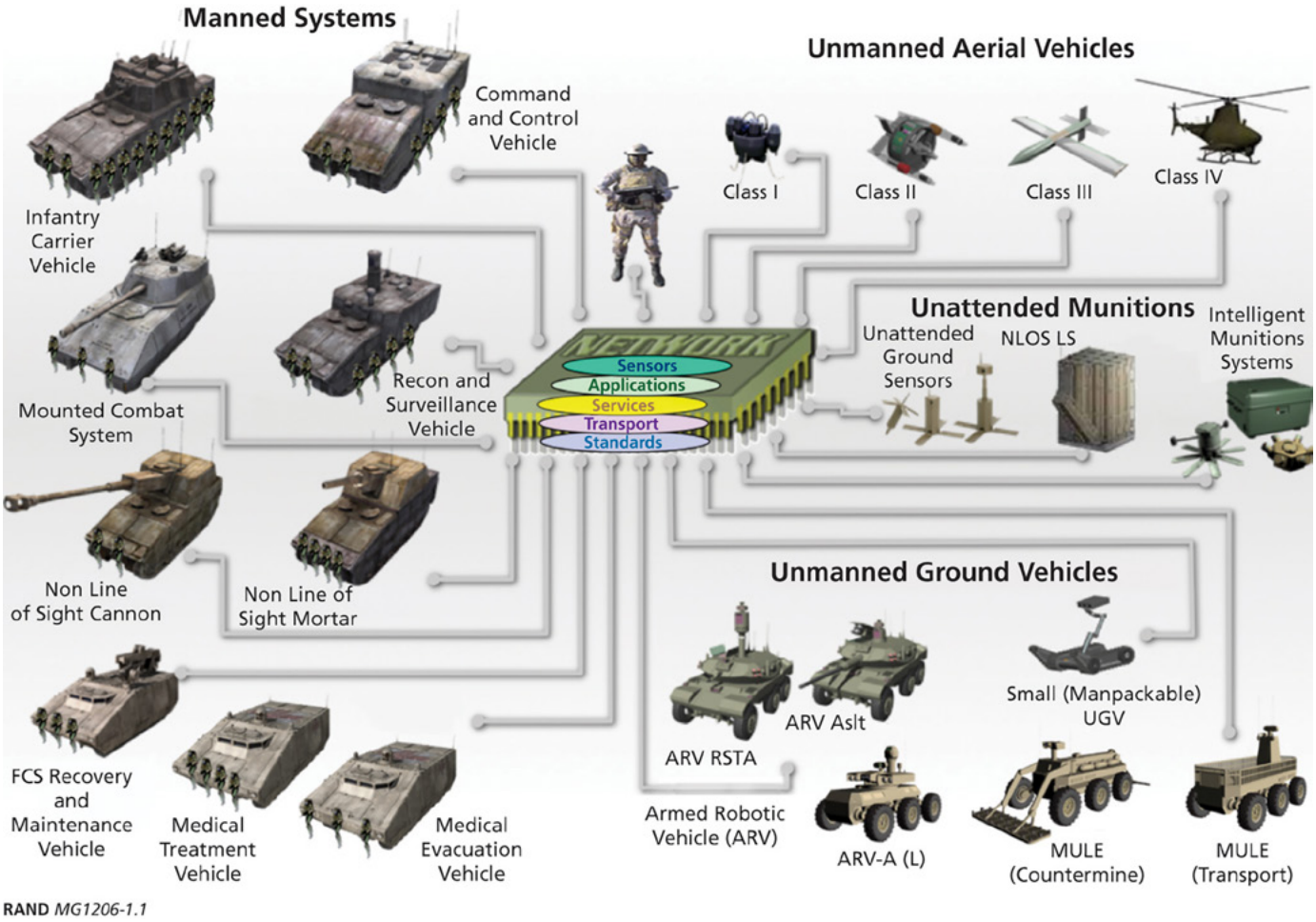

Figure 1. The 18+1+1 FCS systems. *(From **Lessons from the Army's Future Combat Systems Program**, Figure 1.1, published by the RAND Corporation, 2012. Original source: RAND Corporation. Copyright 2012 by the RAND Corporation, Santa Monica, CA; reprinted with permission.)*

as a part of what would become FCS. The FCS concept included the XM1202 Mounted Combat System meant to replace the M1 Abrams MBT.

Arguably, the path to cancellation and divestiture of the FCS program began in June 2003. As GEN Shinseki left his position as CSA and the realities of two prolonged counterinsurgency (COIN) campaigns began to surface, the elements of the original FCS concept began to shift and change in response to the Army's increased commitment to COIN operations. The Army quickly realized emphasis on the FCS redesign was in many ways counterproductive to the COIN fight save for a few technologies like communications and intelligence, surveillance and reconnaissance, which were not only relevant but necessary in the COIN fight.

Also, program requirements for the FCS initiative became more and more unrealistic – namely weight and size requirements of the FCS FoV. Demonstrating a desire to be more agile and lean as a land force (an ostensible "have to have" in the face of the demands of urban warfare), program developers became obsessed with weight and dimension requirements for the FCS FoV. The requirements, or what one developer called "desirements,"[3] became so ridiculous that an initiative to deliver the FCS vehicles directly to the main battle area (or close fight) levied yet another new requirement for the development of a Vertical Takeoff and Landing Aircraft capable of lifting, transporting and delivering a ground-combat vehicle.

Further, a weight restriction of 20 tons (roughly 50 tons lighter than the combat-ready M1 Abrams MBT) related directly to the maximum cargo capacity of the Air Force's C-130 aircraft. Program developers later admitted that the C-130 transport requirement wasn't related to deployment or force-buildup requirements, but was more of a "forcing function" to decrease the weight of the FCS platforms.[4]

The aforementioned data points demonstrate a mere sampling of the many causes of the failure and cancellation of the FCS program. In addition to unrealistic weight requirements, the Army's commitment to Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) forced the Defense Department to tap developing technologies or "spin outs" in support of the wars in Iraq and Afghanistan. This subtracted several technologies from the FCS program to "spin out" and answer the operational needs of OIF/OEF. Although this move by the Defense Department was appropriate and necessary, it diluted the perceptive need to continue development of the FCS program, and it mortgaged the Army's ability to fight and win in major combat on future battlefields.

Familiar threat, familiar need

In the late 1960s and early 1970s, the Soviet Union executed an aggressive armor-development program. The United States' response to this developmental threat equaled acknowledgement that the M48 and M60 series tanks, "while equal to or better in some ways than many Soviet designed and built [MBTs], would never be able to overcome the large imbalance in numbers between the American and Soviet tank fleets."[5] As an army, we began development of what was to become the world's most lethal war platform, the M1 Abrams tank. During a nearly 15-year development timeline, the M1 arrived in armor formations in the early 1980s and began its life as the Army's decisive combat arm. In Operation Desert Storm, combined with the mobility and flexibility of the M2 Bradley Fighting Vehicle (BFV), the M1 proved its worth by outmatching Russian-built T-72 tanks on the battlefields of Iraq.

During the 26 years since the end of Operation Desert Storm, we remember with great nostalgia and pride the effectiveness and lethality of the M1 Abrams MBT. Fortunately, the cyclical nature of warfare once again places us in a position of opportunity to recognize the need for a new decisive combat arm. The Soviet Union is gone, but Russia's desire to regain its place on the geostrategic stage is demonstrated by its weapons-development programs, including the T-14 Armata. The Armata program closely mirrors that of FCS; it only increases the FoV fleet to 28 platforms, with its champion as the T-14 MBT.

Russian defense-media outlets captured through open-source means advertise various capabilities of the T-14 MBT, such as a 125mm main gun, and active-protection systems capable of defeating kinetic-energy weapons and anti-tank guided missiles (at any angle of attack). Furthermore, Russia's defense-media campaign makes claims of "composite armor protection up to 1,200-1,400 millimeters for shaped shells and 1,000-1,100 millimeters for armor-piercing sub-caliber shells."[6] Also, Russian defense developers have a fantastic advantage over the United States by simply seizing the opportunities to apply lessons-learned from the conflicts in eastern Ukraine and Syria.

President Donald Trump's new national security adviser and celebrated member of the U.S. Army Armor

Figure 2. Russia's T-14 Armata MBT.

community, LTG H.R. McMaster, summed it up best when he said, "Russians have superior artillery firepower, better combat vehicles ... should U.S. forces find themselves in a land war with Russia, they would be in for a rude, cold awakening."[7]

Renewed focus

As previously mentioned, the last replacement program for an American MBT began in the late 1960s, and it didn't field a finalized platform to the force until the early 1980s. Although recent information tells us that the M1 MBT series promises to last through the 2030s with continued upgrades, we must recognize that a replacement program that uses the latest material composites for armored protection and modern technology for active-protection systems is the most prescient manner to prepare for the combat environment of the future.

Furthermore, one could easily argue that with the Army's renewed focus on unified land operations – specifically the ability to fight and win in the offense and defense – our defense apparatus is in a better position both ideologically and operationally than we were during the global war on terrorism as it relates to development of a new MBT.

Way ahead

Any resurrection of the FCS program, specifically the development of a new MBT, must offer a decrease of the fantasy that once was FCS and an increase in the reality of our operating environment. Weight and platform movement (intercontinental sea or air lift) must serve as considerations, not debilitating constraints. The current weight of the M1 Abrams MBT (roughly 70 tons) does offer significant limitations to expeditionary capability, so any replacement systems should aim to correct that issue.

We must, however, acknowledge the reality of our situation as a land power. In contrast to potential adversaries (Russia) or competitor nations (China), our design must continually recognize the need for intercontinental deployment while balancing, not wishing away, the natural constraints of an MBT's weight. The requirement to strategically lift large formations of combat power to battlefields far away from the homeland is a constraint we have to endure.

New main gun needed

Development of a new MBT must include a larger main gun. With full acknowledgement that a larger-caliber main gun yields heavier ammunition, development teams should prioritize kinetic killing power while balancing weight and protection requirements. Russia, our main threat topic, aims to extend its tactical reach through long-range weapon systems at both the operational and tactical (as evident by the integration of a 125mm main gun) level. Developers should seek opportunities to leverage the highly effective targeting capabilities of the M1A2 System Enhancement Program V4 to extend the range and lethality of our new MBT's main armament.

Development of command, control, communications, computers and intelligence (C4I) capabilities for the replacement MBT should integrate into pre-existing and joint communications architecture. Furthermore, cross-domain fires for the replacement platform must be at the forefront of the integration of any C4I capability just as in the original FCS design. Again, this effort should not involve building the airplane while it's flying. Developers should be able to tap into pre-established lessons-learned and planning horizons to greatly reduce development and fielding timelines.

Finally, Army Battle Command System integration and improvement must consider the potential for cyber intrusion. The potential for cyberattacks that aim to disrupt and degrade Global Positioning Systems is very real; it must be considered for any replacement combat platform.

Concept to fielding

The original model for FCS fielding called for a brigade combat team (BCT) at a time. This is, of course, a sound and logical way to integrate a new armored platform into our combined-arms battalions. However, the logical starting point is to identify a test brigade housed under 1st Armored Division. The vast training areas provided at Fort Bliss, TX, and the inherent armored-warfare expertise within the division offer the opportunity to test, refine and field a replacement MBT.

The integration of the new MBT into a test armored BCT addresses testing and validation of what will become several hundred conditions required for fieldling the next generation's MBT. Furthermore, fielding horizons should be realistic but not ridiculous or rushed. As mentioned earlier, the fielding timeline for the M48/M60's replacement, the M1 Abrams, took nearly 15 years from concept to fielding. We've already established lessons-learned from two programs (M1, FCS) to mitigate the repeated failures or delays of the past.

With FCS cancellation fees of $350 million[8] fresh on our minds, we must commit to development of this platform and avoid shiny-object distractions such as current operational needs that will disabuse us from preparing to win on future battlefields. Simply put: decrease unrealistic requirements in the short term with a focus on the development of a new MBT, and in the mid- to longer term, identify the opportunity to develop a new mechanized Infantry Fighting Vehicle to replace the BFV. Keep it simple, keep it realistic and win.

Conclusion

As the world's premier land power and decisive operation for the joint force, the U.S. Army's preparation for the next war must include development of an MBT that directly addresses the warfighting capabilities of our near-peer adversaries, both potential and realized. The cancellation of the FCS program was an unfortunate, albeit necessary, measure to enable the continued fights in Iraq and Afghanistan. With that said, we are in a position now to focus on the next war.

The development of the M1 Abrams occurred in direct response to the development of what was then improved Soviet armor. The swift and decisive victory on the battlefields of Iraq during Operation Desert Storm provided our proof of concept for the Abrams. We cannot, however, become entrenched in past successes, creating diminished returns in our current armor capability. We must again recognize the need for a replacement platform

that prepares our Army to win on the battlefields of tomorrow.

Our Army is in a position to enjoy an unprecedented advantage, the likes of which we may not see again; volumes of lessons-learned from not one, but two, programs that aimed to increase the lethality of American armor. Resurrect the MBT portion of the FCS program and look ahead to the development of other combat vehicles so we are ready to win the next war.

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Notes

[1] Andrew Feickert, ***The Army's Future Combat System (FCS): Background and Issues for Congress,*** Congressional Research Service, May 2006.

[2] Ibid.

[3] RAND Corporation, ***Lessons from the Army's Future Combat Systems Program***.

[4] Ibid.

[5] Michael Green***, M1 Abrams Main Battle Tank, The Combat and Development History of the General Dynamics M1 and M1A1 Tanks***, MIL-TECH Series, 1992.

[6] "CER2017011767184814," Moscow VPK Voyenno-Promyshlennyy Kuryer; accessed Jan. 11, 2017 through OpenSource.gov.

[7] Patrick Tucker, "How the Pentagon is Preparing for a Tank War with Russia," ***Defense One*** (on-line), DefenseOne://www.defenseone.com/technology/2016/05/how-pentagon-preparing-tank-war-russia/128460/; accessed Nov. 16, 2016.

[8] Feickert.

Acronym Quick-Scan

BCT – brigade combat team
BFV – Bradley Fighting Vehicle
C4I – command, control, communications, computers and intelligence
COIN – counterinsurgency
CSA – Chief of Staff of the (U.S.) Army
FCS – Future Combat Systems
FoV – family of vehicles
MBT – main battle tank
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom

Army Design Methodology for the Regionally Allocated Battalion

by LTC Christopher S. Mahaffey, MAJ John W. Denney and 1LT Victoria C. Hulm

The Army Operational Concept charges U.S. Army forces to "engage regionally to ensure interoperability, build relationships based on common interests, enhance situational awareness, assure partners and deter adversaries."[1] Since then, that policy has been implemented as regionally aligned forces (RAF).

The 5th Squadron, 7th Cavalry, participated in RAF – along with the rest of 1st Armored Brigade Combat Team (ABCT), 3rd Infantry Division – in Europe during three three- to six-month rotations to several European nations, often as the only U.S. element in-country. Each nation posed a different set of challenges and circumstances in building interoperability, assurance and deterrence, which demanded greater conceptual development than is usual during the military decision-making process (MDMP).

During the squadron's latest rotation to Hungary, 5-7 Cav found that the Army Design Methodology (ADM) was helpful for coalescing the complexity and ambiguity of a regional environment into feasible operational objectives possible for a battalion-level staff to conduct with some modification. ADM was also worthwhile for the focus and synergy produced among commanders and staff despite challenges to effective evaluation and assessment.

We will explore the practical application and limitations of ADM in hopes of providing a guide or inspiration to other regionally allocated battalions.

Background

Before describing what 5-7 Cav did, it's important to show why ADM was used in the first place, to describe briefly what it is and to illuminate the challenges impeding battalion-level application of ADM.

Army Technical Publication (ATP) 5-0.1, ***Army Design Methodology***, provides a helpful section devoted entirely to when to employ ADM. The ATP states, "When problems are hard to identify or the operation's endstate is unclear, commanders may initiate ADM before the headquarters engages in detailed planning."[2] Those conditions applied for 5-7 Cav; its mission in Europe was "Task Force 5-7 Cav conducts unified land operations as part of the [RAF] mission from March 28 to Sept. 14 to improve U.S./North Atlantic Treaty Organization (NATO) force-training readiness, promote regional stability and security, strengthen the NATO alliance and foster trust while improving interoperability with the multinational forces."

The broad mission statement provided a multitude of unanswered questions that required clarification before detailed planning as part of MDMP could begin. What elements of training readiness could 5-7 Cav feasibly improve while in Hungary for ourselves and for our Hungarian allies? What is the state of U.S.-Hungarian relations within the framework of the NATO alliance, and how can 5-7 Cav affect relations positively? Evidently, even at battalion level, conceptual planning was necessary for effective detailed planning.

Within the context of RAF, this should not be surprising. The brigade commanded forces distributed among nine countries, each with different cultures, security relationships and actors. The brigade staff did not have the time or personnel to tailor a specific mission for each battalion, so it relied upon the battalions' disciplined initiative to act within the commander's intent according to the situation's specific needs and opportunities.

While 5-7 Cav and 1st ABCT faced these challenges in Europe, a Strategic

Studies Institute paper articulated a similar challenge in Africa: "[T]he 2nd Brigade, 1st Infantry Division, Soldiers supporting operations in Mali are 2,000 miles from U.S. Army Africa headquarters. The dispersed nature of RAF missions and relatively few communications enablers necessitate an exceedingly clear understanding of commander's intent. When facing unforeseen circumstances far from authority with little supervision, Soldiers must successfully exercise initiative to complete the mission in accordance with the commander's intent."[3]

The 5-7 Cav used ADM to develop the "exceedingly clear understanding of commander's intent" that 2nd Brigade, 1st Infantry Division, had identified and to determine the right areas in which to apply initiative.

Conceptual planning as part of ADM focuses on what to do and why do it rather than how to do it. The latter comes in detailed planning once "what" and "why" have been answered. ADM applies "critical and creative thinking to understand, visualize and describe unfamiliar problems and approaches to solving them"[4] and is followed by MDMP to develop a specific course of action and produce an order.

ADM proceeds through three stages of "framing." The first focuses on the operational environment, particularly the current state and the desired endstate upon conclusion of an operation. Second, framing the problem identifies the differences between the trajectory of the current state and the desired endstate, identified as tensions, which in turn coalesce into "a set of interrelated problems." Finally, the commander details the operational approach, including broad actions and the means to solve identified problems as part of framing the solution.

Doctrinally, each of these frames would include a narrative and visual model developed by a collaborative and diverse team of staff, with input from the commander.[5] A variety of factors normally deters battalion-level organizations from pursuing this process and, indeed, prevented 5-7 Cav from applying ADM as it is doctrinally described.

Battalion-level challenges

Time and personnel are foremost among the challenges to applying ADM at battalion level. ATP 5-0.1 recommends distributing conceptual and detailed planning either in time by conducting one step, then another, or among groups of people by having a planning team for each that collaborates regularly.[6] The 5-7 Cav, like many battalions, did not have the luxury of either.

The squadron entered Hungary following a combat-training center rotation and a major multinational exercise in Poland. Both events consumed 5-7 Cav's staff functions and prevented effective long-range planning. Limited planning conferences before arriving in Hungary also inhibited a shared understanding of the constraints and limitations before the unit actually arrived. In-country, the staff had two subject-matter experts (SME) – an officer in charge (OIC) and a noncommissioned officer in charge (NCOIC) – in each specialty-staff section (S-1, S-2, S-4 and fires). There were four SMEs in operations (the S-3 and his/her assistants). One of the experts per staff section was usually engaged in current operations at any given time, leaving a small contingent focused on planning; this small group could not easily be further divided between conceptual and detailed planning.

Impact of education level

The difference in education between a battalion-level staff and the brigade- and higher-level staffs who normally execute ADM is also notable. Battalion staffs have only three field-grade officers who are formally educated in ADM as part of intermediate-level education and have probably applied ADM as part of a higher staff: the executive officer, S-3 and commander. Most battalions have a handful of post-career-course captains who have received cursory education on ADM but who have no practical experience. Brigade and higher staffs, on the other hand, have greater numbers of field-grade officers who can bring experience and expertise. In contrast, executive officers and S-3s on battalion staffs who execute ADM must educate most of their subordinates about what ADM is before planning can begin.

The 5-7 Cav's response to these limitations on personnel, time and education was to start the process with heavy commander input to give the staff greater direction initially and then proceed with a more structured version of ADM, which achieved the collaboration, creativity and criticality necessary but largely eschewed onerous narratives and visual models.

The commander's input to ADM jump-started the staff to get them moving forward on the three frames of ADM. At the squadron level, the commander must drive the operations process using his/her experience to focus the staff.

The following paragraphs cover that jump-start and follow each frame sequentially before addressing how 5-7 Cav approached reframing and assessing.

Jump-starting ADM

The 5-7 Cav's commander defined for the staff the broad operational approach, which was adapted from the vision he had articulated upon taking command a year earlier. This operational approach identified four lines of effort (LoE), endstates for those LoEs and sample activities for each line (Figure 1). Critically, only one of the identified LoEs actually related to the expressed mission of 5-7 Cav in Europe, "win!" The other three LoEs reflected broader goals that extended beyond RAF. The commander was in the best position to know and articulate those goals.

Portions of the squadron had rotated back and forth to Europe two times during the past year, never spending more than three months at home station. The 5-7 Cav had already spent three months in Europe upon arrival in Hungary. Adequately stewarding morale and personnel readiness as part of the "take care of troopers" LoE was necessary to maintain a capable force.

Similarly, the "train hard and develop leaders" LoE reflected 5-7 Cav's next mission at the National Training Center (NTC), which would begin only six months after returning from Europe. The very limited time at home station to execute a full training progression meant the squadron needed to

Figure 1. Commander's initial operational approach.

capitalize on its time in Hungary to develop crews and teams.

Finally, the "take care of equipment" LoE reflected the need to turn in the European Activity Set equipment before redeployment. Maintaining that fleet to the highest standards possible, despite long supply lines and limited maintenance facilities, preserved the Army's ability to project power in Europe through prepositioned equipment.

Defining LoEs and an endstate prior to fully framing the operational environment and the problem certainly dampened staff dialogue and creativity. Reciprocally, however, it focused the dialogue and creativity of an inexperienced staff onto problems with more structure so less time and effort was wasted on how to begin.

The commander also used the predefined LoEs to task-organize the staff. The "train hard and develop leaders" LoE became the S-3 shop's focus, while the S-1 and fire-support officer took the lead on "win!" with the assistance of the S-2 and the advice of a supporting civil-affairs (CA) team (not co-located with 5-7 Cav). The executive officer, S-4 and squadron maintenance officer (SMO) led the "take care of equipment" LoE. Finally, the operations sergeant major led a group of enlisted representatives from each troop to address the "take care of troopers" LoE since those representatives presumably had the best understanding of what was affecting troopers.

Each of these groups was responsible for the conceptual and detailed planning associated with its LoE.

Framing operational environment

The commander's operational approach did not include a written current state, but before publishing it to the staff, the commander discussed the current state in depth with the primary staff officers to achieve a common initial understanding. Each staff element then conducted its own analysis to determine the current state of the specific LoE.

Each LoE fit to a different type of environment frame. "Train hard and develop leaders," for instance, could be expressed as a matrix of the unit's mission-essential task list (METL) and each task's feasibility in Hungary. "Take care of equipment" did not need further articulation, as the fleet-maintenance status was constantly maintained by the SMO and troop executive officers. A map of stakeholders and issues for the "take care of troopers" LoE (Figure 2) shows areas of convergence where issues have greater impact. The 5-7 Cav troopers consistently brought up pay and mail (in other words, connection with home) to the chain of command as areas of concern that reflected important convergence areas between troopers and their families.

"Win!" represented the most complex LoE because it focused on relationships and perceptions of Hungarian, American and other foreign actors. Figure 3 shows a map of those actors, relationships and media. "Assurance" and "deterrence" required 5-7 Cav to have a positive effect on the Hungarian government, Hungarian public and other European nations – within and out of NATO – indirectly through second-order relationships and media. Interoperability was achieved by the direct military-to-military interaction between 5-7 Cav and Hungary's 2nd Battalion, 25th Infantry Brigade. Although 5-7 Cav never created a definitive narrative on the current operational environment, the staff achieved a common

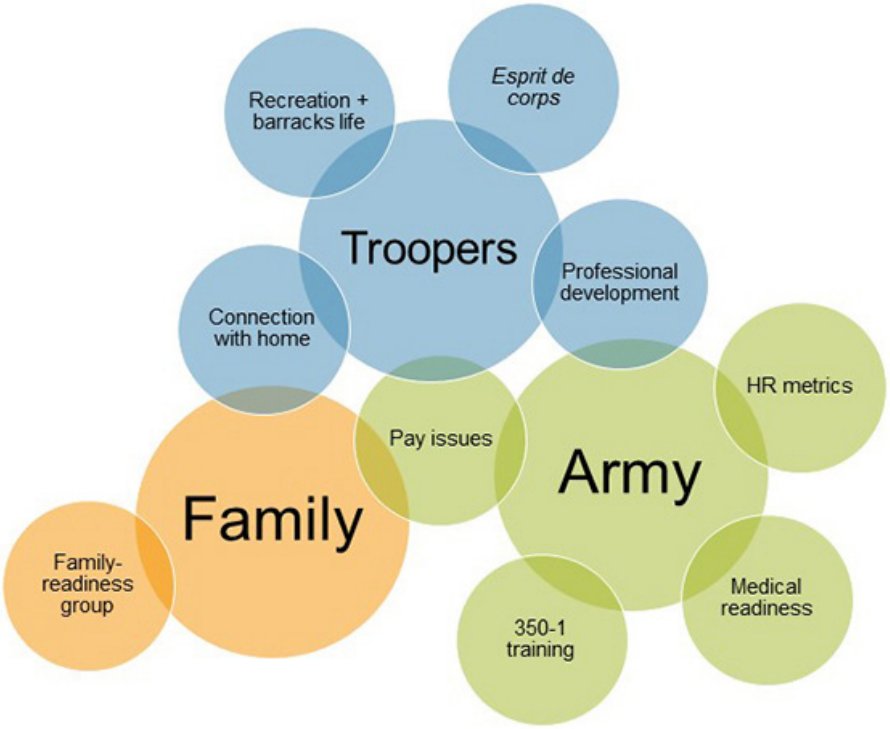


Figure 2. "Take care of troopers" environment frame.

understanding of the current state through group discussions.

This common understanding also reflected the basics of 5-7 Cav's initial relationship with the relevant actors as well as some projection for how the environment would trend. The Hungarian military was very interested in working with U.S. forces, so those relationships would likely trend positive even without concerted effort. Local-populace support, on the other hand, was initially positive but could trend negative with mundane events (for example, minor traffic accidents with logistics convoys or cultural disapproval of off-duty troopers) if 5-7 Cav did not make an effort to induce positive interaction and mitigate risk. Amid many other distracting operations, brigade and higher headquarters would likely notice only negative events if not actively induced to see 5-7 Cav's positive efforts. The other three LoEs largely represented internal readiness, which would naturally atrophy if not maintained.

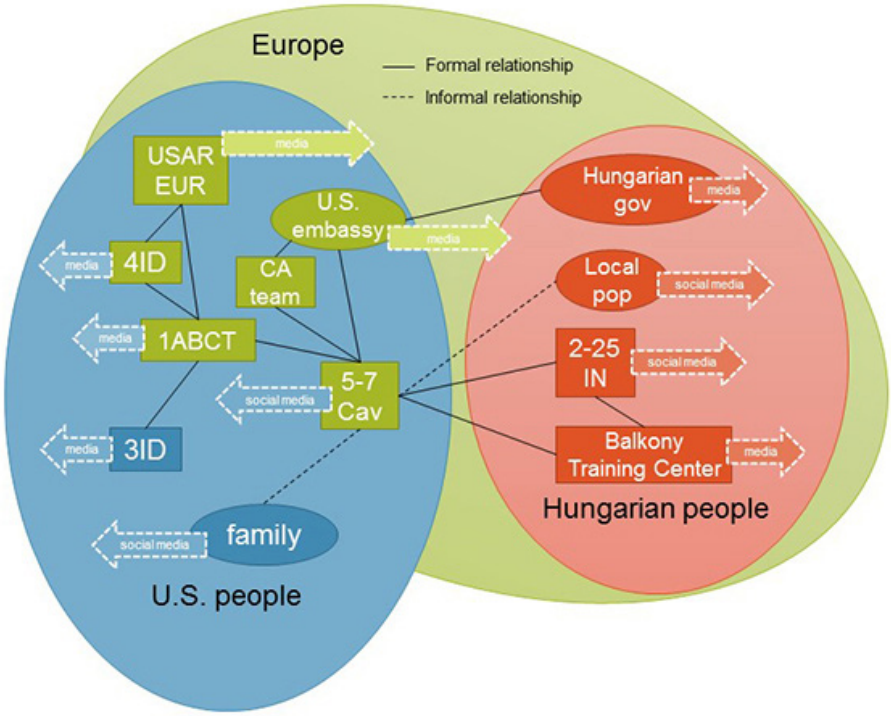


Figure 3. "Win!" environment frame.

The endstate articulated by the commander's initial operational approach stood largely unrefined at this stage. While framing the solution, more detailed objectives were determined since framing the problem would illuminate the tensions, limiting or changing those objectives.

Framing the problem

Since each LoE distinctly defined current and desired endstates, the differences between those two states, or the problems, were defined independently as well. ATP 5-0.1 describes three types of problems: well-structured, medium-structured and ill-structured. This provides a helpful framework to discuss not only the varied content of each LoE but also the varied natures. Well-structured problems are easy to identify and can be solved by perfecting an established technique. In contrast, medium-structured problems have a higher degree of interactive complexity, so while the problem may be easily identified, solutions will have to be adjusted to changing conditions. Finally, ill-structured problems are the most complex and dynamic, so leaders may disagree on the characteristics or even feasibility of the desired endstate and on the nature of the problems.[7]

"Train hard and develop leaders" was 5-7 Cav's most well-structured problem. The problem was self-evident: 5-7 Cav needed to train METL tasks relevant to the direct-action environment at NTC while incorporating the available Hungarian units. Success required application of routine planning for training. Challenges in execution, such as a lightning strike that disabled the target-control mechanisms on the Hungarian gunnery range, were addressed by simply reassessing which training objectives were feasible and prioritized

and adjusting orders appropriately.

On the other hand, challenges in execution transformed the well-structured "take care of equipment" LoE to a medium-structured problem because those challenges changed the nature of the situation. For reasons transparent to and above 5-7 Cav, supplies (including parts for all vehicles) were not delivered in a timely manner to 5-7 Cav's forward-support troop located at a nearby airbase. As a result, 5-7 Cav had to transport supplies across almost 400 miles and two international borders from Germany to maintain its equipment but without abandoning force protection or straining Hungarian tolerance of military vehicles on civilian roads. Success in this LoE required adapting and perfecting the solution over time.

The remaining two LoEs were ill-structured, presenting high degrees of both structural and interactive complexity. The problems with "take care of troopers" were often niche and unconnected in and of themselves. In aggregate, however, the problems compounded to exacerbate troopers' experiences. For instance, the contracted laundry service was unaccustomed to such large volume so troopers experienced delays in service and lost or damaged items. After field exercises in Germany and Poland, many troopers arrived in Hungary with damaged uniforms. Mail did not arrive in Hungary for many weeks so troopers had very few serviceable uniforms without any prospect of replacing them. In this way, unrelated causes had very related consequences.

A myriad of other challenges with similar complexity depressed trooper well-being, but success in this LoE was difficult to define, much less achieve, since trooper welfare was essentially subjective and uneven across the squadron.

"Win!" represented the most quintessential ill-structured problem of all. Leaders within the squadron disputed whether a battalion-sized element could achieve deterrence, assurance or interoperability, much less how to pursue any of them. Although challenges to assessment will be covered in greater depth following, refining understanding of the problem and applying adaptive iteration as prescribed by ATP 5-0.1 was severely handicapped by 5-7 Cav's inability to assess assurance, deterrence or interoperability. The 5-7 Cav had only subjective assessments from various leaders to judge the status or progress in these areas. Subsequently, the staff's understanding of the operational environment shown in Figure 1 barely changed or developed during the two-month rotation. More important, the tensions around developing assurance, deterrence and interoperability in Hungary never became clear, which prevented 5-7 Cav from developing a targeted solution.

Framing the solution

Framing the solution creates the conceptual plan to address the tensions identified in the "framing the problem" step in the form of an operational approach. ATP 5-0.1 provides several intermediate steps to match problems with solutions, most of which do not apply in a RAF environment. RAFs generally deploy to areas that lack an adversary and already experience a stable peace. Therefore, RAFs can forgo identifying decisive points, defeat mechanisms and stabilization mechanisms. Centers of gravity, however, remain a useful construct for assessing

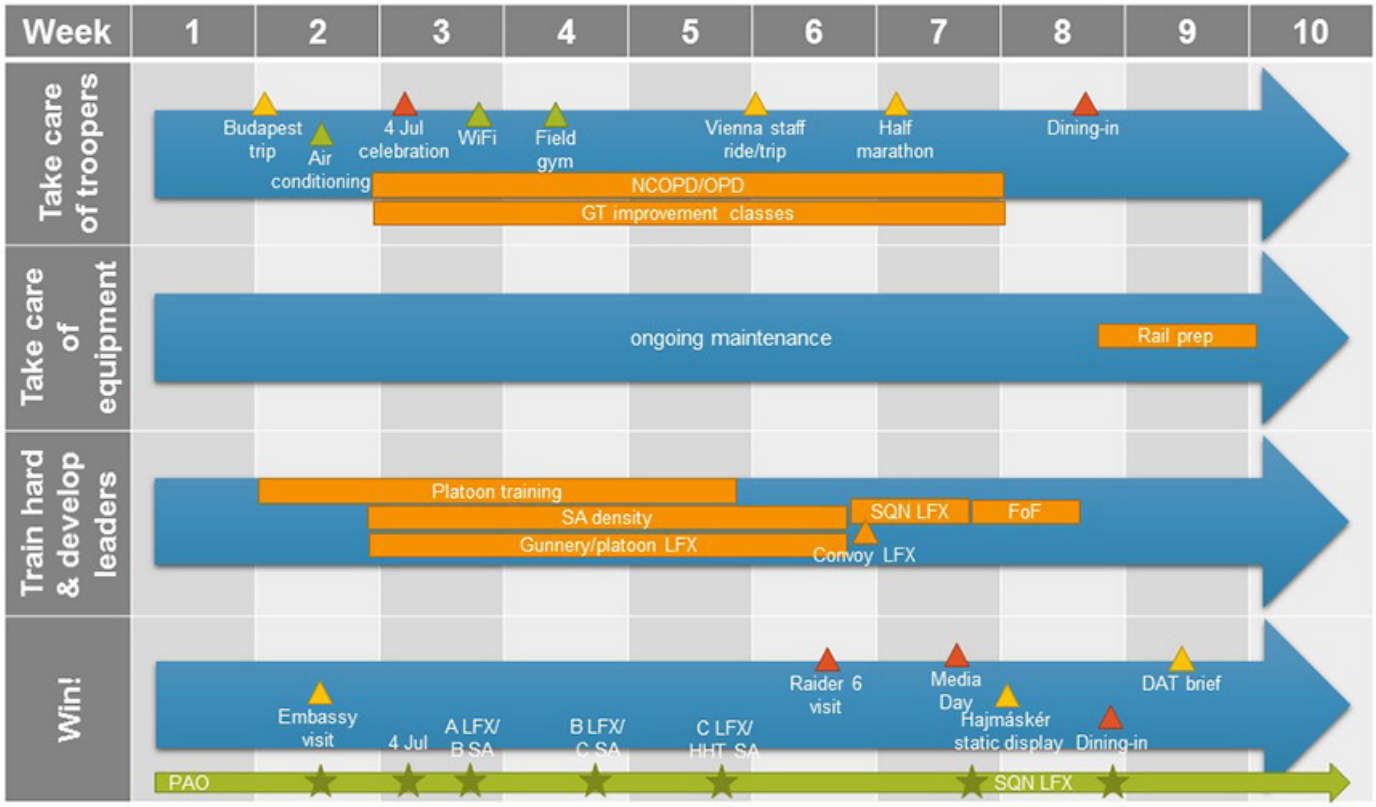


Figure 4. Detailed operational frame.

priorities in some LoEs, if not in all circumstances. As discussed previously, the convergence of family and trooper interests was the center of gravity for the "take care of troopers" LoE, which led to mail and pay issues becoming priorities. In the initial iteration of framing a solution, however, many of these issues were unknown and would only come to fruition in time.

For the ill-structured LoEs, the solution was so vague, diverse or unidentifiable that 5-7 Cav bypassed framing a linear solution and instead identified discrete objectives that the staff judged would help move toward the desired endstate. Figure 4 shows an operational approach from the beginning of 5-7 Cav's rotation after the staff elements added supporting objectives plotted over time. This approach did not give the intellectual comfort of a neat narrative moving the unit progressively closer to its endstate. However, the chart did help the staff visualize tempo across all the LoEs and did aid them in seeing how phases would shift focus among LoEs. Initially, a lot of focus was devoted to improving trooper quality of life so that efforts in that area could be enjoyed for the maximum amount of time.

During 5-7 Cav's time in Hungary, the most effort went to "train hard and develop leaders" and "win!" However, during the last week before rail operations to take the squadron back to Germany, the focus shifted exclusively to "take care of equipment." In this way, the staff visualized the solution to the well-structured problem, then identified where there was space and time to include support for the ill-structured problems that lacked a clear solution.

Assessment and reframing

The solution frame did not remain constant, especially as the problems that needed solution evolved as opportunities were presented. To reap the full benefit of ADM, 5-7 Cav incorporated it into the squadron's regular battle rhythm. Partially because the staff was broadly unfamiliar and uncomfortable with ADM, 5-7 Cav implemented reframing as a more familiar cycle: targeting. Each supporting objective was recast as a target,[8] and each staff element created a target-synchronization matrix, reflecting its LoE's targets (Figure 5).[9] Detailed information on each target was displayed as a baseball card (Figure 6).[10] As each event, activity or initiative differed so widely from every other, no two baseball cards looked the same, but most contained a timeline, description and graphic or photograph. Commonly, they also displayed requests for information and coordinating instructions for tasking subordinate units. Each target had its own OIC, usually from within the staff element responsible for the applicable LoE. The OICs conducted their own open-source research and coordination with the Hungarian military or civilian authorities to develop their target, create a plan and produce supporting products (for example, concept of operations, strip map or biographies on key personalities).

Working groups for each LoE were held every week, where OICs briefed their progress. All the members validated targets for operational feasibility and for compliance with the desired endstate. These working groups could nominate new targets or brainstorm improvements to ongoing initiatives for presentation at the weekly targeting decision briefs. The squadron commander chaired targeting decision briefs and held final authority over whether a nominated target would be executed, altered or discarded. Since all LoEs came together during targeting decision briefs, these also represented opportunities to coordinate and share information across LoEs.

Furthermore, the squadron's Public Affairs representative, the CA team devoted to Hungary and a representative from Hungary's 2-25 Infantry were invited to participate in the "win!" LoE targeting meetings and the target decision briefs. Although 5-7 Cav did not control these organizations, including them in the process not only shared information and brought new insights into 5-7 Cav's operations but also provided a way to shape these stakeholders' actions to unify all efforts.

While a deliberate reframing never took place, the commander used the

"Win!" targets							
Decide		Detect		Deliver		Assess	
Target	Target number	Asset/OIC	Location	Date	Delivery unit	Measure of performance	Measure of effectiveness
Raider 6 visit	AR7050	1LT Smith	Camp Ujmajor	July 27-29	5-7 Cav	Training exercises observed out of those planned	Feedback from Raider 6
Air Force Day	AR7080	1LT Jones	Central Training Area	July 27	5-7 Cav		
Ambassador visit	AR7060	1LT Smith	Central Training Area	Aug. 8, 9, 11	5-7 Cav	Training exercises observed out of those planned	Feedback from ambassador or members of her staff
Static display	AR7025	1LT Jones	Hajmáskér	Aug. 12-13	Troop C	Personnel and vehicles present out of number requested	Response from Hungarians through social or traditional media
DAT visit	AR7065	1LT Smith	Central Training Area	Aug. 8, 9, 11	5-7 Cav		Feedback from DAT
DAT outbrief		1LT Smith	U.S. Embassy in Budapest	Aug. 23	5-7 Cav		

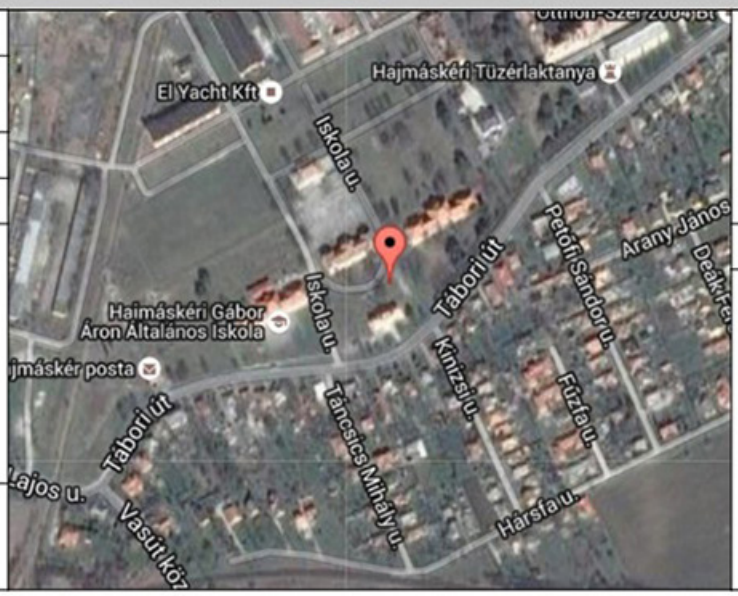
Figure 5. Targeting synchronization matrix for "win!" LoE targets.

AR7025: Hajmáskér Static Display

Troop: Crazyhorse	
Who	SCO, CSM, 1 BFV, 1 humvee, 2 HDV vix
When	Aug. 12-13
Where	34T BT 83264 31557

Timeline:
Aug. 12
1700 – opening ceremony
Aug. 13
0800 – roads closed
0845 – vehicles staged
0900 – SCO speech
1300 – vehicles depart

RFIs:
1. BFV, humvee signs
2. Interpreters



photo

Mayor X

Status

Vehicles

Personnel

Signage

Interpreters

Aug. 12: SCO and CSM attend opening ceremony at Hajmáskér Museum followed by dinner and a toast. HDF soldiers will attend, along with several other organizations, including a community outreach and battle re-enactors.
Aug. 13: CAteam is coordinating with local police to shut down the road from 0800-0830 to allow 1 BFV, 1 humvee, and 2 HDF vehicles to drive into town with a police escort. Primary route uses tank trail from CTA to the Hajmáskér Museum (about 600 meters). Lunch will be provided for seven U.S. troopers.

Figure 6. "Target" baseball card.

daily update briefs, including open-source intelligence and troop-commander feedback, to shape his and the staff's mental running estimates. During weekly targeting meetings, the mental running estimates of everyone involved fed group discussion and reshaped the common understanding of the operational environment, problems and 5-7 Cav's impact.

Benefits and limitations

The limitations to creativity and criticality of 5-7 Cav's implementation of ADM cannot and should not be ignored; however, the focus, collaboration and synergy achieved overcame any drawbacks to ADM. Simply conducting ADM provided valuable training to the staff.

Starting with the initial operational approach prevented the staff from producing a truly innovative or fresh approach. The commander applied his philosophy and mental framework to the situation, which, while efficient, curtailed the unassuming, collaborative brainstorming that usually underpins design. In 5-7 Cav's situation, this shortcut was likely necessary to bring the staff to workable frames in the time available. Battalion commanders need to take a more active role in guiding staff work than their brigade or division counterparts due to the inexperience of their staffs. Home-station practice on ADM may empower the staff to apply broader creativity and produce a shared understanding of design or to begin framing the operational environment and its problems in the RAF environment.

Critical thinking was limited by two distinct forces. First, objective assessment of the ill-structured LoE was practically impossible. Using the "win!" LoE as the most potent example, deterrence relies on creating an impression on an adversary, but 5-7 Cav had no means to collect or process outside intelligence that would illuminate the impressions of adversaries. Without language proficiency, 5-7 Cav could not monitor any media, even in the local area, to gauge assurance. The only feedback mechanism was through English-speaking Hungarian officers and NCOs, who were uniformly friendly to the U.S. presence. Second, without an oversaturation of events or initiatives to prompt prioritization, 5-7 Cav made no concerted effort to create a subjective assessment standard.

During a 2014 RAF mission in Kuwait, 2nd Brigade, 4th Infantry Division, used a similar targeting-style process to the one 5-7 Cav implemented but developed a matrix for each event, assigning numerical values based on several characteristics. These were then totaled to create a qualitative score for each event.[11] Although the creation of the matrix was subjective, applying the same standard across all events provided a level of objectivity not otherwise present. Without an available or fabricated assessment mechanism, 5-7 Cav never re-evaluated its initial understanding of the environment or assumptions, which may have prevented the squadron from recognizing the need or opportunity to adapt.

Despite the lack of effective assessment, 5-7 Cav succeeded in remaining focused on the endstates of every LoE. Even to the end of the rotation, the squadron continued to seek and capitalize on opportunities to improve relations with the Hungarians and to build assurance, deterrence and interoperability to the best of our understanding. The ADM kept 5-7 Cav from

Figure 7. SPC John Boyle, 5-7 Cav, meets a Hungarian girl and her family during his unit's static display at a village festival Aug. 14, 2016, in Hajmáskér, Hungary. *(U.S. Army photo by SPC Ryan Tatum, 1st ABCT Public Affairs Office)*

doing only the measurable things: maintaining equipment and improving internal training readiness. While items appearing on quarterly training briefs are the proverbial low-hanging fruit, resisting the temptation to only improve home-station statistics instead of maximizing benefit across all LoEs made ADM, even in its limited form, worthwhile.

Furthermore, battle-rhythm events built around LoEs kept the staff communicating with one another and synchronizing efforts. Incorporating enlisted troop representatives in the "take care of troopers" LoE broadened that collaboration beyond the staff and commanders, and it discernably improved the squadron's situational awareness. Finally, each targeting decision brief included troop command teams so that not only was the squadron commander providing input and direction to the staff, but troop commanders could also articulate their needs and concerns in the same forum. In aggregate, these interactions produced a combined effect greater than each staff element could have individually.

Beyond the benefits during the RAF rotation, conducting ADM and a modified targeting cycle produced valuable experience to those involved. Rather than applying an *ad hoc* process to each environment, the staff and troop command teams experienced planning and operations in ways they can easily apply in other environments. Much has been made in this article of the inexperience of battalion-staff captains and lieutenants, but those same Soldiers moved forward from this rotation with insight and practice they can take to the next mission and to their next battalion.

Conclusion

Operating in a regionally aligned environment challenges each unit to adapt to that location's unique culture and set of actors, to pursue lofty strategic goals that are difficult to observe at a tactical level and to perform beyond the planning support of higher headquarters. ADM helps develop the conceptual understanding needed to transform this complexity into a coherent operational approach. The 5-7 Cav's experience demonstrated that ADM is feasible for a battalion staff to execute. Although that execution sacrifices some criticality and creativity, synergy among a focused staff collaborating with Soldiers and command teams produced a level of success that not only made ADM worthwhile to 5-7 Cav, but also makes it worth repeating by other units in other environments.

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1LT Victoria Hulm is the assistant S-2 officer of 5-7 Cav. Her military schools include the Military Intelligence Basic Officer Leadership Course. She has a bachelor's of science degree in mechanical engineering from the U.S. Military Academy.

Notes

[1] U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-3-1, ***The U.S. Army Operating Concept: Win in a Complex World***, Fort Eustis, VA: Headquarters TRADOC, October 2014.

[2] ATP 5-0.1, ***Army Design Methodology***, Washington, DC: Government Printing Office, 2015.

[3] LTC Mark B. Parker and John A. Bonin, "RAF and Mission Command," ***Carlisle Compendia of Collaborative Research***

(2015), accessed Nov. 12, 2016.

[4] ATP 5-01.

[5] Ibid.

[6] Ibid.

[7] Ibid.

[8] ATP 3-60 (Field Manual 3-60), ***Targeting***, Washington, DC: Government Printing Office, 2015, defines a target as "an entity or object that performs a function for the adversary considered for possible engagement or other action." This article continues to use the word "target" to clarify the relationship with the doctrinal targeting process, but the "targets" encountered by 5-7 Cav and all RAF are not entities or objects of an adversary. Other words such as "engagement" or "event" could be used in place of "target."

[9] ATP 3-60.

[10] Ibid.

[11] MAJ Timothy Gatlin, CW3 Christopher Meekins and CW2 Daniel Padilla, "Targeting in Support of a Regionally Aligned Force," ***Fires***, July-August 2014 edition.

Figure 8. SSG Aaron Brewster, 5-7 Cav, acts as a "safety" for a 2nd Battalion, 25th Regiment, Hungarian Defense Force (HDF) soldier during a stress shoot June 14, 2016, that incorporated both Hungarian and U.S. Soldiers at the Central Training Area in Hungary. *(U.S. Army photo by SPC Ryan Tatum, 1st ABCT Public Affairs Office)*

Acronym Quick-Scan

ABCT – armored brigade combat team
ADM – Army Design Methodology
ATP – Army techniques publication
BFV – Bradley Fighting Vehicle
CA – civil affairs
CGSC – Command and General Staff College
CTA – central training area
HDF – Hungarian Defense Force
HR – human resources
ID – infantry division
IN – infantry
LoE – line of effort
METL – mission-essential task list
MDMP – military decision-making process
MMAS – master's of military art and science
NATO – North Atlantic Treaty Organization
NCOIC – noncommissioned officer in charge
NTC – National Training Center
OIC – officer in charge
PAO – Public Affairs Office
RAF – regionally aligned forces
SCO – squadron commander
SME – subject-matter expert
SMO – squadron maintenance officer
USAEUR – U.S. Army Europe

The Reconnaissance and Security Strike Group: a Multi-Domain Battle Enabler

by MAJ Nathan A. Jennings

When the U.S. Army reorganized its final armored cavalry regiment (ACR) in 2011, it divested its institutional capability to enable corps maneuver with forceful reconnaissance and security (R&S) at the operational level of war.

Designed as relatively independent brigade-sized formations that included tanks, mechanized scouts, self-propelled artillery and organic aviation, storied units like the 2nd, 3rd, 11th and 14th ACRs became iconic symbols of U.S. military power across the plains of Europe, jungles of Indochina and the deserts of Mesopotamia.[1] Throughout the Cold War and the 1990s, the unique commands employed advanced combined-arms integration to, as stated by BG John Kolasheski, the Army's 50th Chief of Armor, "fight and win decisively across the full spectrum of conflict as part of the joint force."[2]

Arguments for the recreation of ACRs typically center on their outsized impact during major combat operations. However, in addition to enabling corps-level attacks across theater depth during multi-domain battle, more expansive arguments can demonstrate how modernized versions of the regiments – perhaps reconceptualized as more dynamic R&S strike groups (RSSG) – could empower joint efforts across the simultaneous phases of *shape*, *deter*, *seize initiative*, *dominate*, *stabilize* and *enable civilian authority*.[3] Combined-arms teams with cross-domain capability could provide enhanced flexibility in diverse operations ranging from military engagement to limited contingency response; defeating adversaries by fighting for information and providing freedom of maneuver will remain critical.

Versatile RSSGs would be suited to "penetrate denied areas for the rest of the joint force" while having the agility to "operate in all domains simultaneously,"[4] said GEN Mark Milley, 39th Chief of Staff of the Army. As the vanguard of American landpower, they would supplement armored brigade combat team (BCT) rotations through Europe and East Asia while providing a permanent forward presence to achieve enduring partnership as a primary regionally aligned force (RAF). Second, the concept would augment the Army's excursion initiative to temporarily task-organize BCTs to serve as dedicated R&S elements. A modernized cavalry force optimized to fight for information and allow freedom of maneuver would achieve deeper expertise as the "eyes and ears" of joint-forces commands.

Cross-domain capabilities

Modernized RSSGs would combine traditional strengths with emerging technologies. Improving on the ACR, its core would comprise three armored-cavalry squadrons designed to fight dispersed under group control or individually detach to support divisions. Each RSSG would control three cavalry

troops with mechanized scouts, tanks, unmanned aerial surveillance and mortars to allow "hunter-killer" reconnaissance, a tank company to provide overmatch, engineers for mobility and self-propelled cannon in direct support.[5] As described by LTG H.R. McMaster, COL Mark Elfendahl and LTC Chris McKinney in their ***Foreign Affairs*** article (May-June 2013 edition, https://www.foreignaffairs.com/articles/north-america/2013-04-03/why-us-army-needs-armor), "Why the U.S. Army Needs Armor," they would have the combat power to "fight their way through long-range weapons fire and gain physical contact with hard-to-find opponents" while striking enemies "from unexpected directions with multiple forms of firepower."

While armored squadrons would employ maximum mobile protected firepower to fight forward and dispersed, the RSSG's true value in joint operations would stem from emergent cross-domain capabilities. Beginning with indirect fires, it could include a multi-faceted artillery battalion with direct control of two long-range rocket batteries and an air-defense company while coordinating self-propelled cannon fires in support of each squadron during dispersed maneuver. This seamless integration of complementary fires assets – exceeding the capabilities of the ACRs – would allow massed or distributed fires in support of scouts who are reconnoitering at extended distances. When integrated with corps and joint fires, the group would operate semi-independently while allowing supported commands to economize resources.[6]

The inclusion of an organic aviation squadron would represent a second area where the RSSG would emulate and surpass ACR capabilities. The formation would first employ three Apache troops to reconnoiter in support of ground scouts and armor. It could also include an attack company to increase lethality, an air-assault company to allow modest insertion capacity and a lift company to facilitate responsive logistical or personal movement. Finally, to extend operational reach, the squadron would control, on behalf of the group commander, Gray Eagles with missiles and long-range sensors.[7] These capabilities, with integrated air traffic services support, would enable the command to, as mandated in the Army Operating Concept, "dictate the terms of operations" and "seize, retain and exploit the initiative."[8]

The inclusion of a multi-domain squadron with intelligence, signals and electro-magnetic capabilities would expand capacity to dynamically "shape the deep fight," while synchronized direct, indirect, aerial and joint fires would prove critical in dominating enemy disruption zones. This would include a company to enable human- and signals-intelligence collection and analysis at group and squadron levels, a company to train and allocate intelligence-support teams to cavalry troops and tank companies, and a company to facilitate integrated electronic warfare. These capabilities – in addition to network operations to enable dispersed mission command and attached cyber, space and informational capabilities – would enable expanded cross-domain fire and maneuver.

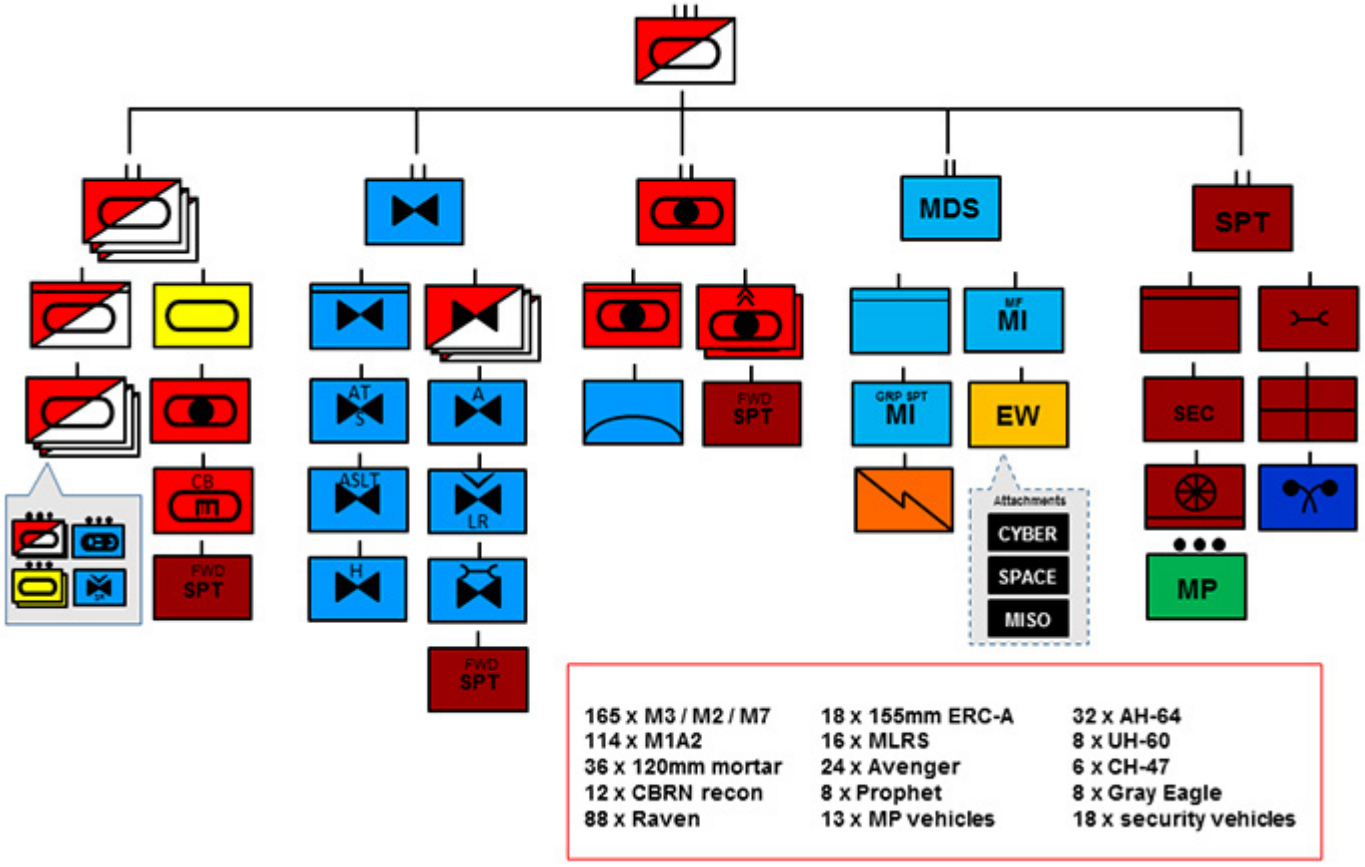

Figure 1. Objective RSSG organization.

The entire RSSG, as a high-tempo combined-arms team, would include a sustainment squadron tailored to facilitate extended lines of communication for seven to 10 days. By fielding a distribution company to conduct forward resupply, a field-maintenance company to ensure equipment readiness, a medical company to provide Role II-plus care, a chemical company to execute reconnaissance and decontamination and forward-support companies for supported squadrons, the command would provide multifunctional logistics across the group's area of operations while enabling more than 300 kilometers of operational reach by forward air, ground, cyber and electronic scouts. With an organic security company and internal aerial surveillance, the squadron could secure convoys while "pushing" logistics to dispersed formations.

This array of capabilities would consequently allow RSSGs to enable corps or joint commands to dislocate complex defenses through high tempo and forceful information collection and counter-reconnaissance. The integration of diverse enablers – including cyber, electronic, indirect and aerial fires – would reflect a 21st Century approach to conducting aggressive zone, area and forcible reconnaissance or contested screen, guard and covering assignments. The ability to detach squadrons to support modest joint task forces in disparate theaters would likewise mitigate the capabilities gap left by the demise of division cavalry in 2004.[9] With cross-domain optimization, the group would offer an agile formation to bridge air and land component efforts across theater depth during unified land operations.[10]

Joint expeditionary operations

The potential operational impact of RSSGs can be assessed according to potential contributions during joint efforts across the doctrinal phases of theater engagement. Moving beyond appreciation of the ACR's outsized, but relatively narrow, impact in large-scale offensives as experienced in the Persian Gulf, an expansive conception of how modernized air-ground teams could support multi-domain battle across broader ranges of operations is more applicable. In this context, forward positioned RSSGs would enable the U.S. Army, as described by GEN David Perkins, the 15th commander of the U.S. Army Training and Doctrine Command (TRADOC), to "combine sufficient cross-domain fires" to "enable decentralized ground maneuver and the creation of durable domain windows for the joint force."[11]

The first phase of joint expeditionary operations, according to joint doctrine, focuses on continuously shaping the enduring security environment by "influencing adversaries' and allies' perception" and "providing U.S. forces with peacetime and contingency access."[12] RSSGs with cross-domain capabilities would serve as ideal forward elements to conduct these enduring activities due to unique pairing of traditional strengths with emerging technologies. As a ground formation permanently assigned to combatant commands – as opposed to BCTs that continuously rotate and unavoidably disrupt continuity of partnership – they would routinely cooperate with a variety of theater elements while supporting allies according to RAF assignment.

The RSSG's potential for shaping evolving theater environments finds ready precedent. As an example, 14th ACR provided theater R&S capability along West Germany's borders throughout much of the Cold War. For more than 23 years, as the U.S. military defended Europe against potential Soviet aggression, it covered the U.S. Army's V Corps and the Third German Corps with an evolving armament of aerial and armored platforms at famed places like the Fulda Gap.[13] While American joint forces have now embraced an expeditionary approach with fewer formations stationed abroad, the same model of employing forward RSSGs to execute security-cooperation activities would allow commands to shape favorable conditions with an air-ground team resourced to conduct dispersed operations.

The second phase of joint expeditionary operations is designed to "deter an adversary from undesirable actions because of friendly capabilities and the will to use them."[14] While armored BCTs own premier ability to threaten military response, RSSGs would offer a similarly intimidating mechanized profile with enhanced integration of enablers. Posturing the groups to serve as lead elements for forward joint commands would imply willingness to defend politically or operationally important terrain while providing a covering force for follow-on divisions during coalition mobilization. The return of memorable cavalry lineages to the forefront of American power projection, if publicized as a demonstration of national resolve, would also signal concrete intent to support allied nations against belligerent regimes.

This strategic deterrence is exemplified by the current rotations of armored BCTs in Europe, the Middle East and East Asia. Operation Atlantic Resolve, for example, has evolved to include the positioning of mechanized task forces in former Eastern Bloc states to deter Russian aggression. As argued by McKinney, Elfendahl and McMaster, such formations "are well suited to seizing terrain and exercising control over populations and resources" and "are critical both to deterring aggression and to winning conflicts when deterrence fails." However, rather than rotating BCTs or relying on temporary R&S brigades, forward strike groups would be uniquely suited – by structure, training and specialization – to permanently conduct this mission in concert with infantry and Stryker units already on the continent.

RSSGs would prove irreplaceable when joint forces seize initiative at the onset of major combat operations as they enable shaping and deterring efforts. As the lead ground element for corps or theater armies, they would fulfill combatant commands' requirements to "gain access to theater infrastructure and expand friendly freedom of action" by "creating and exploiting temporary windows of advantage," Perkins wrote. The group's lethality and survivability would prove critical in penetrating and dislocating challenging area denial networks, and their expertise in facilitating a complex array of cross-domain fires would bridge air and land component efforts. Whether attacking or defending, the RSSGs would contribute to "setting the conditions for decisive operations" in the next phase.[15]

The success of 2nd ACR in Operation Desert Storm in 1991 provides a historical example of a large air-ground team enabling higher echelons to seize initiative during forced entry. When the U.S. Army's VII Corps enveloped the Iraqi Army's western defenses in a sweeping attack, the regiment rapidly advanced, destroyed two brigades of the Tawakalna Division and opened the way for follow-on divisions to annihilate the Iraqi Republican Guard. The robust cavalry formation – serving in its doctrinal role to shape advantageous conditions across its parent command's "deep fight" – combined the superior target-acquisition capabilities of M1 Abrams tanks and M3 Cavalry Fighting Vehicles with self-propelled artillery fires to validate the ACR concept.[16]

The most decisive phase of joint expeditionary efforts usually occurs when ground forces dominate their opponents through multi-domain fire and maneuver. This synchronized action requires aggressive scouts to fight through adversary "recon-strike" networks to dislocate networked architecture and blind opposing commands. As described in Joint Publication (JP) 3-0, ***Joint Operations***, operational success during offensive maneuvers "depends on overmatching enemy capabilities at the critical time and place" on the battlefield.[17] RSSGs, as the most mobile of all brigade-sized ground formations, would excel at fixing enemy forces, passing friendly divisions through to attack and guarding the flanks of corps and armies during multi-domain battle. This ability would stem from its unique ability to fight with minimal support for extended durations.

The American mechanized-cavalry groups (MCG) of World War II illustrate how dedicated R&S elements can enable a corps during large-scale maneuver. The 3rd MCG, antecedent of 3rd Cavalry Regiment, supported the XX Corps of LTG George Patton's Third Army with a variety of jeeps, armored cars and light tanks during its advance through France, Belgium and Germany during World War II. By fighting for information, protecting flanks and occasionally attacking, the Brave Rifles enabled their higher command to seize positions of advantage against Nazi adversaries.[18] According to XX Corps campaign history, the group, "by a series of dashes, lightning changes of direction and sometimes plain, ordinary bluffing ran the gauntlet of enemy strongpoints."[19] Though lacking the lethality of later ACRs, the MCGs that fought across Europe demonstrated a potential value of RSSGs.

Once major combat operations are complete, U.S. military forces, according to typical joint-phasing sequence, seek to "establish a safe and secure environment" while restoring "political, economic and infrastructure stability."[20] While stabilization efforts in war-torn theaters sometimes favor infantry formations for dismounted patrolling in urban, jungle or mountainous areas, RSSGs could provide unique economy-of-force options to joint commands. RSSGs could secure extended international or ethnic borders, patrol large rural territories or conduct rapid attacks against enemy strongpoints with heavily mined defenses using their tailored combination of mobility, firepower and protection. They would also prove ideal for partnering with dispersed allied units or mitigating critical coalition capability gaps.

The 11th ACR's service in Indochina from 1966 to 1972 provides an example of how RSSGs could enable joint task forces during distributed security efforts. Predominantly equipped with M-113 Armored Cavalry Assault Vehicles and M-48 Patton medium tanks, the Blackhorse Regiment provided the U.S. Military Assistance Command-Vietnam three highly mobile squadrons that specialized in dispersed patrolling, route security and shock assaults. In addition to possessing a "better means of gathering intelligence," GEN Donn Starry later assessed that the unit "had a higher density of automatic weapons, possessed long-range radios and had more aircraft than a mechanized brigade."[21] The 11th ACR would mirror this success three decades later against a similarly challenging guerrilla opponent in Iraq.

The final phase of expeditionary campaigning centers on empowering civilian authorities so American forces can return to shaping security conditions in normalized operational environments. Similar to their amplifying value in stability operations, versatile RSSGs would own the potential to provide economized, yet impactful, capacity for joint and allied commands to control large areas and safeguard transitioning regions. The combined-arms teams would excel at dispersed security-force partnership and border-security operations given their inherent operational reach and advanced sensory integration. These tasks, reflective of historical cavalry missions, would enable, as usually expected during latter stages of expeditionary campaigns, "the civil authority to regain its ability to govern."[22]

The U.S. Army's employment of constabulary regiments from 1946 to 1950 in West Germany illustrates how armored teams have previously assisted in post-war transition. The ***Stars and Stripes*** newspaper explained in 1945 how "highly mobile mechanized security force units, which may prove more efficient for occupation duty than infantry-type troops, will be organized in occupied Germany." It then noted that "using armored cars, tanks, jeeps, motorcycles and other vehicles outfitted with full radio and signal equipment, units will patrol areas and maintain contact with local counter-intelligence corps detachments, military government, German civilian police and occupational-troop commanders."[23] By 1948, as tensions increased with the Soviet Union, the 2nd, 6th and 14th Constabularies reorganized as ACRs (Light) to begin their long service along the Iron Curtain.[24]

Enabling multi-domain battle

The Army's Chief of Staff recently warned that "right now the level of uncertainty, the velocity of instability and potential for significant inter-state conflict is higher than it is has been since the end of the Cold War in 1989-91."[25] Even as American forces shape and deter adversaries, seize initiative and dominate, and stabilize and transition troubled regions, RSSGs could provide a versatile cornerstone for the Army's forward presence. This concept would augment BCT rotations in Europe and East Asia while improving corps and division information-collection and counter-reconnaissance capabilities. In case of an offensive campaign in the Middle

East, a group or individual squadrons could deploy to lead forced entry as the 2nd and 3rd ACRs did during Operation Desert Storm.

Creating regionally aligned RSSGs as the vanguard of American expeditionary operations, while certainly costly, would ultimately facilitate the Army's ability to conduct dynamic multi-domain battle. As argued by the National Commission on the Future of the Army, which suggested increasing heavy-brigade quantities and forward-stationing them to attain higher readiness, "the value of armored forces for conducting major combat operations adds to their value for deterring aggression."[26] Deploying robust air-ground teams with specialized reach, lethality and survivability to contested landscapes would achieve these propositions while demonstrating resolve to defend allies and deter enemies. If ACRs seemingly outlived their utility in 2011, their reinvention as modernized RSSGs could hold the key to their reawakening.

MAJ Nathan Jennings is a student in the School of Advanced Military Studies, Fort Leavenworth, KS. His previous positions include assistant professor of history at the U.S. Military Academy; headquarters-troop commander and cavalry-troop commander, 1st Cavalry Division; security-force platoon leader, 1st Infantry Division; and 19D cavalry scout in 2nd ACR (Light) with Operation Iraqi Freedom tours in Baghdad and Kirkuk, Iraq. MAJ Jennings holds a bachelor's of arts degree in history from Northwestern State University of Louisiana and a master's of arts degree in history from the University of Texas at Austin. His military schooling includes the Maneuver Officer Basic Course, Maneuver Officer Advanced Course, Cavalry Leader's Course and Air Assault and Airborne schools. He won 1st place in the U.S. Army Armor School's 2015 Starry Writing Competition, and he is the author of ***Riding for the Lone Star: Frontier Cavalry and the Texas Way of War, 1822-1865****.*

Notes

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[2] BG John Kolasheski, foreword, ***The United States Army Armor 2017-2018 Training and Leader Development Strategy***, March 2017.

[3] JP 3-0, ***Joint Operations***, August 2011; see Robert Cameron, ***To Fight or Not to Fight? Organizational and Doctrinal Trends in Mounted Maneuver Reconnaissance from the Interwar Years to Operation Iraqi Freedom***, Fort Leavenworth, KS: Combat Studies Institute, 2010, for the 1990s origins of the cavalry-strike-force concept.

[4] GEN Mark Milley, quoted in "Army $40B Short On Modernization vs. Russia, China: CSA Milley," ***Breaking Defense***, Oct. 3, 2016.

[5] Field Manual (FM) 17-95, ***Cavalry Operations***, December 1996.

[6] FM 3-98, ***Reconnaissance and Security Operations***, July 2015.

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[8] TRADOC Pamphlet 525-3-1, ***The U.S. Army Operating Concept: Win in a Complex World***, October 2014.

[9] William Nance, "Lost Sabers: Why We Need Operational Cavalry and How to Get It Back," ***ARMOR***, October-December 2014.

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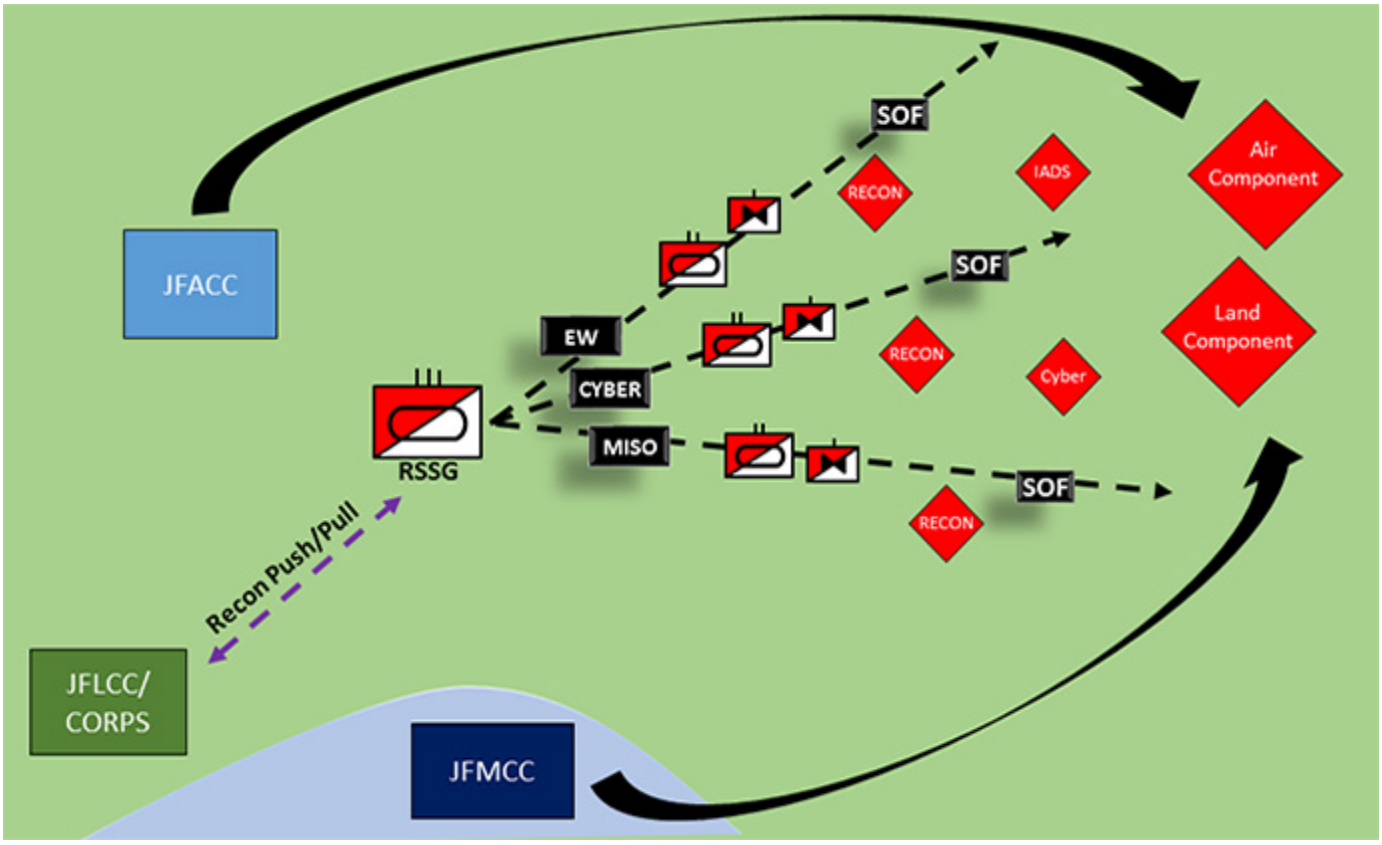

Figure 2. RSSG in multi-domain battle.

[12] JP 3-0.

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[15] Ibid; Perkins.

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[21] GEN Donn Starry, ***Mounted Combat in Vietnam***, Department of the Army, Washington, DC, 1989.

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[23] ***Stars and Stripes***, Nov. 13, 1945.

[24] Sawicki.

[25] Sydney J. Freedberg Jr., "Gen. Milley to SASC: World Getting Worse, Army Getting Smaller," ***Breaking Defense***, July 21, 2015.

[26] ***National Commission on the Future of the Army***, Jan. 28, 2016.

Acronym Quick-Scan

ACR – armored cavalry regiment
BCT – brigade combat team
FM – field manual
JP – joint publication
MCG – mechanized-cavalry group
R&S – reconnaissance and security
RAF – regionally aligned force
RSSG – reconnaissance and security strike group
TRADOC – (U.S. Army) Training and Doctrine Command

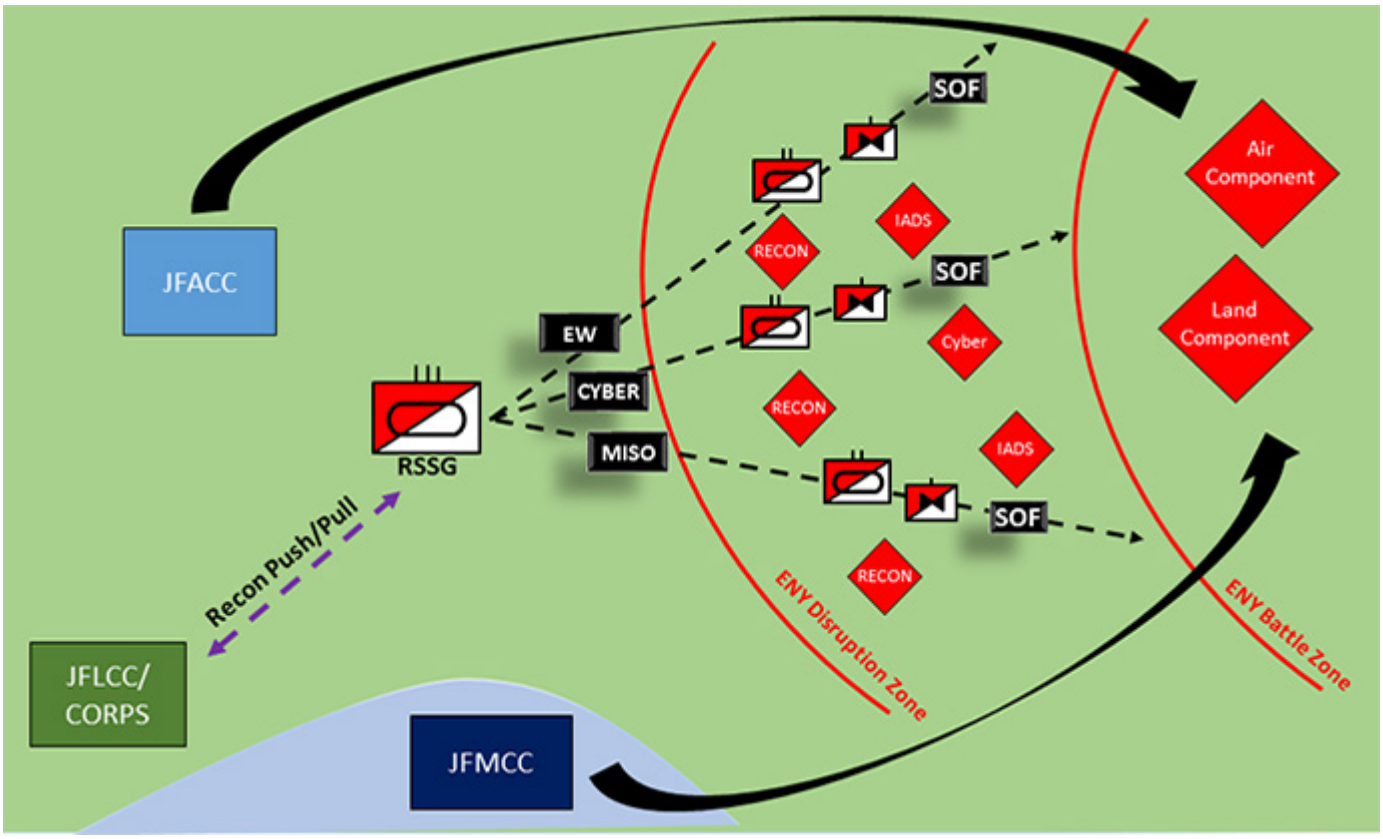

Figure 3. RSSG in multi-domain battle, illustrating enemy disruption zone and enemy battle zone.

Maneuver Leaders' Role in Observation Planning

by LTC Jack D. Crabtree, LTC Jonathan A. Shine and CPT George L. Cass

Fire-support officers (FSOs) at all echelons struggle to get observers into position to observe planned targets. This assessment is based on observations at the National Training Center (NTC), Fort Irwin, CA.

This problem results in planned targets that are tied to fire-support tasks not being serviced or maneuver delayed by fires. Unlike the effort maneuver commanders make finding a useable assault-by-fire or support-by-fire (SBF) position, they put less thought into the observers' location and his or her ability to observe and adjust fires. They think either the FSO will figure it out or the actual observer will move to a better location. The contributing factors are commanders and FSOs not planning the location of observation posts (OPs) to service targets, not understanding the capabilities and limitations of fire-support teams (FIST) and forward observers (FO), and commanders not selecting an appropriate FIST control option.

Inadequate fires planning[1] starts soon after receipt of a mission, since FSOs often do not articulate directed brigade combat team (BCT) or battalion fire-support responsibilities during mission analysis. In addition, they also fail to describe how those fire-support tasks support the higher headquarters' concept of operation. Both enable clarity of nesting plans at echelon. Unfortunately, this shortcoming limits the commander's (and staff's) understanding of the higher headquarters' scheme of fires, including the observer plan.

Figure 1. Soldiers of Company B, 4th Battalion, 6th Infantry, observe fires for an attack under live-fire conditions during a decisive-action rotation at NTC. *(Photo by SSG Joseph Gonzalez)*

The observer plan is further impaired by FSOs who don't incorporate the observer into the scheme of maneuver during course of action (CoA) development prior to CoA analysis. The FSO's time is typically consumed by placing targets on a map with little thought to who, how or when the observer will be in place to observe targets and triggers.

Maneuver battalion and brigade S-3s and executive officers do not require the FSO to attend the wargame armed with this information. They just want to see the fire-support overlay with targets on it. This typically results in the FSO drawing OPs on the operational graphics during or after CoA analysis – and sometimes not at all. No thought is applied to how the observer is going to get there, how long it will take, the effects of limited visibility on optics and other critical factors. The result is positioning and timing of the occupation of OPs that is not synchronized with the maneuver plan. The overall consequence is that fires are not synchronized to facilitate maneuver.

Fire-support capabilities, limits

Currently there are no qualification standards for FIST and FO elements located in a formation that is conducting movement and maneuver. With this understanding, FIST and FO employment is best used when an OP is located on elevated terrain to observe targets within the range of the capability of the fire-support system. Battalion and company commanders/S-3s must understand these factors or they will likely fail to service the targets assigned to them by the brigade.

During the military decision-making

process, commanders/S-3s should require their FSO to brief the capabilities and limitations of all mounted and dismounted OPs. The combat power of fire support they should brief reflects capabilities and limitations of mounted vs. dismounted OPs, range capabilities of the Fire-Support Sensor System (FS3)/Long-Range Acquisition System (LRAS), Lightweight Laser Designator Rangefinder (LLDR)/Vector or map, compass and binoculars. They also need to understand the effect of day vs. night and periods of limited visibility on all those systems. FSOs need to understand and communicate these capabilities and limitations to maneuver leaders so they understand the purpose behind planning and occupying OPs.

When fire supporters consolidated into field-artillery (FA) battalions, the most significant reason was to ensure they receive the best training possible in their primary duties. FA battalion commanders are responsible for ensuring that maneuver battalion commanders receive highly trained fire-support elements back as they transition to collective training for company level and above. However, FISTs are trained on very specific tasks that are not always integrated into maneuver training.

A training gap evident at NTC is that commanders fail to integrate fire supporters' occupation of OPs into maneuver training at home station. It becomes especially apparent during the brigade live-fire at NTC. Observers are more timely and accurate when they are in an elevated position and stationary. During the offense, one of two scenarios occurs:

- The FSO, due to the order or implied requirement that the FSO remain with the commander, moves behind the company or battalion commander and is unable to observe or communicate the trigger or the target while moving due to the positioning of the commander.
- The FSO maneuvers to the OP, but because the timing of the movement to the OP was not planned or synchronized with the maneuver plan, it takes much longer than the commander visualized. This results in executing the plan without fires or else the maneuver elements remain stationary for a long time and are subject to enemy fires, and it desynchronizes the brigade plan.

Figure 2. A FIST assigned to Battery A, 4th Battalion, 1st Field Artillery Regiment, observes a smoke mission providing obscuration of breach site during a decisive-action rotation at NTC. FIST and FO employment is best used when an OP is located on elevated terrain. *(Photo by SSG Joseph Gonzalez)*

This could be attributed to live-fire exercises at home station where FA and mortar-impact areas are routinely offset from the platoon, company or battalion maneuver live-fire area. This requires the observer to occupy an OP that is nowhere near where they are training. Many times observers move straight to their OP as maneuver is setting up the range and remain there for the duration of live-fire training without requiring OP occupation to be synchronized. FSOs do not maneuver with the company or battalion due to the location of the OP and designated impact areas. The other scenario has the FSO move with the maneuver element and call the tactical trigger, but the OP observing the offset impact area makes all the fire-support adjustments.

Training this way prevents us from having a clear understanding of how long it will take FSOs and observers to occupy positions where they can effectively do their jobs and maintain communications that facilitate responsive fires.

Unfortunately, many maneuver commanders possess limited knowledge of fire-support systems and equipment. They work with FOs from the time they are platoon leaders and have FSOs at every echelon of command. Due to the presence of these experts, they typically do not take the time to fully understand fire-support capabilities and limitations. If a tank or infantry company has seven of 14 M1 tanks or M2 Bradleys non-mission-capable (NMC), a commander would be highly concerned and most likely make a decision to reallocate combat power or adjust a subordinate unit's missions. On the other hand, if every one of the standalone computer units or FS3 in their Bradley fire-support team (BFIST) are NMC, typically commanders do not realize they lost digital-fires capability with their observers. Nor do they typically realize the impact that has on timely and accurate fires.

Commander's guidance

Maneuver commanders know they owe their staff and subordinates a description of their visualization of the battle. If they intend to fight an unfair fight weighted with responsive fires, they need to focus some energy on the fires warfighting function (WfF). Specific to the FSO, commanders should clearly identify the decisive point of

the operation. They should then be able to expect the FSO to develop a plan to mass fires at that time and location, including detailed observation planning.

Commanders should demand that their FSO backbrief them on this plan, explaining how fires enable success at the decisive point. They should direct the FSO to report back with a pre-battle conditions check on the fires WfF prior to the line of departure. This should include:

- The fires combat power;
- A running estimate of FIST capabilities (including digital-communications status);
- Confirmation that current fire-support coordinating measures have been pushed out to every subordinate;
- Confirmation that primary communications have been checked with every sensor and shooter in the fires technical rehearsal (ideally from the OP where they will call the targets if conditions allow);
- Which targets were rehearsed; and
- If any of the triggers were refined based on the rehearsal's outcome.

If something isn't right, the FSO must understand that he or she owes the commander the information to make a risk decision about whether to fight degraded, change the plan or take more time to fix problems. One simple check is for commanders to ask how long a particular target took to process during the fires rehearsal (averages for recent combat-training-center rotations are about 11 minutes); if the FSO briefs something significantly different, the commander may need to investigate further to ensure the rehearsal was adequate to ensure responsive fires.

Observation planning

Many FSOs do not create a detailed observation plan that shows primary and alternate observer locations to support battalion and brigade targets and triggers. This results in maneuver waiting on fire supporters to get observers in position to observe targets that are essential to the battalion/brigade scheme of maneuver.

Current doctrine for fire-support planning is covered in Army Technical Publication (ATP) 3-09.30, ***Techniques of Observed Fire***, and ATP 3-09.42, ***Fire Support for the Brigade Combat Team***. ATP 3-09.30 has nothing about observation planning at battalion level – it only provides information about the procedure for occupying an OP. Commanders should rely on their FIST and FOs to occupy OPs on dominant terrain that can overwatch a wide area. Security posture is determined by the commander, but a mounted OP consists of at least one BFIST or Stryker Fire-Support Vehicle, and a dismounted OP consists of at least two FOs. Commanders must assume the risk of those Soldiers occupying dominant terrain independently to gain a tactical advantage over the enemy.

Observation planning 6-step technique

The six-step observation planning technique retains flexibility at the lowest level to position observers. Using top-down planning/bottom-up refinement to position observers optimizes and synchronizes observer positioning across the BCT. Detecting and assessing the effects of fires is critical.

The six-step technique provides a methodical approach to produce refined, executable, integrated and synchronized observation plans. This observation planning technique also provides the observer and commander with the data necessary to rapidly adapt that plan during execution if a planned OP is determined to be unsuitable after using a line-of-sight and risk-estimate diagram.

The six steps are (from ATP 3-09.42):

1. Determine the desired effects of fires;
2. Determine target observation suitability;
3. Develop the observation CoA;
4. Task observers and OPs in a top-down observer plan;
5. Refine and rehearse the observation plan;
6. Monitor and adjust observer plan execution.

Figure 3.

Tasks to subordinate units

(Example of BCT tasking a task force to occupy an OP)

TF SILVER LION

NLT 130530AUG2016 establish observation of AE0030 from OP 301 and 302 IOT refine targets and neutralize EN BPs. OPs may displace once AE0030 is fired or effective EN fires are received.

Figure 4.

The six-step technique for observation planning (Figure 3) is a forcing function for subordinate units to analyze the target and OP planned by the battalion/brigade and submit refinements. Company commanders often plan under constrained timelines and focus on what battalion tasks them to do. When the S-3 includes in its tasks to subordinate units (Figure 4) the requirement to emplace an OP to observe battalion targets, the commander is now required to follow the order or submit a refinement. This also makes it a consideration briefed in operations orders and backbriefs and at the battalion combined-arms rehearsal. They can then submit refinements to targets, triggers and OP locations so that they are incorporated in battalion and company schemes of maneuver.

FSOs at all echelons should plan OPs that can service each planned target they determine as essential to facilitating fire-support tasks to support the scheme of maneuver. They should consider risk-estimate distances or minimum safe distances of munitions planned for the target, line-of-sight analysis and capabilities available. They should plan each OP location, considering whether it is a mounted OP with FS3/LRAS or a dismounted OP with LLDR/Vector or map, compass and M22 binoculars. FSOs need to be familiar with the capability of these systems and the experience of the specific FOs

who will use them. When a planned target does not have a feasible location to set an OP, they need to be honest brokers with their maneuver commanders and notify them of the constraints in observing targets.

"Commanders are the most important participants in the operations process," according to Army Doctrinal Publication 5-0, ***The Operations Process***. "While staffs perform essential functions that amplify the effectiveness of operations, commanders drive the operations process through understanding, visualizing, describing, directing, leading and assessing operations."

Many maneuver commanders provide mediocre guidance for fire support. This limits the FSO's ability to develop a scheme of fires and included observer plan. It also reduces the staff's ability to synchronize fire-support guidance with the maneuver plan.

If commanders provide a similar level of guidance that they provide for the movement and maneuver WfF, observers will be more successful and fires will be more responsive. Commanders should consider issuing guidance for the observer plan by addressing the following areas:

- Daylight vs. limited visibility movement and occupation;
- Mounted vs. dismounted movement and occupation;
- Not-later-than time for establishment of OPs;
- Prioritization for special equipment such as digital-fires capability and optics observing critical targets or triggers;
- Additional assets the commander is willing to commit to serve as observers such as squads, snipers or scouts;
- Requirements for observation redundancy of triggers and targets;
- FIST control options; and
- The tactical risk the commander is willing to assume with the observer plan (compromise, time, equipment, redundancy, etc.).

FIST control option

Another significant concept in doctrine, not routinely discussed, is the FIST control option referenced in Army Technical Publication (ATP) 3-09.30. When asked about control options, most fire supporters know about centralized vs. decentralized control options to call for fire directly or through an intermediary to a surface-to-surface weapon system. However, the ATP also provides options how to employ the fire-support platoon for planning and execution. The three control options are fire-support platoon, company/troop FIST and squad FO. Each have their own benefits and drawbacks.

Option 1, battalion fire-support platoon

- Consolidate FISTs at the battalion level to maximize the battalion commander's ability to influence the battle at a critical time and place.
- Company/troop commanders may retain access to fire-support expertise in the planning process while the FISTs are centralized at the battalion level for execution.

(From ATP 3-09.43)

Figure 5.

The first control option is the consolidated fire-support platoon, which centralizes the fire-support platoon for planning and employment of FISTs and FOs to streamline tasking from the battalion commander (Figure 5). The FISTs can still be available to their company commanders during troop-leading procedures, but the battalion FSO plans their OPs and targets with the focus on the battalion scheme of maneuver. This uses the fire-support platoon in a way similar to how BCTs use combat observation and lasing teams. It allows the FSO, as delegated by the battalion commander, to control the platoon and have it focus on massing fires at the battalion commander's decisive point.

This option is advantageous when an operation lacks detail in battalion and company schemes of maneuver. For instance, in the defense, when a battalion has two companies occupying battle positions set to fire into the same engagement area, less detail is required with the company scheme of maneuver. This control option allows the fire-support platoon to provide redundant observation from different OPs to service battalion or BCT targets.

Another scenario is when the battalion is the shaping operation for a BCT combined-arms breach. The battalion is tasked to occupy SBF positions to provide suppression on enemy battle positions in support of the breach force advance to the breach site. Again, this is not detailed at the company level. The battalion commander can centralize the employment of FISTs and FOs to ensure the battalion suppresses and obscures at the BCT commander's decisive point. The battalion staff can feasibly plan the OPs and specify in-position-ready-to-observe times that facilitate observation of suppression and obscuration fires in support of the breach force.

The second control option is company/troop FISTs decentralized to companies for planning and execution. This is the default and most often used control option because it is inherent in mission command that relies on decentralized execution by subordinate leaders. This control option is ideal for operations that require detailed integration of fires in the company scheme of maneuver. For example, in offensive operations with multiple company objectives, fires need to be synchronized with company schemes of maneuver to ensure fires are massed at the company commander's decisive points. Also, when an urban center is the battalion objective, using this control option helps the isolation force develop an observation plan focused outside the urban center and the fixing force to have an observation plan inside the urban center.

The third control option is squad FOs. This is the least preferred method but locates an FO in every squad-sized element. This option is not recommended because it splits up the FO team and diminishes its ability to conduct dual independent checks. It also requires a higher degree of training for individual FOs than most units are able to achieve.

The preceding examples are not a rule but are considerations that maneuver commanders and FSOs at echelon should discuss from BCT down to

Figure 6. A FIST assigned to Company B, 3rd Battalion, 41st Infantry, 1st Brigade, 1st Infantry Division, observes suppression and obscuration targets for a brigade combined-arms breach. Targets were observed from an SBF during decisive-action Rotation 17-02 at NTC. *(Photo by SSG Joseph Gonzalez)*

company. Recommended fire-support control options should be tied to each CoA during the CoA analysis.

A recommendation is for BCT FSOs to host a brigade fire-support leader professional development class with focused discussion on observation planning and FIST control options. Attendees would be brigade and battalion commanders, executive officers, S-3s and FSOs, plus company commanders and company-level FSOs. The battalion FSOs can do the same thing for a maneuver battalion. A lot can be gained by developing shared understanding among leaders across a BCT. It is up to the fire supporters to advise their maneuver commanders on the options available, providing different ways to approach operations. (For training materials to facilitate this discussion, contact the authors: jack.d.crabtree2.mil@mail.mil, jonathan.a.shine.mil@mail.mil or george.l.cass.mil@mail.mil.)

GEN Dwight D. Eisenhower, Supreme Allied Commander during World War II, once said, "The speed, accuracy and devastating power of American artillery won confidence and admiration from the troops it supported and inspired fear and respect in their enemy." Fire supporters can win that confidence within their formations today by ensuring they develop shared understanding with commanders about the capabilities and limitations of the fire-support system and by using doctrine as a tool to plan and execute in a manner that provides speed, accuracy and devastating effects.

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LTC Jonathan Shine is an FA officer who serves as senior fire-support trainer at NTC. His previous assignments include commander of 4th Battalion, 1st Field Artillery, Fort Bliss, TX; brigade executive officer, 1st Armored Brigade Combat Team, 3rd Infantry Division, Forward Operating Base (FOB) Apache, Afghanistan; battalion executive officer, 1st Battalion, 41st Field Artillery, Fort Stewart, GA; aide-de-camp for the Chairman of the Joint Chiefs of Staff, Pentagon, DC; and commander, Battery B, 1st Battalion, 39th Field Artillery (Multiple-Launch Rocket System), Fort Stewart, GA. LTC Shine's military schools include Command and Staff College and Field Artillery Captain's Career Course. He holds a bachelor's of arts degree in political economics from Princeton University and a master's of public administration degree in public policy from Georgetown University.

CPT George Cass is an FA officer who serves as a combined-arms battalion-fire-support observer/coach/trainer at NTC. His previous assignments include commander, Headquarters and Headquarters Battery, Field Artillery Squadron, 2nd Cavalry Regiment, Rose Barracks, Germany; assistant operations officer (S-3), Field Artillery Squadron, 2nd Cavalry Regiment, FOB Walton, Afghanistan; squadron S-4, Field Artillery Squadron, 2nd Cavalry Regiment, Rose Barracks; brigade assistant FSO, 12th Combat Aviation Brigade, Katterbach Kaserne, Germany. CPT Cass' military schools include Precision Fires, Target Mensuration Only, Weaponeering and Collateral Damage Estimation Course, Joint Air Operations Command and Control Course, Joint Operational Fires and Effects Course, Field Artillery Captain's Career Course, Fire-Support Coordinator Course, Joint Firepower Course and Joint Fires Observer Course. CPT Cass holds a bachelor's of science degree in criminal justice and sociology from the University of North Carolina at Charlotte and a master's of business administration degree from Webster University.

Notes

[1] Fire-support planning is accomplished

using targeting and the running estimate. Fire-support planning includes 1) developing integrated fire plans (target lists, fire-support execution/fire-support task matrix, scheme of fires and overlays); and 2) determining FO control options that support the commander's scheme of maneuver. (From ATP 3-09.30)

Acronym Quick-Scan

ATP – Army technical publication
BCT – brigade combat team
BFIST – Bradley fire-support team
CoA – course of action
FA – field artillery
FIST – fire-support team
FO – forward observer
FOB – forward operating base
FSO – fire-support officer
FS3 – Fire-Support Sensor System
LRAS – Long-Range Acquisition System
LLDR – Lightweight Laser Designator Rangefinder
NMC – non-mission-capable
NTC – National Training Center
OP – observation post
SBF – support by fire
WfF – warfighting function

Recommended Reading for Professional Development

Listed by general subject rather than command echelon

Profession of arms

• Don Higginbotham, ***George Washington and the American Military Tradition*** [commercial publication].

• Suzanne C. Nielsen and Don M. Snider, ***American Civil-Military Relations: The Soldiers and the State in the New Era*** [commercial publication].
American Civil-Military Relations offers the first comprehensive assessment of the subject since the publication of Samuel P. Huntington's field-defining book, ***The Soldier and the State***.

Institutional development

• Bruce Godmundsson, ***On Armor*** [commercial publication].
Overview of evolution of combined arms organizations from World War I through Cold War; analyzes combined arms teams from a multi-national perspective, including the United States.

• George Hofmann and Donn Starry (eds), ***Camp Colt to Desert Storm*** [commercial publication].
Anthology that includes set of articles devoted to principal eras in Armor Branch history; includes chapter on U.S. Marine Corps armor development.

• Robert S. Cameron, ***To Fight or Not to Fight?*** [CSI publication].
Overview of doctrinal and organizational trends related to reconnaissance organizations and related issues; provides context for understanding current state of cavalry/recon.

• John J. McGrath, ***Scouts Out!*** [CSI publication].
Overview of reconnaissance organizations in modern armies; multinational perspective.

• Robert S. Cameron, ***Mobility,* Shock, and Firepower** [CMH publication].
Provides context for understanding the early development of the Armor Branch and its evolution from a platform-centric orientation into a set of unique capabilities amid the constraints of organizational precedents, budgetary limitations and uncertainty RE the capabilities of new technology.

• Martin L. Van Creveld, ***Supplying War: Logistics from Wallenstein to Patton***; 2nd Edition [commercial publication].
A second edition of this classic work, commenting on the role of logistics in warfare.

• John Stone, ***The Tank Debate: Armour and the Anglo-American Military Tradition*** [commercial publication].
Analysis of tank development from World War II to 2000 with focus upon shaping factors and technology limitations; multinational perspective.

• National Training Center Operations Group, ***Training for Decisive Action: Stories of Mission Command*** [CSI publication].

• Scott C. Farquhar (ed), ***Back to Basics: A Study of the Second Lebanon War and Operation Cast Lead*** [CSI publication].
Chronicles the Israeli Defense Force's efforts to identify and apply lessons learned from 2006 to operations in Gaza; and transition from counterinsurgency-centric orientation toward a more traditional combined-arms approach, not unlike current shifts in U.S. Army in the last few years.

Platform development

• David E. Johnson, ***Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917-1945*** [commercial publication].
Johnson examines the U.S. Army's innovations for both armor and aviation between the world wars, arguing that the tank became a captive of the conservative Infantry and Cavalry Branches, while the airplane's development was channeled by airpower insurgents bent on creating an independent air force.

• Orr Kelley, ***King of the Killing Zone*** [commercial publication].
Highly readable overview of development and fielding of the Abrams tank.

• Blair W. Haworth, ***The Bradley and How it Got That Way*** [commercial publication].
Overview of the Bradley Fighting Vehicle and the factors influencing its development; also provides contextual understanding of mechanized infantry evolution.

• Mark J. Reardon and Jeffery A. Charlston, ***From Transformation to Combat: The First Stryker Brigade at War*** [CMH publication].
Overview of Stryker Brigade Combat Team development and initial entrance into combat.

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Lessons for Today from Umayyad Invasion of Gaul

by CPT Thomas W. Doherty

As military officers we were taught the fundamentals of the offense and defense. However, as an instructor, it has surprised me that my students do not understand that the fundamentals of offense are applicable during defense and, of course, vice versa. This article gives a historical exaample of the symbiotic relationship between the offense and defense. In this example, the rulers of Gaul were on the strategic and operational defensive. Given this, they used tactical-level offenses to achieve victory.

Historical background

The Umayyad invasions north of the Pyrenees Mountains during the first half of the 8th Century were critical in deciding the future social structures in all of Europe. There is some histotrophic debate on the purpose of the Muslim excursions into what is modern-day France (then known as Gaul) and if Christianity would have survived if the Christian armies had not defeated the Muslim attacks. The Umayyad Caliphate did invade to conquer, and although Christianity may have survived, a successful conquest of Gaul would have drastically changed the social structure of Europe by changing the dominant religion.

During the early 8th Century, the Umayyad Caliphate conquered most of the Iberian Peninsula and most of Septimania. However, it did not control Septimania north of the Pyrenees Mountains. The Umayyad Caliphate still maintained the goal of extending the caliphate to include the lands to the north of the Pyrenees Mountains.[1] With this in mind, Muslim armies began a campaign to subdue Gaul that would last for decades.

Some historians credit two pivotal battles for turning back the tide of Muslim expansion in Europe. These were the Battle of Toulouse in 721 AD and the Battle of Tours-Poitiers in either 732 or 733 AD.[2] These two battles tend to attract most of the attention due to propaganda put forward by the Christian rulers; however, they were not the only battles. For example, the caliphate sent even larger armies north of the Pyrenees after the Battle of Tours.[3]

In 721 AD, the Umayyad Caliphate launched an invasion led by the governor of al-Andalus (modern-day Spain), al-Samh.[4] Al-Samh's goals included the subjugation of the cities of Narbonne and Toulouse in an attempt to conquer Aquitania.[5] Al-Samh easily took Narbonne and then laid siege to Toulouse, capital of Aquitania.[6]

Duke Odo, ruler of Aquitaina, was unsuccessful in preventing the siege on his capital. However, he ensured he was not in Toulouse when it was besieged. This allowed Duke Odo time to strengthen his army with Aquitanians and Gascons.[7] Duke Odo then returned and attacked al-Samh's army from behind and from within the city simultaneously. During the fighting, al-Samh was killed and his army fled the battlefield, returning to Narbonne.

Some saw this as a victory of Christianity over Islam, stemming the tide of Islamist expansion.[8] However, the Umayyad Caliphate was not finished with its plans for the north and retained the city of Narbonne. Al-Samh was an efficient governor, and his death set back the caliphate about 10 years.[9] Infighting disrupted further offensive operations from 725 AD to 730 AD.[10] However, Toulouse only marked the beginning of multiple invasions. After a period of recovery, the Umayyad Caliphate again marched on Gaul.

In either 732 AD or 733 AD, a large caliphate army of Berbers and Saracens led by Abd ar-Rahman began plundering across southern Gaul, destroying everything, including churches.[11] The desecration of churches facilitated Charles Martel's narrative that this invasion was an attack on Christianity. Eventually the Muslim army gathered a vast treasure, and it began to lose the will to keep fighting.[12] Martel, who was campaigning to the north, turned his army south to meet the caliphate invasion. The armies met somewhere between the cities of Poitiers and Tours.

For the first few days, the battle consisted of skirmishes of varying degrees of intensity. Near the end, the main armies met with the Franks under Martel, forming a wall with infantry. After letting the caliphate army batter itself against the wall, an opening appeared

Figure 1. Pivotal battle sites between Umayyad army forces and Europeans.

for Martel, and Duke Odo conducted a raid on the caliphate army's camp. Large portions of ar-Rahman's army broke ranks to protect their loot and family members. It was at this point that Martel switched his army to the offensive and assaulted the caliphate army with infantry and cavalry. In the fighting that followed, an arrow killed ar-Rahman as he attempted to reform his lines.

Seeing their leader killed, the caliphate army fell apart. The next day, Martel's army moved forward to engage the enemy. Instead, his army found the enemy camp abandoned with the tents still standing – the enemy had been so eager to escape that they did not take the time to break camp properly.[13]

After the Battle of Tours, the caliphate's army retreated in defeat to rebuild. Two years later, another large caliphate army led by Emir Abd al-Malik crossed the Pyrenees Mountains.[14] In what would prove to be his last major battle, Duke Odo defeated al-Malik's army decisively. This caused the leaders of the Umayyad Caliphate to recall al-Malik to Damascus in disgrace.[15] The Umayyad Caliphate continued to order more invasions in an attempt to increase tax revenue and to eliminate the Franks.[16] Incursions into Gaul with even larger armies continued for another decade and placed extreme pressure on the Frankish armies.[17]

Historiographic debate

After the Battle of Toulouse, there is a greater histotrophic argument about the purpose of the Umayyad Caliphate incursions into Gaul. Tolan, Laurens and Veinstein argue in ***Europe and the Islamic World: A History*** that the Muslims were simply raiding. Coppee argues there was a definitive Islamic-expansion motivation in ***History of the Conquest of Spain***, and Lewis in ***God's Crucible: Islam and the Making of Europe*** argues that the goal of the attacks was to gain new taxable lands for the caliphate. Watson in ***The Battle of Tours Revisited*** argues that the 732 AD expedition was an attempt to kill Duke Odo. Historians may disagree on why the caliphate kept sending armies into Gaul, but not that they did.

Islam does have a voluntary form of

jihad for conquest called Dar al-Harb (House of War).[18] Though voluntary like the later Christian Crusades, this form of jihad was a way to make religious amends. Today's historian may look back and think the caliphate had reached its limits, but the caliphate was still expanding and had no reason to believe it could not conquer Gaul. Also, the Umayyad armies laid siege to cities and overran Narbonne, which they held for 40 years.

When the caliphate armies raided to disrupt possible enemies or to gather loot, they traveled light and quickly. They were in the greatest danger on the way home with baggage trains of loot and prisoners. Therefore, if the Umayyad Caliphate's armies had been intent on just raiding, they would not have conducted prolonged sieges like the one conducted by al-Samh at Toulouse. Laying siege to and garrisoning cities clearly indicated the caliphate was on a campaign of conquest and not just raiding for loot. Another key indicator that the caliphate intended to conquer Europe was its boasting about how it would make Europe worship Allah and his prophet.[19]

Meaning for today

There are some key takeaways the modern warfighter can learn from the Umayyad Caliphate's campaign to conquer Gaul. The Franks were strategically on the defense – however, their greatest victories came as a result of properly using the fundamentals of offense. Strategically, the best defense the Franks had was a good offense.

Duke Odo and Martel used three of the four characteristics of the offense. In both battles, they used surprise by hitting the caliphate armies in a time and manner that was not anticipated. They concentrated the effects of their armies both times, allowing them to severely degrade the enemy's mission-command warfighting function. Audacious plans by the Franks won both battles by throwing the caliphate armies off balance.

The Franks used two forms of maneuver to achieve victory. Duke Odo first used an enveloping attack at the Battle of Toulouse. His coordinated, simultaneous attack from besieged Toulouse and his unbesieged army allowed him to destroy the caliphate army in its position. This caused the survivors to flee Aquitania. During the Battle of Tours-Poitiers, the Franks used a turning movement. Even though the army under Martel was in a defensive position, it had effectively fixed the caliphate army. Duke Odo's attack on the caliphate army's camp caused them to turn from their positions to meet the new perceived threat. It was when the caliphate army started to turn from its position that Martel switched to an offensive posture and routed it.

3 types of offense

The Franks used three of the four types of offensive operations. Even though the Battle of Toulouse turned into a siege, each battle started with a movement-to-contact. During both battles, the Frankish armies conducted an attack to defeat the caliphate armies. Martel conducted a non-kinetic form of exploitation attack using what we today call information operations (IO). He used the caliphate armies' plundering to enrage passion to resist the caliphate invasions. He was also able to use IO to paint himself as the hero, setting the stage for the rise of Charlemagne (Martel's grandson).

The Franks used two forms of special-purpose attacks to achieve victory. At Toulouse, Duke Odo used a counterattack after the caliphate forces had surrounded his capital. At the Battle of Tours-Poitiers, Martel also conducted a counterattack. However, his counterattack was in coordination with a raid conducted by Duke Odo on the caliphate army's camp. Both times it was special-purpose attacks that defeated the caliphate armies.

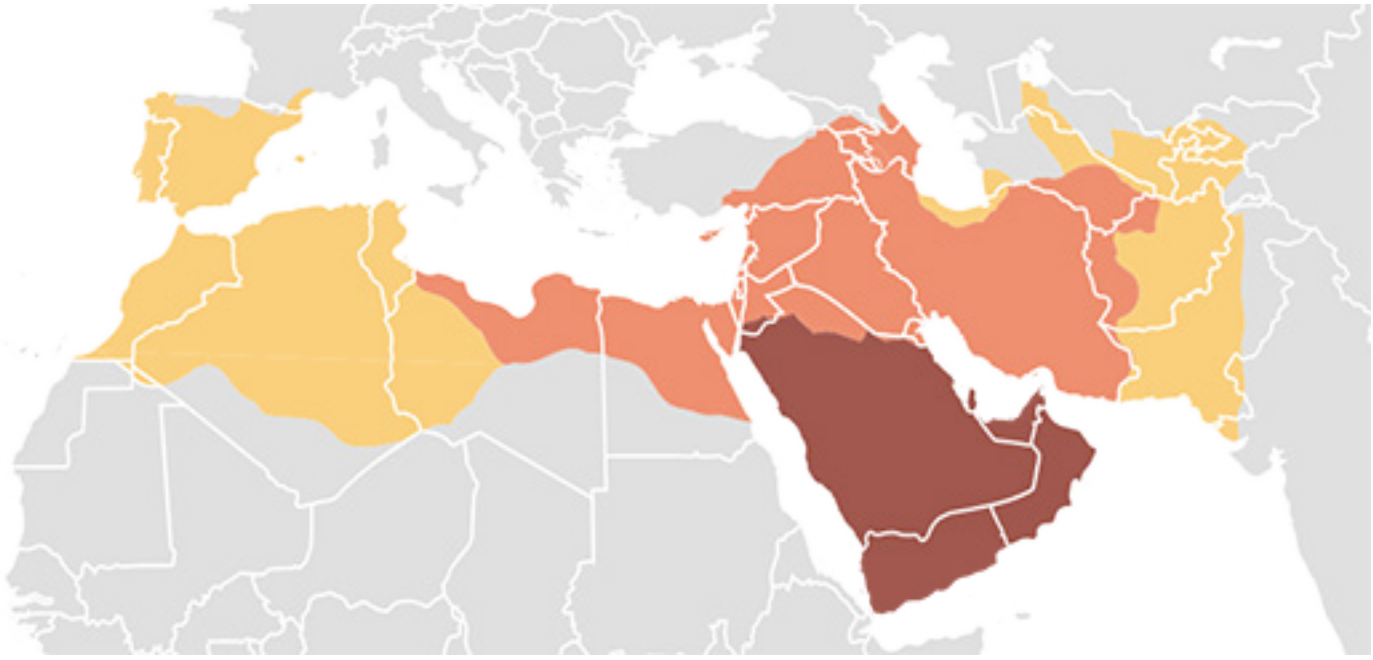

Figure 2. Umayyad Caliphate (661-750 AD) dominance stretches from the Middle East to Iberia, including Narbonne's port, circa 720. The dark red portrays Muslim expansion under the Prophet Muhammad, 622-632. The salmon-colored areas depict expansion during the Rashidun caliphs, 632-661. Gold shows expansion during the Umayyad Caliphate.

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Notes

[1] Henry Coppee, ***History of the Conquest of Spain by the Arab-Moors with a Sketch of the Civilization Which They Achieved and Imparted to Europe***, Volume I, Boston, Little Brown and Company, 1892.

[2] G.R. Hawting, ***The First Dynasty of Islam: The Ummayyad Caliphate AD 661-750***, 2 ed., New York, Routledge, 2000, and William E. Watson, "The Battle of Tours-Poitiers Revisited," ***Providence: Studies in Western Civilization,*** 1993.

[3] David Levering Lewis, ***God's Crucible: Islam and the Making of Europe, 570-1215***, New York: W.W. Norton, 2008.

[4] Depending on the reference, al-Samh ibn Malik al-Khawlānī or al-Samh was also known as Assamah. This is most likely a difference in opinion on inserting letters to create a phonetic transliteration of the name. Al-Samh is used to prevent confusion.

[5] Coppee.

[6] Ibid.

[7] Ibid.

[8] Ibid.

[9] Ibid. and Lewis.

[10] Watson.

[11] Ibid.

[12] Coppee.

[13] Lewis.

[14] Ibid.

[15] Ibid.

[16] Ibid.

[17] Ibid.

[18] John Tolan, Gilles Veinstein and Henry Laurens, ***Europe and the Islamic World: a History,*** translated by Jane Marie Todd, Princeton University Press, 2013.

[19] Coppee.

Acronym Quick-Scan

IO – information operations
LRS – long-range surveillance
MOS – military-occupational specialty

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Combat operations

• Center for Army Lessons Learned (CALL), 17-01, ***Scouts in Contact, Tactical Vignettes for Cavalry Leaders Handbook,*** 8 December 2016 [CAC].
Full of vignettes developed by subject-matter experts at the National Training Center to help lead teams through a variety of scenarios that will help challenge young reconnaissance leaders' decision-making skills. Facilitator instructions guarantee you have the information needed to make leaders and teams successful.

• James R. McDonough, ***The Defense of Hill 781: An Allegory of Modern Mechanized Combat***.
Follows the fictional exploits of a lieutenant colonel who has died and found himself in purgatory (which happens to be the National Training Center). He must atone for his sins as an officer through the successful completion of six missions. A modern version of ***The Defence of Duffer's Drift***, it provides a light-hearted tactical primer for making serious command decisions and learning lessons about tactics, people and what it takes to win a battle.

Recommended Reading for Professional Development

Listed by general subject rather than command echelon

• Dale Wilson, ***Treat 'Em Rough!*** [commercial publication].
Narrative of American tank experience in World War I.

• Harry Yeide, ***Steeds of Steel: A History of American Mechanized Cavalry in World War II*** [commercial publication].
Readable overview of the varied experiences of mechanized cavalry in all theaters of operations, including the Pacific.

• Gene E. Salecker, ***Rolling Thunder Against the Rising Sun*** [commercial publication].
Details operations of Army tank units in the Pacific during World War II – good illustration of the use of armor to support forcible-entry operations.

• Donn Starry, ***Mounted Combat in Vietnam*** [CMH publication].
Readable text detailing the role of armor/cavalry in counterinsurgency; highlights versatility and adaptive qualities at a time when mounted counterinsurgerncy doctrine was largely nonexistent.

• Robert S. Cameron, ***Armor in Battle*** [CMH/APD publication].
Collection of tactical engagements spanning experience of American armor from the interwar years through Operation Iraqi Freedom/Operation Enduring Freedom.

• Jon T. Hoffman (ed), ***Tip of the Spear: U.S. Army Small Unit Action in Iraq, 2004-2007*** [CMH publication].

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Future Special Operations Forces and Conventional Forces Interdependence

by LTC Casey Galligan and CW5 Dennis Castellanos

Before the Sept. 11, 2001 attacks, Special Operations Forces (SOF) and conventional forces (CF) operated independently, separated by both space and time. This operational mindset took us into Afghanistan and way beyond into the conflict for a long time.

Operations Enduring Freedom and Iraqi Freedom clearly accentuated the need for interdependence between SOF and CF. In the beginning, the war in Afghanistan allowed for a design to keep distinct separation between forces. Nevertheless, the nature of the conflict changed and required SOF and CF to nest their operations and better coordinate the effects.[1] In some cases, SOF and CF formations' lack of familiarity with systems resulted in reduced or limited integration. Challenges with communication systems and lack of familiarity with each other's planning techniques were chronic symptoms. However, combat served as a forcing function to set aside differences and established nested capabilities. When leaders were interested in achieving synchronization of effects, both organizations discovered how to work together seamlessly. The result is recognition of the need to institutionalize SOF/CF interdependence in training, doctrine and leadership.[2]

Although this initiative demonstrates senior-leader resolve to retain lessons-learned during the last 15 years of conflict within the Army, more may have to be done to fight and win in the anticipated complex environment. Future military operations will require tailorable and scalable solutions to enable building partner governments' forces, military and civil infrastructure to fight against internal and external threats.[3]

The new normal will deliberately demand persistent interdependence between SOF and CF and complementary regional expertise. Although the current episodic models of successful SOF/CF interdependence support retaining the gains made over the last 15 years, a more enduring approach must be implemented as the Army moves forward to secure global threats. SOF/CF interdependencies have to be persistent in training, deployments and ultimately combat rotations to truly develop the necessary synergies necessary to defeat future threats.

The U.S. military recognizes it must expand its ability to provide a small footprint capability with a high-impact security solution. President Barack Obama ordered the Army to advise-and-assist Iraqi Defense Forces in the fight against ISIL in Iraq. Similarly, the Army is conducting small-scale advise-and-assist operations in Ukraine to prevent further Russian expansion in the region.[4] Although, unexplored at this point in time, the security-force assistance missions sets and the establishment of security-force assistance brigades (SFAB) may offer a connective platform for both SOF and CF to develop enduring integration, interoperability and interdependencies (I-3).

Opportunity

Currently, the Army's Force

Modernization Directorate has asked the Maneuver Center of Excellence (MCoE) Concepts Development Division to provide a force design for SFABs with tentative dates for them to become operational in Fiscal Year 2018.[5] The Army envisions the SFAB to perform security-force assistance tasks to the same degree of proficiency as Army Special Forces detachments in the conduct of foreign internal defense. SFABs will be expected to provide an economy-of-force solution to regional security problems much like Army Special Forces provided during the 1980s and 1990s in Central and South America by advising forces in El Salvador and Colombia to stop the spread of communism in the Western Hemisphere.

Much of the success achieved by Army Special Forces was accomplished by providing small-scale advisory solutions with Special Forces teams that were well versed in culture, language and regional expertise. As a result, Special Forces operational demands continues to increase, simultaneously creating opportunity for CF to share the train, advise and assist operational demands. SFABs potentially provide rapidly deployable and scalable solutions to develop partner capacity for foreign CF.

Focusing SFABs to work with foreign conventional forces will allow SOF formations to concentrate in developing SOF partner's capabilities. However, to implement a different paradigm of SOF/CF I-3, SOF and CF have to conduct persistent training, persistent deployment and persistent combat operations.

Challenges, recommendations

Episodic training opportunities exist at the combat-training centers (CTCs). However, training-center engagements are few and far between, which limits attaining realistic enduring SOF/CF I-3 maturation. Therefore persistent training solutions are required to increase the frequency for learning SOF and CF capabilities, processes and limitations. U.S. Army Special Operations Command is committed to SOF participation in all CTC training rotations for the next fiscal year. CFs can expect to begin coordination with SOF elements as early as 180 days prior to training execution.[6] Organizations scheduled to participate at the CTCs should make every effort to explore home-station training opportunities with co-located Army SOF or operational Special Forces groups (SFGs) for increased operational familiarization.

The Army must consider the regional alignment of SFABs alongside with operational SFGs to increase the frequency of working engagements. Ultimately these organizations can establish habitual relationships by conducting premission training as a precursor to CTC rotations and deployments. Persistent steady-state deployments for SFABs will provide geographical combatant commanders (GCCs) with a scalable and comprehensive advisory solution that goes beyond the tactical level. Since SOF resources are only committed at times against small tactical units, this limits the frequency and options for engagement at the ministerial level; by deploying SFABs alongside SOF organizations in support of steady-state requirements, SOF and SFAB leadership can leverage expertise and advice at the ministerial level.[7] Also, regionally aligned and deployed SFABs will increase their understanding for the operating environment and improve the collaborative efforts with SOF. Ultimately, SOF and CF resources can be prioritized to best support the GCCs' endstate only if deployment schedules are aligned by dates and countries.

Persistent combat rotations for SFABs will only be successful through early integration during training and reinforced by steady-state deployments. Sustaining habitual relationships supports success during combat rotations by increasing SOF/CF I-3 competencies. SOF/CF I-3 competencies are achieved by learning each other's doctrine and processes. However, improving interdependence will require more than just exercising tactics and techniques. It is about establishing relationships to be able to visualize problems and then understanding how to solve these problems together.

The level of SOF/CF I-3 necessary to reduce friction is only achieved by maximizing every available opportunity to persistently train and deploy together. Developing operational relationships will be much more important in many ways than using the same types of equipment. Furthermore, as the political threshold for large-scale operations remains low, this collaboration will only increase the Army's effectiveness in Phases 0-2 while increasing our ability to operate together in Phase 3 if required.

In the past, several successful collaborative models help build SOF/CF interdependence by training and deploying together. For example, village-stability operations (VSO) showed how mutual reliance on each other's capabilities underscored the importance of early integration and collaboration.[8] The VSO mission emphasized that early integration during pre-mission training, preceded by an academic week, increased familiarization with each organization's capabilities and processes ensuring mission success. However, this kind of mission achieved SOF/CF I-3 competencies by conventional force augmentation to SOF and not by mutually supporting each other and creating synergistic effects in the operating environment. Combining SFAB and SOF capabilities in a regional engagement strategy will provide optimal sourcing solutions conducive to achieving an economy-of-force during times when the Army no longer seeks to conduct large-scale deployments.

The regional alignment of SFABs with SFGs offers a unique opportunity for a different approach to achieve mutual reliance between SOF and CF capabilities. Past operational experiences reinforce the need to preserve the SOF/CF I-3 gains made over the last 15 years. However, Army institutional and organizational changes may be required to provide GCCs with scalable packages that assist in building partner-nation security forces capabilities and capacity.

For example, a permanent liaison officer (LNO) structure between regionally aligned SFABs and SFGs will sustain institutional knowledge of units' capabilities and processes. However, LNOs are typically temporarily assigned to other organizations. While LNOs are invaluable during the planning and preparations for CTC rotations, a

consideration for integrating permanent CF LNOs into SFGs and, vice versa, SOF LNOs integration into SFAB staffs should strongly be considered.

It is important to note that there is a need to educate the CF on SOF capabilities, operational conditions for employment, required resources and possible effects SOF can achieve.[9] In the past, friction between SOF and CF has emerged at CTCs and during combat rotations mostly due to the lack of understanding of SOF capabilities. Also the tendency to assume that all SOF units are primarily focused on the execution of direct-action missions creates false expectations for the CF leadership.

Concerns with the misunderstanding of capabilities go two ways. For example, SOF entities do not always understand the requirements associated with joint combined-arms maneuver and wide-area security. To improve existing SOF/CF operational relationships and to capitalize on the emerging opportunity that SFABs will present, it is useful to establish a forum where unit leaders and staffs share information and discuss collaboration opportunities.

Leader forum needed

A recommendation is to establish a quarterly SOF/CF leader forum event designed to serve as a vehicle to provide operational input on training, regional expertise and battlefield situations. SOF/CF units that successfully train together at CTCs and conduct successful operations in theater can share their lessons-learned, successes and best practices. Ultimately the SOF/CF forum will serve as a strategy for teaching, training and collaboration, providing an invaluable learning venue for the institutional Army.

Figure 1. Green Berets assigned to 3rd Special Forces Group (Airborne) fast-rope from a CV-22 Osprey assigned to 20th Special Operations Squadron Feb. 27, 2017, at Cannon Air Force Base, New Mexico. *(U.S. Army photo)*

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CW5 Dennis Castellanos is the executive officer of MCoE's Special Operations Element, Fort Benning, GA. Previous assignments include battalion-operations warrant officer, 3rd Battalion, 7th SFG, Fort Bragg, NC; group-operations warrant officer, Combined Joint Special Operations Task Force-Afghanistan; operations warrant officer, Company C, 3rd/7th SFG, Fort Bragg; and assistant detachment commander within SFODA 794 and SFODA 781. CW5 Castellanos' military education includes U.S. Army Warrant Officer Senior Service Education, Advanced Special Operations and Techniques Course, Special Forces Advanced Reconnaissance Target Analysis and Exploitation Techniques Course, U.S. Army Warrant Officer Candidate School, U.S. Army SERE Course, Sniper Course, U.S. Army Jumpmaster Course, Individual Terrorism Awareness Course, Joint Firepower Control Course, Special Forces Qualification Course, Special Forces Assessment and Selection, U.S. Army Ranger School, Ranger Indoctrination Program and Airborne School. CW5 Castellanos' awards include the Bronze Star Medal (two awards), Defense Meritorious Service Medal and Meritorious Service Medal (two awards). He holds a bachelor's of science degree with a concentration in history and political science from Campbell University. CW5 Castellanos also has a master's of science degree in defense analysis and Irregular

warfare from Naval Postgraduate School.

Notes

[1] Citing LTG Kenneth Tovo, "Opening remarks: Conventional Force/Special Operations Forces Interdependence," Association of the United States Army annual convention 2015; contemporary military forum, https://www.youtube.com/watch?v=IT14bDTwRZE; accessed Dec. 5, 2016.

[2] Ibid.

[3] Theresa Baginski *et al*, ***A Comprehensive Approach to Improving U.S. Security Force Assistance Efforts***, September 2009, http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB942.pdf; accessed Dec. 4, 2016.

[4] Ibid.

[5] Headquarters Department of the Army G-3/5/7 Department of the Army Military Operations (DAMO) memorandum, "Optimization of Army Irregular Warfare (IW) Resources and Institutionalization of Capabilities," June 15, 2016.

[6] Daniel Alder, SOF/CF I-3 discussion during the 2016 Maneuver Warfighting Conference, Sept. 14-17, 2016.

[7] Baginski *et al*.

[8] Linda Robinson, "The Future of Special Operations Forces," ***Council Special Report No. 66***, Council on Foreign Relations, April 2013.

[9] MCoE memorandum, "Improving Army SOF/CF forces collaboration to identify interdependencies necessary to achieve readiness and win against a near peer," Dec. 2, 2016.

Acronym Quick-Scan

CF – conventional forces
CTC – combat-training center
GCC – geographical combatant commander
I-3 – integration, interoperability and interdependencies
LNO – liaison officer
MCoE – Maneuver Center of Excellence
SERE – survival, evasion, resistance, escape
SFAB – security-force assistance brigade
SFG – Special Forces group
SFODA – Special Forces Operational Detachment-Alpha
SOF – Special Operations Forces
SWTG – Special Warfare Training Group
VSO – village-stability operations

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• John J. McGrath (ed), ***Between the Rivers: Combat Action Iraq 2003-2005*** [CSI publication].

• William G. Robertson (ed), ***In Contact! Case Studies from the Long War,*** Vol. 1 [CSI publication].

• Donald P. Wright (ed), ***Vanguard of Valor: Small Unit Actions in Afghanistan***, Vol 1 [CSI publication].

• Donald P. Wright (ed), ***Vanguard of Valor: Small Unit Actions in Afghanistan***, Vol. 2 [CSI publication].

• David Zucchino, ***Thunder Run*** [commercial publication].
Detailed description of the planning, preparation and execution of the April 2003 armored operations into Baghdad.

• Kendall Gott, ***Breaking the Mold: Tanks in the Cities*** [CSI publication].

Recommended Reading for Professional Development

Listed by general subject rather than command echelon

Collection of urban operations in which armor played a significant role.

• Asymmetric Warfare Group, ***The Defense of Battle Position Duffer***
National Training Center narrative covering electromagnetic warfare, spectrum management, operational security, social media, information operations and others. Focused on brigade and below.

• William Haponski, ***Danger's Dragoons: The Armored Cavalry of the Big Red One in Vietnam***, 1969 Cantigny Park: First Division Museum, 2014.
Discussion of an armored-cavalry task force conducting multi-national combat operations in restrictive terrain.

• James Sawicki, ***Cavalry Regiments of the U.S. Army***, Dumfries, VA: Wyvern Publications, 1985

• Stephan Bourque and John Burdan, ***The Road to Safwan: The 1st Squadron, 4th Cavalry in the 1991 Persian Gulf War***, Denton: University of North Texas Press, 2007
Describes an armored-cavalry squadron conducting forced entry.

Overtasking and Its Effect on Platoon and Company Tactical Proficiency: an Opposing Forces and Observer/Coach/Trainer Perspective

by CPT J. Scott Metz

An opposing-forces commander at the Joint Multinational Readiness Center (JMRC) in Germany sits in the back of his tracked vehicle, planning his mission for the next phase of the rotation. His enemy is very similar to what he has faced many times before. It consists of a U.S. brigade headquarters, a U.S. battalion with several multinational attachments and a multinational battalion comprised of units from a handful of several different nations.

The opfor commander contemplates what his enemy will do. He knows from past experience that the Americans will probably stay on or near the roads. They will stop for long periods of time in the open with minimal dispersion. They will not effectively use their dismounted infantry and will likely leave them in the back of vehicles for too long, allowing them to be killed with the vehicle. They also will probably make little use of tactical formations and will not use terrain to their advantage. Based on the opfor commander's experience, he knows the Americans are not his greatest threat. In fact, he is more worried about several of their multinational partners.

I know what the opfor commander is thinking because I was he. I spent more than three years in the opfor at JMRC. I commanded light-infantry companies, irregular forces and battalion-sized multinational mechanized task forces against many rotational units. Now I am an observer/coach/trainer (O/C/T) at the same training center. I work closely with company commanders in the same positions as those I used to fight. My observations of training units as an O/C/T have confirmed what I learned about them as an opfor commander: many of our multinational partners are more tactically proficient at company level and below than their American counterparts. In fact, several of them are significantly better trained and more prepared for war than we are.

Based on my experience at JMRC and by talking to company commanders who come here to train, I believe U.S. Army tactical proficiency at company level and below is lower than many of our multinational partners due to a lack of emphasis on collective training and tactical proficiency at home station prior to training at combat-training centers (CTCs).

Top Army priority?

It isn't as if readiness hasn't been identified as a problem and priority within our Army. Former Secretary of the Army John McHugh identified readiness as the Army's top priority just before he stepped down Nov. 1, 2015. He talked about how the Army was on "the ragged edge of readiness." He explained that the standard for readiness across brigade combat teams is 60 percent to 70 percent, but the actual readiness ratings at that time were between 32 percent and 33 percent.[1]

GEN Mark Miley, Army Chief of Staff, also identified readiness as the top priority for the Army. He hand-wrote on the bottom of his Army Readiness Guidance to all Army leaders for

2016-17 that "[r]eadiness is No. 1 … and there is no other number one."[2]

The U.S. Army Forces Command (FORSCOM) commander, GEN Robert B. Abrams, probably said it better than anyone: "Readiness has to be, and continues to be, the number-one priority in [FORSCOM]. There is no other priority. If you ever think you're going to need an Army, if you ever think you're going to use an Army, then you better have a good one, and it better be ready."[3]

Therefore, according to our senior leaders, readiness is the Army's top priority. However, my experience at JMRC leads me to believe that "readiness is the top priority" is not something that's trickling down to company level. Even our ready units may not be as ready as we think they are.

I assume that most units training at JMRC fall closer to the "ready" than the "unready" category as defined here due to their readiness to deploy to a CTC. However, when battalion and company commanders come to JMRC and meet their O/C/Ts, one thing they regularly tell us is how low our expectations should be due to the minimal amount of training conducted prior to arrival. For example, one company commander told me the only training his unit conducted above the individual-Soldier level was a "check the block" squad situational training exercise (STX). Two commanders from another battalion told me they conducted a total of six weeks of mission-essential-task-list (METL) training in the 12 months before JMRC, four of which were gunnery. Neither of them had a platoon that had moved in a tactical formation together before coming to JMRC.

Companies learn a great deal when they participate in a JMRC rotation, and they always show vast improvement while they are here. However, their lack of preparation for the rotation is evident, and they spend most of the rotation learning lessons they should have learned at home station.

Armor, infantry struggle

Infantry companies and platoons struggle mightily with fundamental tactical movement, basic fire and maneuver

Figure 1. An M1A2 Abrams tank of 1st Armored Brigade, 3rd Infantry Division, conducts a tactical movement during Exercise Combined Resolve VII at JMRC in Hohenfels Germany, Sept. 10, 2016. The Combined Resolve exercises train the Army's regionally allocated forces to U.S. European Command and include more than 3,500 participants from 16 European partner nations. In general, armor and infantry companies and platoons struggle more than their multinational partners with fundamentals. *(U.S. Army photo by SPC Danielle Carver)*

principles, direct-fire control measures and troop-leading procedures. In fact, almost every American unit that comes to JMRC struggles with fundamentals. One example was when all three platoons from an infantry company conducted six platoon attacks as part of STX lanes. All six were executed as frontal assaults across open areas, even though in every case there was a clear concealed route for the assault element to take that would have allowed a 90-degree flank of the enemy. There was no bounding on the objective and little use of tactical formations because they had never trained as a platoon before coming to JMRC.

Armor companies struggle with many of the same fundamentals as the infantry. I covered a tank company that had conducted gunnery through Table XII (platoon level). They were very good at what they had trained. Unfortunately, gunnery was the only training they had conducted.

Reliance on gunnery as the only means of training platoons and companies inevitably leads to bad habits due to safety considerations on the range. Units default to conducting on-line frontal assaults because that's all they have practiced. Throughout the rotation, this particular unit defaulted to a frontal assault in the open without using terrain to their advantage in every engagement. In one of those engagements, a platoon sat static in the open, engaging an enemy Leopard tank. The Leopard fired some 10 times from 10 locations in 60 seconds and never stopped moving while taking concealed routes to and from multiple alternate firing positions.

I've never seen an American tank do anything like that at JMRC. Our units are not at the level of some of our multinational partners – again, because they are not training on maneuver at home station before coming to JMRC. Yes, American units progressively improve throughout each rotation. However, by the end of their rotation, they are still not at the level some of our multinational partners achieved prior to arrival. The problem is not that American units are making mistakes – every unit makes many of the same mistakes as it goes through the training process. The problem is that they are making mistakes because they have not trained as a platoon or company.

I've worked directly with elements from at least 11 nations, so I have reason to say that our multinational partners prepare better to come to JMRC

at home station so they usually do not have the same difficulties. Our multinational partners come here at a more advanced stage in their training cycle.

The stark reality is that since American units rarely conduct extensive METL training at home station, the result is that units come to JMRC to conduct battalion- and brigade-level operations with subordinate units that are highly challenged when asked to execute fundamental missions because they have not trained for them. In contrast, many of our multinational partners are very proficient at the platoon and company level. They are clearly preparing for training at JMRC and for war.

Bottom line: American units are not as prepared or ready for combat as their multinational partners are at company level and below.

What's the problem?

Why are American units not training at home station? There are a multitude of reasons. One of those reasons is definitely ***not*** that company commanders don't want to train. All they want to do is train, but there is massive frustration in current and former company commanders about the lack of training opportunities provided for them and their companies. The consensus from the company-level perspective is that they are unable to conduct sufficient METL training due to overtasking, mandatory non-METL-related training and, in some cases, spending a very high percentage of the year on red cycle.

The reduced budget and size of the Army has played at least a small role in affecting our ability to train. It may be causing some units to spend a greater amount of time on red cycle than they would have in the past, which makes it very difficult to train above the individual-Soldier level. For example, one company commander who came to JMRC told me his unit was on red cycle performing post gate-guard duty during what would have been his train-up time before coming to Germany. He said his unit was going straight back to gate-guard duty as soon as they returned.

That's not a problem a unit would likely have experienced a few years ago; extra red-cycle missions due to a smaller budget have certainly had an impact on training opportunities. However, I don't think most of the problem can be attributed to this.

Overtasking, or "the deluge of requirements" as it was called in the February 2015 report, ***Lying to Ourselves: Dishonesty in the Army Profession***,[4] is the reason American units don't train at home station. The study makes the case that the Army overtasks subordinates to such a level that it is impossible for Army units and Army leaders to do everything they are tasked to do. The report's authors further state that since non-compliance is not a viable option, leaders must choose which tasks to conduct to standard and which tasks to just "report" that they were done to standard. The report makes the case that this "deluge of requirements" has led to ethical failing within the military. That point may or may not be true, but there is no question the deluge of requirements identified by that study is negatively impacting our ability to train our companies and platoons to fight and win in war.

Overtasking is nothing new. A 2002 U.S. Army War College study tallied all training directed at company commanders. There were 297 days of mandatory requirements for 256 available training days.[5] These mandatory requirements have a significant impact on a company's ability to train collective tasks.

I've heard many senior leaders from lieutenant colonel to brigadier general acknowledge that there are too many tasks. They usually say that leaders need to learn where they can "assume risk" and figure out what they can afford not to do. Of course, all leaders need to be able to evaluate where to assume risk; it's part of the job. However, I don't think it's reasonable for a leader to knowingly overtask subordinates and say, "figure out what not to do."

Company commanders are put in a position in which they must assume risk by choosing to ignore or finger-drill mandatory training or directed tasks to train their company for war. What will happen to that commander if he has an incident within the company that arguably could have been prevented if he had conducted the mandatory training? Will his battalion and brigade commanders back him? Some probably will, and others probably won't. Unfortunately, that commander is risking his/her career by choosing to train the company for war rather than do mandatory administrative training. It is much easier and requires far less risk to just do what he/she is told and conduct the administrative training or fulfill the requirement.

Administrative training has measurable results, at least in percentage of Soldiers trained. METL training does not because the outcome of it is measured by the commander's subjective judgment. When something goes wrong that should have been covered by some type of mandatory administrative training, a commander is at risk if he/she is not up to date on that training. It may not matter to anyone that the company is assessed as a "T" (trained) while all the others are assessed as a "P" (needs practice) in company attack if his company has a serious incident in one of these areas and he is out of tolerance.

We must decide

We need to decide as an Army what we really want our top priority to be. Many of our senior leaders said that it is readiness. However, readiness comes largely from realistic METL training. Companies and battalions that come to JMRC spend much of their time at home station dealing with the "deluge of requirements" rather than actually training for war. As a result, some of our multinational partners are tactically more proficient than we are at company level and below because they prepare for CTC rotations and for war by training at home station.

Based on talking to company-level leadership and my own experience, mandatory training is certainly the event most likely to cancel approved METL training inside the six-week company training window. However, it is only part of the problem. Even more disturbing is the lack of calendar space that is actually devoted to METL training; calendar space is devoted to the "deluge of requirements." The other requirements may be maintenance stand-downs, operation clean-sweeps or a host of other things that seem

important. Our problem as an Army is deciding what important things not to do so we can devote time to the things that are really most important.

Steps in solution

The solution to this problem is not complicated or new; it is just difficult to implement. The first two steps of the solution to remedy lack of home-station training are the same two identified by Stephen Gerras and Leonard Wong needed to fix ethical fading, which was also identified as having been caused by overtasking. We must acknowledge the problem and then exercise restraint in tasking our subordinates.[4]

The third step is the most difficult and also not new. We must change the Army culture from being overcentralized, overstructured and micromanaged to a culture of innovation that invests and trusts subordinate leaders, allows a degree of uncertainty and protects company commanders from external disruptions that prevent them from training their companies.[5]

The steps of the solution:

- **First step:** I believe we have taken the first step to acknowledge the problem. The former Secretary of the Army, Army Chief of Staff and FORSCOM commander identified readiness as a priority. We now just need to take the next step and realize how overtasking is affecting our ability to train at home station and its negative impact on tactical proficiency and readiness.
- **Second step:** We must exercise restraint when issuing tasks to subordinates. "Restraint must be established in the amount of mandatory training passed down to the force," writes Wong in ***Stifling Innovation***.[5] "Instead of making lower-level leaders decide which mandatory training or directive they will ignore, leaders at the strategic level must shoulder the burden of prioritizing which directives are truly required." Successfully exercising restraint goes beyond just revamping or modifying mandatory training; Wong and Gerras write that we must also scrutinize "All Army Activities, policies from major commands and directives from all headquarters in regard to their impact on the cumulative load."[4]
- **Third step:** We must change the Army culture that is now overcentralized and overstructured to a culture of innovation that invests in (and trusts) subordinate leaders, allows a degree of uncertainty and protects company commanders from external disruptions that prevent them from training their companies.[5] We will not be successful simply by declaring that readiness and training are our top priorities.

Unfortunately, cultural change is difficult and must start at the highest level but also affect leaders and staffs at all levels. The most difficult part of cultural change is that, to be successful, it actually requires leaders to do less. "Senior leaders need to be convinced to give standards, some basic guidelines, and then let subordinate commanders train," Wong writes.[5] That means an end to brigades tracking individual Soldier requirements six levels down.

We will also have to adhere to our current training doctrine and stop making changes to approved training calendars. Senior leaders must assume risk by trusting their subordinates to train their units to standard. Some units will fall short. However, most will likely exceed expectations and be much better than they would have been in the current overstructured, overcentralized environment, even though they will probably not get there exactly how their higher headquarters envisioned.

In the current requirement-rich environment, training at home station is difficult. The solution is complex and will take time to address. However, creative leaders can find a way to mitigate the impact. Leaders at all levels can begin by asking themselves the following questions.

Company level

- Am I identifying administrative requirements in quarterly training guidance (QTG) and scheduling them on the calendar so that I am not put into a position where I have to cancel METL training at the end of the quarter to meet the requirement?
- Am I taking services into account for my quarterly training plan?
- Am I being creative in how and when I conduct mandatory training? For example, maybe I could cycle one

Figure 2. Slovenian troops from the 45 Center for Tracked Combat Vehicles operate M-84 main battle tanks during Exercise Allied Spirit IV in January 2016 at Joint Multinational Training Center, Hohenfels Training Area, Germany. The Slovenians partnered with U.S. Soldiers from 1st Battalion, 4th Infantry Regiment, to play opposition forces during the training. In general, our multinational partners are better prepared for a JMRC rotation than are American units. *(U.S. Army National Guard photo by SGT Brianne Roudebush)*

squad or platoon at a time through the training while everyone else is on gate guard.

- When unexpected requirements arise causing me to lose personnel, am I immediately canceling planned training or do I conduct it as best I can with the personnel I have available?
- Am I maximizing the use of digital training resources when other resources are not available?
- As part of the quarterly training brief (QTB), do I send up reclamas for directed requirements that will negatively impact approved training?
- When I reclama, am I effectively articulating the real impact of that requirement on my training proficiency and readiness as a company?

Battalion level

- Are we issuing QTG?
- If so, are we using the military decision-making process (MDMP) in its creation?
- Are services and other similar requirements covered in QTG and the QTB?
- Given that there are more mandatory requirements than can be conducted in a given year, are we specifically identifying which ones our subordinates should conduct in a given quarter?
- Are we doing our best to honor approved training schedules as a contract between company commanders and the battalion commander?
- Who is the approval authority for additions and subtractions to the training schedule inside of the six-week window?
- When short-suspense requirements arise, are we conducting real analysis on who can support it with the least impact to planned training, or are we equally tasking all subordinate units?
- Are we conducting real analysis on short-suspense requirements prior to passing them to our subordinates to identify whether we should instead submit a reclama?
- Are we seriously analyzing reclamas submitted by our subordinates and advocating for them when a requirement is going to affect their METL proficiency?

Brigade level

- Are we issuing training guidance to our subordinates?
- If so, are we using MDMP in its creation?
- Are we blocking off time for subordinate units to conduct METL before we fill the calendar with other requirements?
- Given that there are more mandatory requirements than can be conducted in a given year, are we specifically identifying which ones should be the focus?
- Are we doing our best to honor approved quarterly training as a contract between commanders?
- Who is the approval authority for additions and subtractions to the approved training calendar outside of about an eight-week window?
- When short-suspense requirements arise, are we conducting real analysis on who can support it with the least impact to planned training?
- Are we conducting real analysis on short-suspense requirements prior to passing them on to our subordinates to identify whether we should instead submit a reclama?
- Are we seriously analyzing reclamas submitted by our subordinates and advocating for them when a requirement is going to affect their METL proficiency?

Take-aways

We were once considered the undisputed best maneuver force in the world. We probably still are the best army in the world due to our unique ability to project power. However, many of our allies, and likely some of our potential enemies, are now tactically better than we are at company level and below because we do not train enough at home station.

The problem is primarily the overwhelming amount of non-training tasks we place on our subordinates. This conclusion is based on my experiences at JMRC and discussions with other junior leaders. They do not have the time to truly prepare their units for war. We must acknowledge we have a problem with a lack of home-station training that is affecting readiness. Senior leaders at all levels must exercise restraint when tasking subordinates, taking into account the cumulative load of requirements.

Finally, we must change the Army culture to allow subordinate leaders to have flexibility to train their units based on commander's intent rather than a long list of specified requirements. If we want to be the best-trained army in the world, we must make readiness through METL training the priority that takes precedence over all other requirements.

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Notes

[1] Michelle Tan, "Interview: U.S. Army Secretary John McHugh," ***Defense News*** (online), Oct. 21, 2015, http://www.defensenews.com/story/defense/policy-budget/leaders/interviews/2015/10/21/interview-us-army-secretary-john-mchugh/74341166/.

[2] GEN Mark A. Miley, ***Army Readiness Guidance***, ***Calendar Year 2016-2017***, January 2016.

[3] Michelle Tan, "Abrams: Army needs 'realistic training' for readiness," ***Military***

Times (on-line), Oct. 12, 2015, http://www.militarytimes.com/story/defense/show-daily/ausa/2015/10/12/abrams-army-needs-realistic-training-readiness/73807692/.

[4] Leonard Wong and Stephen J Gerras, ***Lying to Ourselves: Dishonesty in the Army Profession***, Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2015.

[5] Leonard Wong, ***Stifling Innovation: Developing Tomorrow's Leaders Today***, Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2002.

Acronym Quick-Scan

CTC – combat-training center
FORSCOM – (U.S. Army) Forces Command
JMRC – Joint Multinational Readiness Center
MDMP – military decision-making process
METL – mission-essential task list
O/C/T – observer/coach/trainer
QTB – quarterly training brief
QTG – quarterly training guidance
STX – situational training exercise

Armor School Call for Data/Personal Accounts of Tank Gunnery Competitions

Traditionally tank gunnery competitions have demonstrated readiness, influenced training and built team spirit among armored organizations.

The Sullivan Cup continues this tradition, and in preparation for the 2018 competition, the Armor School has undertaken an historical study of several major gunnery events.

The principal competitions addressed include the Canadian Army Trophy, the Canadian-American Cup, the Worthington Trophy/Challenge, Nordic Tank Challenge, Strong Europe Tank Challenge and the Russian Tank Biathlon.

However, your assistance is sought in obtaining information related to the rules, tasks evaluated and scoring criterion for these events. Similarly, the personal experiences of participants, including non-American nationalities, is also being sought.

If you have such information or would like to share a personal experience, please make your submissions to Dr. Robert S. Cameron, the Armor School's point of contact for this action. All material provided must be unclassified and non-For Official Use Only.

Email: Robert.s.cameron.civ@mail.mil.

2018

Mailing address: ***ARMOR*** magazine, ATTN: Tank Gunnery, McGinnis-Wickam Hall, Suite W-142, 1 Karker Street, Fort Benning, GA 31905.

Maneuver and Intelligence: Bridging the Gap for Unified Land Operations

by MAJ James P. Kolky and MAJ Michael J. Trujillo

Military-intelligence (MI) officers undergo various levels of specialized training to hone skills across various intelligence disciplines. However, little if any schoolhouse training focuses on preparing MI officers to serve effectively and successfully in a maneuver formation as an S-2 within a maneuver battalion or brigade staff. Although the Army needs MI officers to serve as subject-matter experts (SMEs) across the multiple intelligence domains, maneuver commanders require MI officers who are prepared to bridge the gap both doctrinally and practically between intelligence and maneuver.

As the U.S. Army continues to adjust its doctrine and training methodologies to fight and win in a complex world, it's important we continue to refine our best practices at the tactical level. More than a decade of low-intensity conflict yielded a skewed perception of the understanding or application of the tactical fusion of intelligence and maneuver. Although counterinsurgency (COIN) assessments of the enemy transcended traditional opposing-force (opfor) norms, somewhere along the way we lost the ability to produce relevant near-peer assessments during the operations process.

COIN's impact

Arguably, COIN operations overall were very routine at the tactical level, whereas peer-to-peer combat operations such as division-size movements-to-contact are dynamic and require increased and committed integration between intelligence and maneuver. Unfortunately, the tactical necessities of 14 years of COIN support degraded our ability and willingness to bridge the gap between intelligence and maneuver in major combat operations.

This capability gap exists in several maneuver formations and is both the result of more than a decade of patrol-base operations and a decrease in the deliberate training of our MI officer corps in understanding and practically applying maneuver doctrine. The Army must apply solutions to this problem, close the gap and create conditions for MI officers to link intelligence analysis with the application of combat power through movement and maneuver. The infrastructure and intellectual capital exists to address and remedy this problem, and with minor adjustments to the training programs of instruction (PoI) within U.S. Army Training and Doctrine Command (TRADOC), the reality of ill-prepared maneuver battalion/brigade S-2s can diminish over time and establish a new precedent for the "fusion MI officers" who not only understand the requirements of a maneuver commander but demonstrate understanding in linking their analysis to the application of combat power through decisive action (DA).

Maneuver commanders, their operations officers (S-3) and executive officers often receive MI officers who are unprepared to execute analysis that

directly relates to tactical actions and application of combat power in DA. Although the general perception among many non-maneuver military-occupational-specialty training programs is one that points to on-the-job training (OJT) as the medium for refining the required skills necessary to serve in a maneuver battalion or brigade, the intelligence warfighting function (IWfF) – and MI officers as a whole – stand to benefit from deliberate and directed training prior to selection of, and service as, a battalion or brigade S-2.

Changes needed in training

The potential solutions to this issue must include both institutional and organizational adjustments within our tactical formations and professional schoolhouses. Modifications to the existing basic course and advanced course PoIs are the starting point to ensure the next generation of MI officers receives the necessary training and tested proficiency in maneuver doctrine.

Setting the stage for more capable and doctrinally proficient S-2s cannot occur without buy-in from both the U.S. Army Maneuver Center of Excellence (MCoE) and the Intelligence Center of Excellence (ICoE). First, ICoE and MCoE must coordinate and dedicate a minimum of four days of training space to pollinating the MI officer PoI with maneuver development. The MCoE's contribution includes the commitment of temporary-duty costs to provide the requisite number of infantry or Armor field-grade officers (at least two per class), preferably former or newly selected battalion or squadron commanders, to mentor MI lieutenants attending the basic course and MI captains attending the career course. The program should show preference to MI officers selected to serve in brigade combat teams (BCT) as their next assignment following the basic or advanced course. The ICoE's contribution to this effort is the allocated training space per class through modification of the existing PoI.

Training MI officers for success as S-2s requires teaching, exercising and assessing an MI officer's ability to apply maneuver-centric analysis to a previously developed scenario. Instructors of this curriculum should have access to DA training environment tactical-level scenarios, which will drive not only instruction but practical exercises (PEs) and assessment. Also, MI officers must receive instruction about offensive and defensive doctrine from the MCoE field-grade officer representatives, providing not only fundamental understanding but personal expertise from officers who have practically applied the doctrine in a training environment such as at a combat-training center.

Finally, because unified land operations (ULO) includes stability and/or defense support of civil authorities (DSCA) tasks, the curriculum must include instruction, practical application and assessment of these principles. The practical application of offensive and defensive analysis receives priority, however, simply because these tenets of DA more easily translate into the interaction between an S-2 and his/her battalion/squadron commander.

Although a focus on the entry- and mid-level MI officers begins populating our MI officer corps with more doctrinally capable officers, it does not address the issue of those field-grade MI officers who may struggle with the same shortcoming. The intermediate-leadership education (ILE)/Command and General Staff College (CGSC) PoI offers an advanced-tactics studies (ATS) focused program that aims to "enhance [field-grade officers'] understanding of the art and science of tactical operations." This is specifically conducted during the electives period of the course. Furthermore, the curriculum "offer[s] students the opportunity to gain subject-matter expertise in the area of tactical operations that will serve student officers in their future assignments with battalions, brigades and divisions."[1]

Competing career requirements for MI field-grade officers certainly won't allow participation in the full course curriculum. However, MI field-grade officers who are bound for assignment as a brigade S-2 with no previous experience in maneuver formations must (at a minimum) complete courses within ATS that focus on the operations process within maneuver formations.

Although adjustments to the existing PoI along the path of MI-officer development offer several advantages to improving the doctrinal proficiency of battalion/brigade S-2s of the future, they do not directly address those already serving in said positions who are perhaps struggling to bridge the gap between Red analysis and Blue action.

TTRs

The TRADOC Intelligence Support Activity (TRISA) at Fort Leavenworth, KS, could perhaps provide the solution to current doctrinal shortcomings among MI officers of all tactical ranks. TRISA conducts two one-week (five days each) hybrid-threat tactics courses (TTR) per fiscal year.[2] Although the TTR curriculum focuses mainly on proficiency with opfor or Red doctrine, the addition of a week to the already stellar curriculum offers another option to remedy this issue.

The TTR introduces and provides supervised PEs in planning opfor operations. The course bases its curriculum on the Training Circular (TC) 7-100 series of opfor manuals, including TC 7-100.2, ***Opposing Force Tactics***, and TC 7-100.3, ***Irregular Opposing Forces***. The course is unquestionably effective at teaching and practically applying opfor doctrine, and its graduates are drastically more capable of understanding and applying Red doctrine than non-graduates. In the context of creating MI officers with the ability to apply maneuver more effectively to Red analysis, however, there is opportunity to leverage the existing infrastructure and teaching cadre, thus creating even more tactical proficiency among our MI officers.

The high-quality instruction and knowledge within the TTR cadre provides the intellectual capital necessary to expand on the TTR's stellar curriculum. Upon completion of PEs or during planning of opfor operations in Week 1, a second week would focus on applying the opfor assessments to previously coordinated BCT training scenarios. Again, this program cannot operate effectively without buy-in from sister organizations. The Combined Arms Center's Department of Army Tactics (DTAC) at ILE is the most relevant and

Day 1	Day 2	Day 3	Day 4
Offense	**Defense**	**Offense/Defense PE**	**Stability/DSCA**
Army Doctrinal Publication 3-0, ***Operations*** (1.5 hours) (MCoE)	FM 3-90-1, ***Characteristics of the Defense*** (1.5 hours) (MCoE)	PE Steps 1 and 2 of MDMP (focus: ability to apply relevant analysis against principles of offense and defense) (1.5 hours)	FM 3-07, FM 3-28, ***Stability / DSCA*** (1 hour)
Field Manual (FM) 6-0, ***Command and Staff Organization and Operations*** (focus: Chapter 9, military decision-making process (MDMP)) (1.5 hours) (ICoE)	Assessment: defensive characteristics (1 hour) (MCoE/ICoE)	IPB brief to commander (MCoE field-grade officer provides feedback and assessment) (Group 1)	Assessment: stability operations/DSCA characteristics (MCoE/ICoE) (1 hour)
Lunch/Group Study			
FM 3-90-1, ***Characteristics of the Offense*** (1 hour) (MCoE)	Expectations of S-2 (1.5 hours) (MCoE/ICoE) (infantry / Armor majors/lieutenant colonels post-KD or pre-command)	IPB brief to commander (MCoE field-grade officer provides feedback and assessment) (Group 2)	PE Steps 1 and 2 of MDMP (focus: ability to apply relevant analysis against principles of stability operations/DSCA) (1.5 hours)
Assessment: offensive characteristics (1 hour) (MCoE/ICoE)	Analysis for maneuver for battalion/brigade S-2 (1.5 hours) (MCoE/ICoE)	IPB brief to commander (MCoE field-grade officer provides feedback and assessment) (Group 3)	IPB brief to commander (MCoE field-grade officer provides feedback and assessment) (select personnel)

Table 1. Possible curriculum.

feasible option to apply to the maneuver portion of this development plan.

Week 2 focuses exclusively on S-2 proficiency in leading the intelligence preparation of the battlefield (IPB). DTAC provides at least two post-command lieutenant colonels or post-key and developmental (KD) majors to oversee and provide guidance and feedback during Week 2's focus on IPB. The focus of TTR during Week 2 centers on understanding and practically applying what the Army refers to as "reverse IPB" specifically as it relates to tactical-level planning of maneuver formations.

Just as in the recommended curriculum described for MI lieutenants and captains (MI Officer Basic Course and MI Captain's Career Course), Week 2 focuses on increased understanding of ULO, prioritizing analysis relevant to offensive and defensive operations. The combination of intelligence SMEs from the TTR teaching cadre and maneuver SMEs from DTAC enables the continuation of learning and practical exercises in Week 1 (Red analysis) to pre-planned training scenarios in Week 2.

The DTAC portion of the teaching cadre, acting as either S-3/executive officer or maneuver commander, provides feedback and guidance for each assessment, which is graded heavily on the student's ability to demonstrate and clearly communicate comprehension of the Red analysis in support of tactical maneuver. For example, a training scenario that uses an armored BCT (ABCT) (or subordinate battalion) with a tactical task of *destroy* examines the student's ability to pull pertinent data points on the opfor (enemy armored formations, range and capabilities, task organization, etc.) and develop a relevant comparative analysis against the doctrinal requirements for an ABCT's ability to destroy an enemy formation.

There are several examples of "reverse IPB worksheets" that aim to capture this comparative analysis. However, MI officers' exposure to such a product, as previously discussed, is often part of OJT upon arrival to a battalion or BCT. TTR Week 2 aims to provide deliberate focus on such a mechanism for analysis to enable our MI officers' ability to generate analysis relevant to a specified tactical task.

Change to MTOE?

Another potential and perhaps controversial solution to this issue is the redesign of maneuver battalion/brigade modified tables of organization and equipment (MTOE). An addition or subtraction of specific coded billets within the S-2 section is not necessary to begin to solve the MI officers' lack of doctrinal foundation. Instead, an internal shift of personnel is needed. The definitive transfer of ownership of the S-2 section to battalion or squadron S-3 addresses the gap in fusion between maneuver and intelligence. This proposed solution does not necessarily require Army-wide adoption; however, future or current S-3s/executive officers and battalion/squadron commanders should consider such a move. (We fully acknowledge the challenges to applying this model to BCT-level staffs, so we advocate this shift at the battalion/squadron level only).

Under the design of this proposal, the S-2, ideally an MI captain, works in concert with the battalion plans officer and reports directly to the S-3. The S-3 plans officer and the S-2 establish the organizational relationship, ensuring Red assessments are relevant to the tactical task at hand. This relationship

and organizational change ensures that the commander's understanding and visualization of the specified task or environment is fully coordinated and synchronized between the S-2 and S-3.

The counterargument against this proposal is that the transition of the S-2 to the ownership of the S-3 dilutes the authority and influence of the executive officer. The executive officer remains the chief of staff and an integral part of the operations process. The value of having a direct relationship between the S-3 and S-2 far outweighs any concern that the executive officer loses a portion of his or her staff to another field-grade officer. On the contrary, the quality of products due to deliberate and focused integration between the S-3 and the S-2 will increase the capability and effectiveness of the entire staff.

Our current model isn't working and, as demonstrated, it yields a dilution of the potential benefits of fusing intelligence and maneuver. Moreover, the current training methodology for MI officers, specifically those at the entry- and mid-level of service (lieutenants and captains) is akin to a chef never learning the menu of his own restaurant and expecting his/her patrons to order only the foods he/she can cook.

The movement and maneuver of combat formations demands intelligence that adequately assesses the capabilities and intentions of the enemy as that enemy relates to friendly action. Army Doctrinal Reference Publication (ADRP) 2-0 tells us that intelligence must be relevant, predictive and tailored.[3] Although our doctrine lends itself to this ideology, our MI officers continue to struggle with its application because of a lack of training. As described above, there are several feasible options ranging in scale and commitment that directly address this issue.

As we continue training for and winning in a complex world, it's imperative to address issues such as these now and avoid the potential tactical costs during future ground combat. All the tools exist to remedy this issue. Our Army only requires a push in the right direction and recognition of the importance of the bridging the gap between intelligence and maneuver in support of ULO.

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MAJ Mike Trujillo is the chief of operations, Operations Group B, MCTP, Fort Leavenworth. His previous assignments include anti-tank guided missile analyst, Defense Intelligence Agency, Washington, DC; executive officer, 2nd Squadron, 38th Cavalry; S-3, 2-38 Cav; and commander, Dismounted Reconnaissance Troop, 4th Squadron, 73rd Cavalry Regiment, 4th Brigade Combat Team, 82nd Airborne Division, Fort Bragg, NC. MAJ Trujillo's military schools include Armor Captain's Career Course, Cavalry Leader's Course and CGSC. MAJ Trujillo has a bachelor's degree in business administration (marketing concentration) from Oregon State University. His awards include the Bronze Star with one oak-leaf cluster, Defense Meritorious Service Medal, the Order of St. George (Black/Bronze) and the Order of St. Maurice (Legionnaire).

Acronym Quick-Scan

ABCT – armored brigade combat team
ADRP – Army doctrinal reference publication
ATS – advanced-tactics studies
BCT – brigade combat team
CGSC – Command and General Staff College
COIN – counterinsurgency
DA – decisive action
DCSA – defense support of civil authorities
DTAC – Department of Army Tactics
FM – field manual
ICoE – Intelligence Center of Excellence
ILE – intermediate-level education
IPB – intelligence preparation of the battlefield
IWfF – intelligence warfighting function
KD – key and developmental
MCoE – Maneuver Center of Excellence
MCTP – Mission Command Training Program
MDMP – military decision-making process
MI – military intelligence
MTOE – modified table of organization and equipment
OJT – on-the-job training
Opfor – opposing force
PE – practical exercise
PoI – program of instruction
SME – subject-matter expert
TC – training circular
TRADOC – (U.S. Army) Training and Doctrine Command
TRISA – TRADOC Intelligence Support Activity
TTR – threat-tactics course
ULO – unified land operations

Notes

[1] ATS focused program, CGSC course catalog; accessed Jan. 16, 2017, http://usacac.army.mil/cac2/cgsc/repository/350-1.pdf.

[2] TTR, TRADOC G-2 Analysis and Control Element Threats Integration, https://atn.army.mil/dsp_template.aspx?dpID=447; accessed Dec. 12, 2016.

[3] ADRP 2-0, ***Intelligence***, Department of the Army, August 2017.

BOOK REVIEWS

Barbarossa Unleashed: The German Blitzkrieg through Central Russia to the Gates of Moscow, June-December 1941, Craig W.H. Luther, Schiffer Publishing, 2014, 808 pages, $42.

After the American Civil War, is there any subject that has been as written about in World War II as much as the Eastern Front has been? There are some modern authors one can be certain of, such as David Stahel and of course David Glantz, but when one encounters a new doorstop of a tome like ***Barbarossa Unleashed***, one may approach it with a healthy dose of jaded skepticism. One wonders what new can be said, outside of a more farfetched thesis, on this topic, as the Russians have again limited access to the World War II archives. Leave that skepticism behind and buy this book – a statement that one seldom sees in a book review's first paragraph. Luther will not disappoint you with ***Barbarossa Unleashed***. Luther has written, without qualification, the single most important and overarching work on Army Group Centre in Operation Barbarossa.

What Luther has done is to break the very complex subject of Operation Barbarossa down into easily digestible periods. The central tenet behind Luther's work is only on the Moscow axis, where there was any potential for the initial shock and awe period of the invasion to produce a military and political victory. Neither the Army Group North axis, centered on Leningrad, nor Army Group South, focused in Ukraine, could of themselves have produced a decisive victory – although they could contribute mightily by their operational success. Luther at the beginning of the book neatly encapsulates the issue that would dog Hitler, the Operation Barbarossa planners and the Wehrmacht: what was the center of gravity for this campaign? Luther comes back to this theme of strategic indecision time and time again, and he addresses this theme within a context all too familiar to American forces from Iraq in 2003: we won all the battles so far; now what?

Luther is surprisingly perhaps most comfortable when talking about logistic planning for the invasion and then the ensuing nightmare of keeping the panzers supplied. Luther uses this challenge with supply to add more context to the invasion's operational planning and focuses on the fact that German staff planning for logistics was built on a foundation of many hopeful assumptions. For instance, it seems that no one analyzed what fuel and oil consumption rates would be if the army was not traveling on hard-surfaced roads. The Nazis' failure to carefully delineate worst-case assumptions meant the German infantry and its horse-bound army suffered tremendous personal hardships.

The book not only addresses roads and the vast array of captured vehicles, minus a ready stockpile of repair parts that outfitted the German army, but Luther speaks in detail about why the rail system failed and the enormous assumptions that wished away potential problems – such as what if the Soviets conducted a scorched-earth policy on their rail system?

Don't make the mistake of thinking that Luther relied primarily on secondary sources; he obviously spent a good deal of time in archives researching primary sources. In addition, Luther uses a lot of heretofore-unpublished material from letters and diaries to add depth – not just color – to the challenges facing combatants in this theater. The reader might be surprised at some of the material used, which only adds to the comprehensive breadth of this work. One of the facts that comes out time and again in these letters is of the early resurgence of the Red Air Force. Luther dispels the myth that the Soviet air force ceased to exist until the later stages of Operation Typhoon. We also begin to understand how thinly stretched the Luftwaffe became by August 1941, trying to provide logistical support to panzer spearheads, conduct tactical close-air support and strategic bombing, and build an infrastructure to support air operations.

It's interesting to note that Luther gives a passing nod to Hitler as being the superior strategist to his vaunted General Staff. Luther thinks that Hitler had a better intuitive feel for what was needed for a long strategic war against the British Empire and the United States.

The beauty of this book is that Luther builds well on the foundation of others. Luther's synthesis of previous works, and of modern historians like Glantz, Jones and Stahel, is simply superb. Luther also digs deeper into the issue of histography by addressing the previously accepted view of World War II as the captured German generals sold to us in their various debriefings. The German generals painted a picture of an honorable army, fighting an honorable war against an Asiatic, ruthless horde, where due to the nature of combat, excesses happened. But as new works such as ***Hitler's Executioners*** have demonstrated, the German army was complicit in the crimes and the genocide practiced on the Eastern Front as a matter of policy.

My final thoughts are that if you find this book on sale, buy it right then and there. The biggest problem with the book is its sheer volume, for it appears daunting. The type size at the end of each chapter, however, ***is*** daunting! My test for any book is how slowly I will force myself to read it, to savor every delightful page. Luther accomplishes that goal with ***Barbarossa Unleashed***. Add clear, concise prose, a logical roadmap and structure for the reader to follow, and great documentation, and you have a near-perfect book. Don't be fooled by the fact that it is published by Schiffer Publishing, a specialty house – it's simply a top-notch book that might not have got the lovely treatment it received if not for Schiffer Publishing.

If you buy one book in the next year on the Eastern Front, this work on Army Group Centre's battles in perhaps the decisive campaign that sealed Germany's fate in 1941 deserves the highest consideration.

LTC (DR.) ROBERT G. SMITH

Barbarossa 1941: Reframing Hitler's Invasion of Stalin's Soviet Empire, Frank Ellis, University of Kansas Press, 2015, 624 pages, $39.95.

The University of Kansas Press has become one of the powerhouses in publishing works on the Eastern Front of World War II. Is there any subject written about as much in World War II as the Grecian tragedy that played out between the forces of Hitler's Germany and Stalin's Red Army in the cataclysmic struggle that defined World War II and the modern world? So upon seeing that University of Kansas Press was to release a new volume on Operation Barbarossa by Frank Ellis, I eagerly awaited its arrival.

Ellis notes to the reader that much of this material has been available for the past decade but without use or context. With current Russian-West relations at a nadir, one cannot be sure how long any archival material and access will be available.

Ellis' approach will seem mystifying to the blood-and-snow type of readers who want only to see if Ellis contributes anything new to the actual combat that consumed much of Europe's lifeblood, but Ellis' subtitle tells you much about his intent – that his concept is a reframing of the invasion by Hitler's Operation Barbarossa into Stalin's Soviet Empire. Indeed, a review of the chapters tells you this is either a provocative new book – with chapters dealing with topics such as Soviet intelligence assessments of German military intentions, the Victor Suvorov Stalin attack thesis or reflections on the Commissar Order – or a retelling of the same story with perhaps a few new "highlights." Instead, Ellis has produced a gripping tale that will make readers question many of their cherished Eastern Front truths.

Ellis has two theses running concurrently through the book. At one level, we have his declaration that this was a war of ideologies, which is of itself nothing new. What makes it refreshing is Ellis' analysis of how it was really the Soviet Union who launched this war of ideologies, unleashing its murderous rage on its own peoples in the 1930s purges and Ukrainian starvation of the kulaks, culminating in the Polish Katyn Massacre. Out of this fear of the Bolshevik tide and the NKVD, murders increased, coupled with Hitler's vision of Lebensraum in the East, the Commissar Order and the more infamous, but less well-known, Barbarossa Military Jurisdiction Order. The Commissar Order allowed the liquidation without trial of any captured Soviet commissars, and perhaps by inference any other Soviet-type functionary. The Barbarossa Military Jurisdiction Order allowed the employment of full-scale barbaric methods to be used without any legal issue by Wehrmacht soldiers to cow the Soviet peoples, a form of shock and awe by barbarity.

Ellis' other key thesis is that the Soviet intelligences services did extraordinary work in the months leading up to Barbarossa. We read time after time detailed reports of the construction of new infrastructure and the movement of Wehrmacht units to the east. All these preparations could only point to one thing, and these reports were sent up through the Soviet chain. As Ellis notes, this superior intelligence work "makes Stalin's failure to act in good time and in good order all the more perplexing."

Ellis makes good use of the diary of Gefreiter von Wiedebach-Nositz of 20th Panzer Division. This account extends from before the launch of Operation Barbarossa until the time of his wounding and evacuation in January 1942. This diary, like other accounts and letters I've read, stresses "comradeship, duty and obedience." Yet I found the diary less interesting than the formal interrogation record of GEN Dmitry G. Pavlov, commander of the key Western Front, the gateway to Moscow via Minsk and Smolensk. Until now, I can say my own military experience meant I saw Pavlov as incompetent, but the review of Pavlov's interrogation that found him engaged in a conspiracy to betray the Soviet Motherland, coupled with the chapter on intelligence, allows one to be more sympathetic to him.

The Victor Suvorov chapter is perhaps the hardest to pin the intellectual tail on the donkey, for at the end, the reader might rightfully conclude that Ellis himself is certain what to make of the thesis. Suvorov, a high-ranking defector from the Soviets' intelligence services, is still considered a traitor by the Russian Federation. Suvorov postulated that Stalin was preparing to attack the West, specifically Germany, and that *ipso facto* Operation Barbarossa was in essence a preventive war. This had been dismissed out of hand by almost all historians until the revelation of a May 1941 wargaming exercise run under the watchful eye of then-GEN Georgy K. Zhukov that saw the launch of a Soviet offensive into the West – as well as Stalin's speech of May 5, 1941 – that buttresses this exercise post-1991. However, Ellis all but demolishes Suvorov's thesis in a 30-point rebuttal. Ellis, though, hedges his bets by noting that if such a plan ever existed, it has not been declassified and could the Russian Federation ever sanction the publication of such a plan? After all, that plan's publication would revamp the entire history of World War II and not accrue favorably to the heroism of the Red Army and, by extension, the Russian Federation.

Finally! A work that answers the questions of what both the Soviets and Germans were doing in terms of intelligence work and preparing their side of the battlefront pre-invasion. The more I read, the deeper I was drawn in by a truly different approach and by Ellis' considerations of a generally-heretofore-ignored aspect of this campaign. Ellis' approach allows readers to fully grasp much of what they may have wondered about in terms of the run-up to Operation Barbarossa that had been generally ignored by all other historians. Ellis greatly expands our overall knowledge of the pre-invasion period of Barbarossa as well as adds to our comprehension of the Wehrmacht's initial surge into the Soviet Union. Ellis' work will cause you to re-evaluate and ponder much of what passes for historical knowledge in this campaign.

My final thoughts are this: don't buy this book if you don't want to have a number of your World War II Eastern Front cherished truths challenged.

Ellis' book – although a little weightier than the average Barbarossa book and despite its different emphasis – is a new must-read for any serious student of Operation Barbarossa.

LTC (DR.) ROBERT G. SMITH

(***Editor's note:*** *As an historical side note regarding the cavalry profession, Zhukov began his Red Army career as a cavalry soldier and officer, commanding 39th Cavalry Regiment and 2nd Cavalry Brigade of 7th Cavalry Division; serving as assistant inspector of cavalry of the Red Army; commanding in 4th Cavalry Division and in 3rd Cavalry Corps (later 6th Cavalry Corps); and serving as deputy commander of the Belorussian Military District for cavalry before being selected to command First Soviet Mongolian Army Group in 1938. In the 1938-1939 undeclared border war with the Japanese, Zhukov demonstrated and tested the techniques he later used against the Germans on the Eastern Front.)*

Genesis, Employment, Aftermath: First World War Tanks and New Warfare, 1900-1945, edited by Alaric Searle, Helion and Company Limited, 2015, 1,244 pages (including maps and photographs), $79.

At the end of the first day of the 1917 Battle of Cambrai, British LTC R.W. Dundas wrote to his wife, "Unless some mischance occurs this afternoon, the tank has finally established itself as a weapon of warfare." Insights into how the need to restore maneuverability to the World War I European battlefield led to the tank's creation are provided in Alaric Searle's work ***Genesis, Employment, Aftermath: First World War Tanks and New Warfare, 1900-1945***.

The book is a compilation of academic essays that discuss the technical and industrial development of this new instrument of war. While there are references to various tank engagements, Searle's work concentrates on the production, employment and impact of British, French and German tank programs. There is no in-depth battle analysis presented in the book. The nine chapters of the book are authored by individuals possessing impressive academic credentials that are reflected in the composition of each segment. The chapters address the development of the tank from conception to employment, along with the supporting systems that enhanced effectiveness.

What is a tank? One contributing author cites the definition of a tank as found in writing of the period as "a device which transports men and guns, behind the relative safety of armoured plate, to a point on the battlefield where they can do the most good, or harm."

How that definition became a reality is amply addressed in this book. As the industrial age matured, the concept of placing an artillery weapon into a maneuverable platform came to the forefront of European military planning. Various pre-war designs were put forth, and each eventually was rejected as either excessively expensive or unfeasible. European leaders believed that any future conflict would be a swift war of maneuver and that current weapons, tactics and techniques would ensure victory. This framework was subject to serious alteration as a general stalemate engulfed the Western Front. Massive artillery bombardments made large-scale maneuver virtually impossible. As a result, tactical commanders became obsessed with finding a way to restore battlefield maneuverability to their ground forces.

As the editor notes, "Social systems in competitive situation – and, war is surely one of the most competitive situations in human life – secure their future existence through innovation." With reference to the tank, innovation was ably assisted by improved industrial capability and capacity. The challenge then, as now, was to divine from the mass of ideas presented which would bear the most fruit on the battlefield. As various authors thoroughly explain, attaining the best weapon at a reasonable price required a unique blend of tacticians well-versed in the required need, political support to secure funding and an industrial capability that could quickly provide the required system.

While the Allies sought a system to enhance maneuver, the tank's development was carried out simultaneously between the British and French with limited coordination. German development was subject to a unique series of considerations. Contributing author Ralf Raths relates that the development and production of the German A7V tank was restricted by the competitive industrial requirements to manufacture airplanes and submarines. The highly effective Allied blockade of Germany played a large role in limiting the tank's subsequent production. To compensate for their lack of like systems, the Germans developed effective countermeasures such as anti-tank weapons, grenades and mines.

As initially produced by the British, the Mark-series tanks were noisy, foul-smelling pieces of equipment. Contributor Bryan Hammond details the duties and responsibilities of the crews manning the tank, the armament developed and the uniform adapted to withstand the heat of the vehicle's internal-combustion engine. The effects of terrain, an inability to communicate within and outside the tank, lack of close infantry support and the tenacity of the defenders are addressed by authors Jim Beach and Brian Hall in their contributions to the book.

In addition to manufacturing the tank and training the crews, as noted by several contributors, all the combatants had an effective method for distributing tactical lessons. The gathering of information, staff-production process and distribution of the publications is covered by each author. The contents of these publications usually included a detailed description of a given action, lessons extracted from the battle and recommendations for the modification of tactics to counter a given threat. An abundance of footnotes in each chapter provides information on the source document for those seeking more information.

One note of caution: as stated earlier, this is not an in-depth battle analysis of various tank battles, nor, despite the title, do the authors connect World War I actions to those of World War II. The sole focus is World War I. Well-written, painstakingly researched, with photos that support the text, this book will appeal to those seeking to

enhance their appreciation of the development and employment of World War I tanks.

RETIRED COL D.J. JUDGE

Route 9 Problem, The Battle for Lang Vei, David B. Stockwell, Book Publishers Network, 2016, 361 pages (including photographs and maps), $21.95 paperback, $9.99 ebook.

It was a chilly, overcast night Feb. 7, 1968, when U.S. Army SGT Nickolas I. Fragos, a medic with Special Forces Detachment A-101, squeezed the handset of his field telephone and yelled the warning, "We have tanks in the wire!" Just 42 minutes after midnight, the Battle for Lang Vei began.

The North Vietnamese Army (NVA) had intended to send about 40,000 troops to attack the 6,000 U.S. Marines at Khe Sanh as part of its wide-ranging Tet Offensive of 1968. There was one tactical snag for the NVA, though: the small U.S. camp at Lang Vei.

Retired U.S. Army Armor officer LTC Dave Stockwell recounts the heroism of the outnumbered U.S. forces in a battle fought by four of our armed services, as well as the bravery of those on the homefront. As Stockwell writes, the NVA commander wasn't worried, as he expected his tanks to easily overcome U.S. defenders at Lang Vei before moving on to an expected quick and decisive victory at Khe Sanh. However, the tough defenders at Lang Vei had other ideas; the two-dozen U.S. Army Green Berets and their 400 local-tribesmen allies fought so hard that they became known as the "Route 9 problem" at the North Vietnamese government's highest levels.

The Tet Offensive, now considered by military historians as the turning point of the Vietnam War, has elicited a number of books recounting acts of valor and self-sacrifice by combatants on both sides. Although Stockwell's ***Route 9 Problem, The Battle for Lang Vei***, is another book on the subject, it stands out as a good choice for ***ARMOR*** readers because it details the NVA's first use of tanks against U.S. forces during the war. Also, Stockwell's writing is an action-packed account of the battle rather than a dry historical recounting of the impact of the NVA's PT-76 tanks attacking in the heavily wooded area along the South Vietnamese border with Laos.

Stockwell, who also wrote ***Tanks in the Wire! The First Use of Enemy Armor in Vietnam*** (1989), admitted in the preface of ***Route 9 Problem*** that he wasn't happy with his first book on the battle for Lang Vei, thus his motive for writing this second book on the subject. "It didn't honor the men who fought there in the manner they deserved and in the way I intended," Stockwell said. So he decided to write a more comprehensive story with the encouragement, help and consent of many of the battle's survivors. The new story still highlights the heroic Green Berets and their friendly indigenous forces at Lang Vei, but it also details the crucial roles of other participants. For example, the U.S. Marines at Khe Sanh provided artillery support and rotary-wing aviation evacuation flying into enemy fire, while Navy and Air Force pilots flew nearly constant air support, including low-level bombing and strafing runs.

Stockwell's latest book includes details of the varied backgrounds and personalities of the participants that adds depth to the story. It also relates the war's impact on the Soldiers' families back home during and after the battle. It is written in an easy-to-understand style so that today's young adults with no military experience can understand the war their fathers or grandfathers won't talk about. Therefore, there's no profanity, and the military jargon is explained. Veterans will still enjoy it, though, especially for its authentic and detailed account of the battle.

Individual acts of courage filled the battlefield at Lang Vei. Illustrative of the valor displayed by all the outnumbered defenders, one such selfless act by SFC Eugene Ashley Jr., senior medic of U.S. Army Special Forces C Team (who was at the nearby "Old Lang Vei Camp" at the start of the battle), earned him the posthumous award of the Medal of Honor, the highest military honor of the United States.

Also detailed is the courage of Army MSG James W. Holt, senior medic assigned to U.S. Army Special Forces Detachment A-101. He killed three NVA tanks during the battle before becoming a casualty, and was listed among the missing-in-action heroes of Lang Vei for 47 years. He was repatriated and buried at Arlington National Cemetery May 14, 2015, with national press coverage. The Armor Association awarded Holt the Saint George Award (Bronze) Sept. 28, 2016 – the first posthumously awarded, and also the first time the honor was awarded to a Green Beret.

GARY A. JONES
Deputy editor, ***ARMOR*** magazine

***(Editor's note**: James William Holt was a sergeant first class at the time of the Battle for Lang Vei. He was promoted to master sergeant while listed as missing in action. Source: **The Virtual Wall Vietnam Veterans Memorial**, http://www.virtualwall.org/dh/HoltJW01a.htm.)*

72ND ARMOR REGIMENT

The principal colors of the shield are those of Armor. The dragon is represented as a strong and fierce animal covered with invulnerable plates of mail, and in heraldry is properly applied to the overthrow of a vicious enemy. The fleur-de-lis charged on the wing symbolizes the organization's campaigns in Europe and the three blue roundels represent its Korean operations: United Nations Defensive, United Nations Offensive and Chinese Communist Forces Intervention. The distinctive unit insignia was originally approved for 72nd Tank Battalion Jan. 8, 1952. It was redesignated for 72nd Armor Regiment March 28, 1963.

PB 17-17-2
PIN 201486-000

Headquarters, Department of the Army
Approved for public release, distribution is unlimited