Infantry

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FRONT COVER:
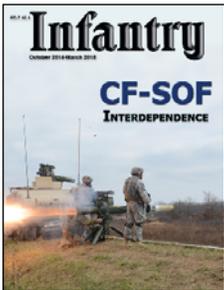
A special forces weapons sergeant with the 5th Special Forces Group (Airborne), fires a BGM-71 tube-launched, optically-tracked, wire-guided (TOW) missile during a partnered training exercise with Soldiers from the 1st Battalion, 327th Infantry Regiment, 1st Brigade Combat Team "Bastogne," 101st Airborne Division (Air Assault), on 9 December 2014. (Photo by MAJ Kamil Sztalkoper)

BACK COVER:

Company, troop, and battery commanders of the 1st Stryker Brigade Combat Team, 4th Infantry Division receive a CH-47 Chinook static load class during the first day of "Raider" Mungadai on 15 October 2014 at Fort Carson, Colo. Based on Genghis Khan's legendary Mongolian cavalry selection process, Mungadai tests Soldiers' endurance and warrior skills as a team. (Photo by SGT William Howard)

Commandant's Note

BG JAMES E. RAINEY

BUILDING MARKSMANSHIP AS A FORCE MULTIPLIER IN OUR COMPLEX WORLD

The Maneuver Center of Excellence (MCoE) wants to ensure that when Soldiers, NCOs, and officers depart courses at Fort Benning they have achieved increased mastery of key fundamentals. The MCoE is focused on marksmanship as the first step towards developing lethal and precise Soldiers.

Marksmanship skills in our Army atrophied over years of continual ARFORGEN cycles and combat deployments. The MCoE defined desired outcomes for marksmanship to address the following training goals: develop Soldiers into expert marksmen, develop NCOs into expert marksmanship trainers, and develop officers into expert marksmanship training managers. This course uses world-class marksmanship expertise from the U.S. Army Marksmanship Unit (USAMU), it is sustainable, and it contributes toward the vision outlined in the Army Operating Concept (AOC).

The Marksmanship Master Trainer Course (MMTC) is a five-week course that trains NCOs as Marksmanship Master Trainers. The first two weeks are Level-1 to make the students technically proficient at planning and executing Basic Rifle Marksmanship (BRM) training for ranges of 50-300m. The third week is Level-2 and does the same for Short Range Marksmanship (SRM), ranges up to 50m. The fourth week is Level-3 and makes the students proficient at Mid-Range Marksmanship (MRM), ranges 300-600m. The fifth week is Level-4 that provides students the ability to assist unit leaders in planning and implementing small arms marksmanship training strategies, qualification, maintenance, and certifying Levels 1-3 marksmanship trainers within their organization.

The MCoE completed three MMTC iterations, and a fourth MTT is scheduled for April for the XVIII Airborne Corps. Additionally, 10 courses are planned throughout FY16. The USAMU is teaching the MMTC until conditions allow a transfer of the course to the new MCoE lethality battalion, which is in 316th Cavalry Brigade. It is this Army expertise from the bullet, to the gun, to the marksman that the MCoE is leveraging to build expert marksmanship trainers in the MMTC.

The MMTC is a sustainable solution for improving marksmanship in the Army and is in the process of becoming an approved ATRRS course with an Additional Skill Identifier, so units can track qualified trainers. Mastery of marksmanship is a combat multiplier in our complex world. Contact us if you are interested in this course and let us know what you think.

Photo by SSG Chris Toepfer

Marksmanship Master Trainer Course students utilize the Engagement Skills Trainer 2000 for grouping and zeroing.

Infantry News

SOLDIERS OF FUTURE WILL GENERATE THEIR OWN POWER

JEFF SISTO

Wearable technologies may provide U.S. Soldiers with on-the-move, portable energy and reduce the weight of gear they carry into combat.

Researchers at the Natick Soldier Research, Development and Engineering Center (NSRDEC) are developing Soldier-borne energy-harvesting technologies.

During the Maneuver Fires Integration Experiment (MFIX), a combined, multi-phase joint training exercise held in September 2014 at Fort Benning, Ga., researchers tested prototype energy-harvesting technology solutions.

"My initial impression is that they fulfill a need for instant power generation on long-range missions when displaced from traditional resupply methods," said SFC Arthur H. Jones, an Infantryman with the Maneuver Center of Excellence (MCoE) who participated in the demonstration.

A sharp rise in Soldier-worn power capabilities has resulted in a dramatic increase in the number, variety, and weight of batteries carried by warfighters in the field.

This weight prompted NSRDEC researchers to begin developing and evaluating small, lightweight, efficient, on-the-move, portable energy-harvesting and distribution systems that eliminate the need to carry extra batteries.

Energy harvesting works by capturing small amounts of energy that would otherwise be lost as heat, light, sound, vibration, or movement. It uses that energy to recharge batteries and provide power for electronic devices such as a Soldier's communication equipment, sensors, or battlefield situational displays.

Researchers first demonstrated the concept to Army and government representatives at Fort Devens, Mass., in April 2014. The demonstration consisted of experienced Soldiers wearing three energy-harvesting devices while traversing a four-mile course that included hard-surfaced roads, lightly wooded areas, open fields, and hilly terrain.

The technologies, which included wearable solar panels, backpack, and knee kinetic energy-harvesting devices, are now being tested at MFIX as ways to reduce the weight and number of batteries Soldiers must carry to power electronic devices.

Lightning Pack's Rucksack Harvester relies on the

Photos by David Kamm

A Soldier conducts dismounted maneuvers wearing Lightning Pack's Rucksack Harvester, Bionic Power's Knee Harvester, and MC-10's photovoltaic Solar Panel Harvester, during an energy-harvesting technology demonstration held at Fort Devens, Mass., by NSRDEC.

weight of the backpack to produce kinetic energy when the backpack oscillates vertically in response to the Soldier's walking or running stride. As the backpack is displaced vertically, a rack attached to the frame spins a pinion that, in turn, is attached to a miniature power generator. It is capable of producing 16 to 22 watts while walking and 22 to 40 watts while running.

Bionic Power's Knee Harvester collects kinetic energy by recovering the power generated when walking. The articulating device is attached to both the upper and lower part of each leg and extracts energy when the knee is flexed. Through software control, the knee harvester analyzes the wearer's gait and harvests energy during the phase of the stride when negative work is being performed. This attests that the Soldier is exhibiting less metabolic activity descending when compared with descending without wearing the device.

MC-10's photovoltaic (PV) Solar Panel Harvester operates by converting sunlight into electrical energy. The panels, which cover a Soldier's backpack and helmet, are constructed from thin gallium arsenide crystals that provide

flexibility to the panel's material and allow it to conform to a Soldier's gear. Under bright sunlight conditions, with the PV panel facing the sun, the backpack panel is capable of delivering 10 watts while the helmet cover panels provides seven watts of electrical power.

At MFIX, NSRDEC researchers collected power-management data and assessed user feedback from the Soldiers wearing the technologies. Once the energy-harvesting technologies themselves are validated, the next step will be to sync with the Integrated Soldier Power Data System as a way to distribute the energy to a Soldier's electronic devices.

Additionally, "MFIX is looking at new concepts with energy-harvesting devices and how they fit in a tactical environment," said Noel Soto, project engineer for the Power and Data Management Team of the NSRDEC Warfighter Directorate.

"MFIX is an important opportunity that allows us to quantify the energy-harvesting technologies that generate Soldier power on the move," said Henry Girolamo, lead, Emerging Concepts and Technologies, Warfighter Directorate, who has been involved with the effort since 2011. "The MFIX data collected in the experiment will inform us of the power harvester efficiency by comparing energy harvester-equipped Soldiers and non-energy harvester-equipped Soldiers and states of charge from the energy harvesters versus discharge from non-energy harvester-equipped Soldiers."

(Jeff Sisto writes for the NSRDEC Public Affairs Office.)

A helmet cover equipped with MC-10's photovoltaic Solar Panel Harvester material was used at an energy-harvesting technology demonstration held at Fort Devens by NSRDEC.

Art Petit, training and services manager for InstantEye, launches the system during a hands-on demonstration for students of the Maneuver Captains Career Course.

SOLDIERS HELP DEVELOP NEW UNMANNED AIRCRAFT

NOELLE WIEHE

Students of the Maneuver Captains Career Course at Fort Benning, Ga.,evaluated an InstantEye unmanned aerial system (UAS) to aid in the advancement of a new generation.

InstantEye Mk-2 Gen 3, by Physical Science Inc., is a small UAS able to be launched by hand with vertical takeoff and landing, said Art Petit, training and services manager for InstantEye. The system demonstrates integrated squad-level airborne intelligence, surveillance, and reconnaissance with the ability to provide a cursor on target and battle damage assessment, according to a release on Army Expeditionary Warrior Experiments of 2015.

InstantEye Mk-2 Gen 3 was designed directly from feedback from Soldiers, Petit said. Most in attendance had already been exposed to the system and gave positive feedback, but with their feedback PSI Technology is constantly developing new and improved versions of the system.

"Bottom line behind the aircraft's design is it wasn't designed in a vacuum by a bunch of engineers; it was designed by the guys that get their boots dusty on the ground every day" Petit said.

Being prior Infantry, Petit emphasized the advantage of having a third-eye perspective as a ground Soldier where it may not have existed before because of priorities not going to ground Soldiers.

"That's really important for the safety and force protection of the Soldiers " Petit said.

CPT Brett Matzenbacher, small group leader of the MCCC, compared the system to the Raven, a rucksack-portable UAS currently used in combat overseas.

"I like the Raven because it is something I own," Matzenbacher said. "Pretty much every aspect of performance I can think of (makes InstantEye) superior to what we currently have at the company level "

Read more about the InstantEye at http://www.army.mil/article/139281/Aerial_system_could_enhance_capabilities.

(Noelle Wiehe writes for Fort Benning's Bayonet & Saber *newspaper.)*

Professional Forum

EVERY SOLDIER COUNTS: PART 3
THE ROLE OF THE BRIGADE S1 IN MANNING
A BRIGADE IN TODAY'S FORCE REDUCTIONS

MAJ CHRISTOPHER L. MOORE

Editor's Note: This is the third article of a three-part series on how company command teams, battalion S1s, and brigade S1s sync their efforts to properly man brigade combat teams as the Army reduces its end strength.

Manning a brigade during today's force reductions is a multi-echelon effort synchronized by the brigade S1. The brigade S1 works closely with the brigade's battalion S1s and company command teams to ensure the brigade is effectively manned in accordance with its modified table of organization and equipment (MTOE) personnel authorizations. The brigade S1 accomplishes this by leveraging the unit's MTOE personnel authorizations, electronic Military Personnel Office (eMILPO) availability codes, and coordination with the division/installation senior commander's G1 and appropriate Human Resources Command (HRC) assignment personnel.

The first — and often overlooked — step for a brigade S1 to effectively man the brigade is to know its MTOE personnel authorizations. This is accomplished by downloading the brigade's MTOE personnel authorizations from the Force Management System website (FMSWeb).[1] A user-friendly tool, FMSWeb enables the brigade S1 to know exactly what each subordinate unit assigned to the brigade is authorized from each military occupational specialty (MOS) by pay grade.

Once the S1 knows the brigade's MTOE personnel authorizations, it is time to discuss its impact on the brigade's mission readiness with the brigade command sergeant major (CSM). For example, many MOSes are part of vehicle or weapon system crews and must be assigned accordingly. As the brigade's senior enlisted advisor, the brigade CSM can assist the brigade S1 in identifying MOS shortages that will make vehicles or weapon systems non-mission capable simply because there are not enough properly trained Soldiers to operate them. This is critical to understand, especially with the current Army Manning Guidance that prioritizes each unit's manning levels based upon its assigned mission. A brigade S1 that understands the brigade may be filled at varying percentage levels of its MTOE authorization, depending on its mission status, can

Photo by MAJ Taya Grace

COL William B. Ostlund and CSM Bradley K. Meyers case their unit colors during a transfer of authority ceremony for the 3rd Brigade Combat Team, 1st Infantry Division at Forward Operating Base Apache, Afghanistan, on 27 February 2014.

conduct an analysis with the brigade CSM to determine which MOSes or assigned units can absorb this manning fluctuation with the least impact on the brigade's mission readiness.[2]

Of the systems available to the brigade S1, eMILPO is the most efficient at providing real-time availability data for each Soldier assigned to the brigade.[3] This system enables all HR professionals in the brigade, and Army wide, to share a common picture of each Soldier's availability status. With eMILPO generated reports, such as the Soldier Readiness Report, the brigade S1 can review each Soldier's availability codes in order to determine any trends reducing available manpower. Some of these trends can be easily mitigated through aggressive use of the Soldier Readiness Process (SRP).

Other trends, such as pending legal separation, require close coordination between the brigade S1, battalion S1, company command teams, and other brigade and division staff sections. The focus of this coordination is to conserve the

brigade's available combat power by successfully correcting the issue that is preventing the Soldier from being available for missions worldwide. When the Soldier's command team has made the determination that the Soldier's non-availability issue(s) cannot be resolved, then the above mentioned sections must shift their efforts to separate that Soldier in a timely manner. This must be accomplished in order for the brigade to receive a replacement who is available for worldwide missions.

For manning shortages that cannot be resolved at the brigade level, the brigade S1 coordinates with the division/installation senior commander's G1 and appropriate HRC assignment personnel to receive personnel critical to mission accomplishment.[4] Key to the brigade S1's success working with these two HR echelons is the accuracy of the brigade's personnel requirements. The brigade S1 must ensure that each personnel requirement is supported with validated data. This includes verifying the requirement is based upon the brigade's MTOE personnel authorizations or assigned mission and that each assigned Soldier's eMILPO availability code is correctly annotated.

Once the brigade S1 has validated the personnel requirement's supporting data, the requirement is forwarded to the division/installation senior commander's G1 or appropriate HRC assignment personnel. Often the division/installation senior commander's G1 can fill a brigade's personnel shortage more quickly than HRC assignment personnel through the use of an intrapost transfer. This saves time and money by eliminating the need to move Soldiers and their Families from one duty station to another duty station. HRC assignment personnel can fill the brigade's remaining mission-essential personnel requirements by placing available Soldiers on permanent change of station (PCS) or temporary change of station (TCS) orders. This process takes more time, typically three to six months, and more funding due to moving the Soldiers from one duty station to another.

In today's manning force reduction, the brigade S1 must synchronize the efforts of HR professionals across multiple echelons to effectively man a brigade. By working closely with the brigade's battalion S1s and company command teams, the brigade S1 ensures that the brigade leverages its own capabilities to secure its Soldiers' availability from resolvable issues. This is accomplished by ensuring that these leaders clearly understand their units' MTOE personnel authorizations and how to properly track their Soldiers' availability status in eMILPO. The brigade S1's coordination with the division/installation senior commander's G1 and HRC leverages additional personnel to fill mission-critical manning vacancies that could not be resolved at the brigade level. Through meticulous synchronization of multi-echelon HR manning efforts, the brigade S1 can ensure the brigade is effectively manned for its assigned missions.

Notes

[1] Force Management System Website — https://fmsweb.army.mil/unprotected/splash/.

[2] All Army Activities (ALARACT) 293/2012, "HQDA EXORD 10-12 ISO the HQDA FY13-15 Active Component Manning Guidance." Pentagon Telecommunications Center, HQDA, Washington, D.C., October 2012.

[3] eMILPO website — https://emilpo.ahrs.army.mil.

[4] ALARACT 063/2014, "FRAGO 1 to HQDA EXORD 010-13 ISO THE HQDA FY13-15 Active Component Manning Guidance (ACMG)," March 2014.

MAJ Christopher L. Moore is currently serving as an evaluation policy officer at U.S. Army Human Resources Command, Fort Knox, Ky. He previously served as the S1 for the 3rd Infantry Brigade Combat Team, 1st Infantry Division, Fort Knox, Ky. He is a graduate of the Intermediate Level Education program (common core and qualification courses), Fort Leavenworth, Kan.; Adjutant General Captains Career Course, Fort Jackson, S.C.; Adjutant General Officer Basic Course, Fort Jackson, Brigade S1 Operations Course, Fort Leavenworth; Postal Operations Course, Fort Jackson, Basic Instructor Training Course, Fort Jackson; Military Transition Team training, Fort Riley, Kan.; and Recruiting Commanders Course, Fort Jackson. MAJ Moore earned a master's degree in human resources development from Webster University.

Photo by MAJ Johanna Smoke

The 3rd Brigade Combat Team, 1st Infantry Division was inactivated during a ceremony at Fort Knox, Ky., on 22 May 2014.

THE BATTERY DIFFERENCE:

A SOLUTION TO REDUCING SOLDIER LOAD AND INCREASING EFFECTIVENESS ON THE BATTLEFIELD

MAJ TOM BEYERL

One of the greatest contributors to expendable Soldier load is spare batteries. Recent efforts by the Maneuver Center of Excellence (MCoE) and Project Managers (PMs) such as PM Soldier Sensors and Lasers (PM SSL) have standardized the majority of dismounted electronic equipment into a few common battery types. Commercially available 1.5v AA batteries have replaced numerous unique equipment-specific battery types in night vision devices, target locators, and weapon sights. While these efforts drastically reduced the myriad types of batteries required, they did not necessarily reduce the overall Soldier load.

Recent commercial developments have brought the lithium non-rechargeable battery into the supply system as a means to carry more power in significantly fewer batteries. Lithium L91 AA 1.5v batteries (NSN 6135-01-333-6101 pkg. 12) provide three to five times the system battery life as conventional alkaline AAs. While the initial cost is higher, their increased lifetime results in similar overall operational costs at drastically reduced Soldier load.

High drain devices such as the AN/PSQ-20, 20A, 20B Enhanced Night Vision Goggle (ENVG), AN/PAS-13 Thermal Weapon Sight (TWS) and the AN/PED-5 Laser Target Locator Module (LTLM), benefit most from lithium non-rechargeable batteries. The current requirements for these devices deplete conventional alkaline batteries at such a rate that operational use time is severely limited. Many of PM SSL's current sensors, lasers, and precision targeting devices were designed for the lithium battery with its far superior output capabilities and voltage curve. As expected, the number one issue Soldiers expressed with these systems in post-combat surveys is poor battery life when using regular alkaline batteries.

Power Struggle

While alkaline AA battery initial costs are significantly less than their L91 AA lithium counterparts, Soldiers need to carry and expend a considerable number of batteries in order to match the operational time of far fewer L91s. This increases Soldier load. L91 AA lithium batteries increased performance time offers the user less frequent battery changes, equating to reduced Soldier load and system down time.

Operating Temperature: Designed With Every Climate in Mind

Cold temperatures diminish the capability of any battery. However, the lithium battery's chemistry is much more resistant to these losses. Lithium is the only AA battery that will effectively power most equipment in arctic conditions. At -20° Celsius, the L91 lithium AA battery has more than 10 times the lifespan of its alkaline counterpart.

Weight Matters

The L91 lithium battery is also lighter than an alkaline battery, resulting in an approximately six-fold reduction in overall mission battery load when combined with its extended battery life. With equipment weight reduction and Soldier load among the top priorities of materiel developers, this represents a significant advance over previous battery technology. The L91 lithium AA battery itself is 37 percent lighter than its alkaline counterpart, so Soldiers not only carry fewer batteries but also the batteries they carry are lighter.

In addition to AA batteries, the venerable BA-5590 has a more powerful replacement in the BA-5390A/U (NSN 6135-01-517-6060). It packs 50 to 100 percent more runtime than the BA-5590 by using upgraded lithium chemistry. This battery also includes a state-of-charge indicator, which enables reliable use of partially discharged batteries and eliminates the need to dispose of partially used batteries. The BA-5390A/U is the preferred battery for the AN/PED-1A and 1B Lightweight Laser
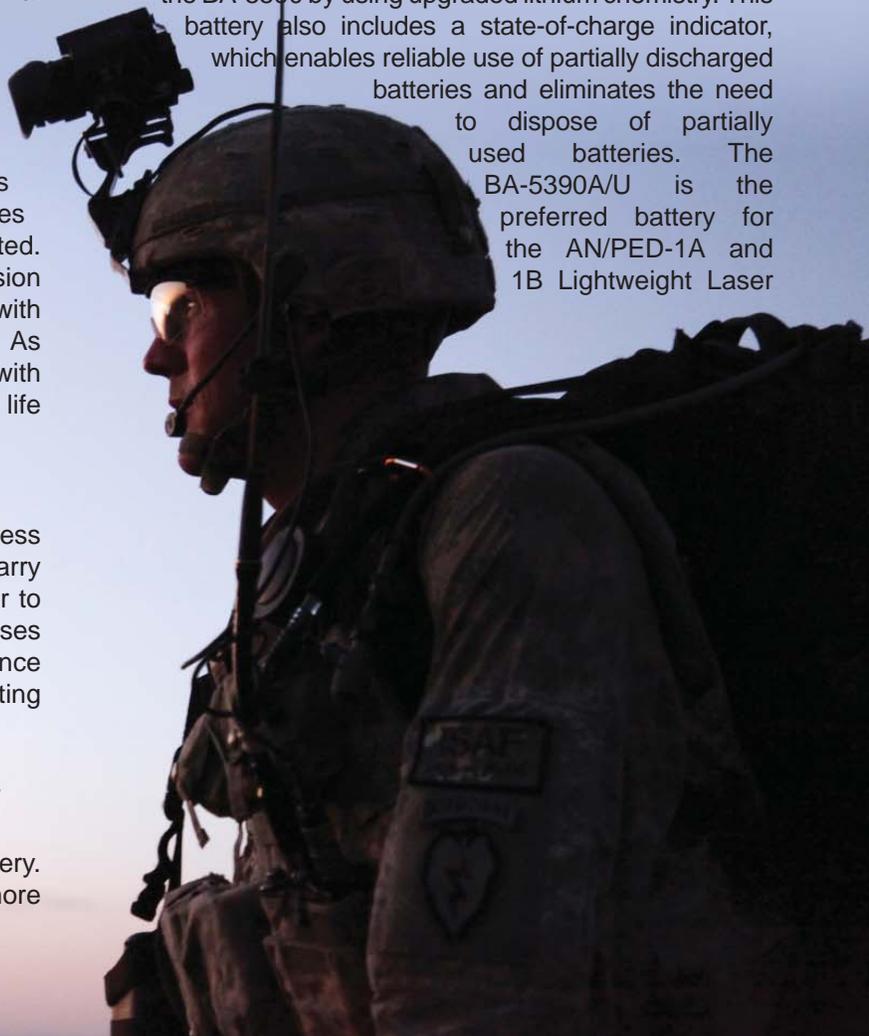
Designator Rangefinder (LLDR 2 and 2H) because its high power demands will quickly deplete the BA-5590. Use of the upgraded battery can cut in half the number of mission-required batteries compared to the BA-5590. This is another opportunity to reduce individual Soldier load.

Check Your TM

Equipment technical manuals (TMs) clearly state the acceptable battery types for their respective equipment. Always follow the TM recommendations to ensure the equipment is not damaged and operational needs are met. Many batteries look the same, yet are not interchangeable with those designed uniquely for other equipment. Never mix batteries of different brands — alkaline and lithium variants — or those with different states of charge. This can cause uneven current draw, which can result in battery overheating and rupture. Rechargeable batteries offer yet more weight and cost-savings opportunities when the mission or training conditions permit their effective use. Rechargeable batteries are usually used in maintenance situations.

Ultimately, commercial battery technology advances have enabled developers to maximize capability by producing backwards compatible power systems. This provides significantly longer operational life at a lower weight penalty. While these newer components are initially more expensive, they lower operational costs, Soldier loads, and logistical burdens due to the reduced numbers required.

Using L91 lithium batteries…

• Extends operational life by 300-500 percent,

• Saves mission weight by approximately 600 percent and

• Saves logistical costs by 300 to 500 percent.

Remember:

• Do not mix batteries of different types or brands. They will discharge unevenly and can ultimately rupture and fail.

• Using the wrong battery type affects the accuracy of your battery indicators or alarms. Developers designed night vision devices, thermal sights and target locators to use L91 lithium AA batteries. Alkaline batteries will not accurately indicate, or alarm, their state of charge, but lithium batteries will.

MAJ Tom Beyerl is the assistant product manager for maneuver targeting systems for Product Manager Soldier Precision Targeting Devices (PM SPTD). He previously commanded Bayonet Company, 1st Battalion 38th Infantry Regiment, at Joint Base Lewis-McChord, Wash. MAJ Beyerl's military education includes Airborne School, Air Assault School, Pathfinder School, Ranger, and the Maneuver Captain's Career Course. He holds a bachelor's degree in mechanical engineering from Norwich University.

LITHIUM vs. ALKALINE

Battery Performance in Your Sensors, Lasers, and Precision Targeting Devices

LITHIUM BATTERIES

• 30% Lighter = significant decrease in Soldier load
• Much longer lasting
• Best in high-drain devices, **Enhanced Night Vision Goggles, Thermal Weapon Sights, and Laser Target Locators**
• Performs in extreme temperatures
• Longer shelf life

ALKALINE BATTERIES

• Increased Soldier load
• Limited performance in extreme temperatures
• Shorter shelf life
• Limits opportunity to carry additional kit

peosoldier.army.mil #PowerUpProperly

PERSPECTIVE CHANGES AND RISK MANAGEMENT

SALVADOR D. ADAME
MAJ RYAN T. KRANC

The Army's Risk Management Process is based on widely accepted principles of risk identification, evaluation, and control.[1] The impact risks have on the business we conduct has the potential of manifesting itself in the most severe forms. While other organizations mainly use this process to gauge and evaluate the financial impact of their business decisions, the Army uses the process to help measure the loss in ability to perform its core capabilities by identifying the probability and severity of adverse consequences. Although the tool is explained in Army Techniques Publication (ATP) 5-19, *Risk Management*, the doctrinal explanation does not adequately emphasize that the personal perspectives individuals have towards risk identification are just as vital as executing the process correctly.

This is not a summary explanation of risk management (RM), an article on how to use RM, or an article to emphasize the importance of RM. Its value is proven and its acceptance a validation of its effectiveness. RM facilitates safety in the Army; however, the term "safety" is not clearly defined. "Safety" is a generic term in our organizational culture that implies a nebulous state where individuals are behaving in an acceptable way where the end state is an environment where no one is hurt and property undamaged. Following this logic, RM is the process in which our training or operations will be void of personal injury or property damage. This is incorrect.

To accept this truth as an organization, the Army must first evaluate its perspective on the link between RM and the implementation of safety regulations. The purpose of this article is to raise the enterprise-level awareness of three fundamental practices that enhance the positive effects of properly executed RM at any level in the Army.

1. Stop saying the following phrase: "*Safety saves lives!*" "Safety" doesn't save lives, YOU do! The implementation of procedures and regulations to follow Army standards significantly reduces the probability of a severe accident occurring. "Safety" used in this context is nebulous and its message is the opposite of clear and concise communication. Stating "safety saves lives" is akin to stating "Infantry saves lives!" or "Human Resources saves lives!" This catch phrase implies the key to abating severe personal injury or property damage is not a methodical and disciplined approach to mitigate loss. In practicum, the safety field is more than one set of regulations applied to a wide spectrum of support and operations within the Army's mission. These requirements are incorporated into the design of equipment, doctrinal concepts, technical bulletins, technical manuals, and Soldier/employee training. Variances in these specified standards or expectations need to be cyclically and continuously sought. In one other word: proactivity.

2. Let's agree on the definition of "proactive." Merriam-Webster defines proactive as "controlling a situation by making things happen or by preparing for possible future problems."[2] This is in contrast to reactive, which is defined as the doing "in response to a problem or situation" or "reacting to problems when they occur instead doing something to prevent them."[3] In context to RM and the Army Safety Program, proactive is the search for deviations to specified and expected outcomes. Reactive is everything that is done after a deviation (the consequences of which are manifested as personal injury or property damage and their follow-on affects). When deviations occur, the root cause must be identified and resolved in order to not incur the same loss. *Why* a deviation happens is vital in reducing the *what*.

3. Emphasize the *WHY* over the *WHAT*. Available Army accident information is organized into different categories that range in classification and impact to readiness. Every command has a slightly different focus on what it tracks, but it is mainly the same technique. The loss that is experienced is given a definition and grouped together with other losses of the same type; the focus is in trying to make sense of

Figure 1 — "3W" Approach to Information Collection, Analysis, and Recommendations
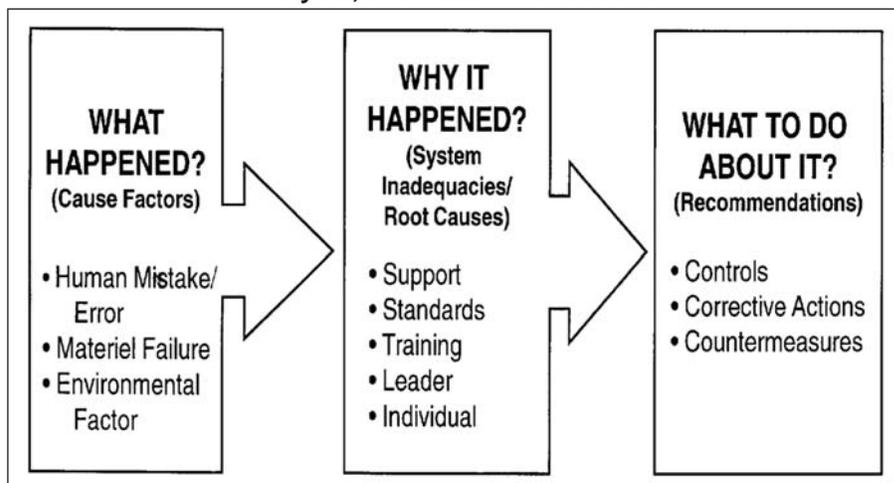
DA Pam 385-40, *Army Accident Investigations and Reporting*

what is happening in order to identity one or more negative trends so actions can be taken to mitigate them. This is not an analysis of what is happening; it is organizing information into manageable segments. Analysis is defined as "a careful study of something to learn about its parts, what they do, and how they are related to each other."[4] Organizing is to arrange things so that they can be found or referenced quickly or to put things into a particular arrangement or order.[5] Identify the *WHY* of accident trends comes from identifying the root causes and not simply tracking *WHAT* accidents are happening. You cannot improve the *WHAT* without knowing *WHY* it exists. DA Pamphlet 385-40, *Army Accident Investigations and Reporting*, provides the "3W" approach to information collection, analysis, and recommendations (see Figure 1).[6]

The *WHY* has five focus areas: **Support** (shortcomings in type, capability, amount or condition of equipment/supplies/services/facilities), **Standards/Procedures** (not clear/not practical), **Training** (insufficient in content/amount), **Leader** (not ready, willing, or able to enforce the standard), and **Individual** (mistake due to own personal factors).[7] Accident information cannot be properly analyzed without identifying the relationships of occurrences to these five factors. A connection must be established between the accident (the *WHAT*) and its root causes (the *WHY*) because you cannot keep it from happening again if you do not know how the series of events that led to it are related.

Why are these three points vital to gaining the proper perspective that will allow an organization to effectively implement RM? Because the truths they represent are universal and can be applied to any operation or specialty, and the process is not exclusive to the safety realm. Place in a different context: If your organization begins to experience pay problems and your human resources personnel kept offering solutions to the *WHAT* without a methodical analysis of the *WHY*, how effective would their solutions be?

Having a clear understanding of regulations and how they can be proactively applied to the Army's mission and operations (regardless of specialty) through cyclical and continuous efforts reduces the probability and severity of a deviation from an expected outcome. Being clear on why deviations happen is more important than what happened in order to prevent continuous occurrences. Most importantly, personal decision making, informed by proper training and education, is the first and most effective risk mitigation measure.

Notes

[1] ATP 5-19, *Risk Management* (Washington, D.C.: Headquarters, Department of the Army, 2014)

[2] Merriam-Webster.com, accessed 5 July 2014, www.merriam-webster.com/dictionary.

[3] Ibid.

[4] Ibid.

[5] Ibid.

[6] DA PAM 385-40, *Army Accident Investigations and Reporting* (Washington, D.C.: Department of the Army, 2009).

[7] Ibid.

Salvador D. Adame is currently the safety and occupational health manager for the 11th Armored Cavalry Regiment, Fort Irwin, Calif. His previous assignments include serving as the corporate environmental, health, and safety manager for Ameron International's Water Transmission Group and the safety, health, and environmental supervisor with Cytec Engineered Materials, California Division, in Anaheim, Calif. He also spent time as an environmental, health, and safety analyst with ITT Industries at the Goldstone Deep Space Communications Complex, Fort Irwin; and as the supervisory safety specialist with Charis Corporation in the Fort Irwin Safety Office. Mr. Adame is a current student of the Command and General Staff College. He holds a bachelor's degree in political science from Excelsior College and a master's of business administration degree with a concentration in safety management from Trident University International.

MAJ Ryan T. Kranc is currently assigned as aide de camp to the director of the Army Capabilities Integration Center, Fort Eustis, Va. His previous assignments include serving as chief of the Cavalry Doctrine Branch, Maneuver Center of Excellence, Fort Benning, Ga.; regimental operations officer, 11th Armored Cavalry Regiment (ACR), Fort Irwin; operations officer, 1st Squadron, 11th ACR, Fort Irwin; aide de camp to program manager, Saudi Arabian National Guard Modernization Program, Riyahd, Saudi Arabia; reconnaissance tactics instructor and troop commander, 2nd Squadron, 16th Cavalry, Fort Knox, Ky.; and commander, Q Troop, 4th Squadron, 3rd ACR, Fort Carson, Colo., and Iraq. He holds a bachelor's degree from in criminal justice from Gonzaga University and a master's degree in administration with a concentration on leadership from Central Michigan University.

A Soldier with the 4th Brigade Combat Team, 101st Airborne Division (Air Assault) scans the horizon during a route clearance patrol in Afghanistan on 14 August 2013.

U.S. Army photo illustration

A Proposal for Changes to the Infantry Weapons Company

1SG JARRETT E. HALVERSON
CPT CHRISTOPHER M. PERRONE

As the U.S. conflicts in the Middle East come to a close, much discussion has been generated across the Army about preparing for the next conflict. Many of these conversations have been on preparing for both conventional conflict as well as counterinsurgency (COIN) operations. In order to achieve overwhelming success on this future battlefield, maneuver units must be properly equipped and manned to meet this threat. The purpose of this article is to generate a discussion based upon the modified table of organization and equipment (MTOE) of the Infantry weapons company in an Infantry brigade combat team (IBCT) Infantry battalion with the intent of making changes to the design of its manning and equipment.

The first topic that needs to be addressed is the naming convention within the company. The term "Infantry weapons company" is a more sensible change from its predecessor (anti-armor company) as the organization is well equipped to conduct other types of operations than just anti-armor fires. However, the current term still doesn't quite portray the types of operations that the organization is capable of conducting. The current term inaccurately suggests that the company's composition is more akin to the weapons squads within a sister rifle company but on a larger scale in support of the battalion. A more appropriate term would be "motorized Infantry company" since the company's main platform of maneuver is the high mobility multipurpose wheeled vehicle (HMMWV); its weapons systems (TOW/ITAS [tube-launched, optically tracked, wire-guided/Improved Target Acquisition System], MK-19 40mm grenade machine gun, and M2 .50 caliber machine gun) provide greater damage to both mounted and dismounted enemy forces than the M240 machine guns available to the weapons squads. Another term that incorrectly portrays the company's capabilities is the name given to its four platoons — assault platoons.

According to Field Manual (FM) 3-21.12, *Infantry Weapons Company*, the company's mission, and subsequently that of the platoons, is to provide mobile heavy weapons and long-range close combat missile fires to the Infantry battalion. Though in theory the platoons are capable of conducting a mounted assault, they were designed to provide the base of fire for the battalion as the rifle companies maneuver and assault the objective. Another problem with the current term of assault platoon is that name doesn't readily identify it as part of its parent organization — the Infantry weapons company. The term assault platoon should be changed to mirror that of the proposed change for the company — motorized Infantry platoon.

Within the platoons, two terms that create confusion are that of squad and section. An assault platoon is broken down into two sections: 1st section and 2nd section. However, each section has two squads each, and herein is where the confusion lies. Unlike any other type of Infantry formation,

Photo by SPC Osama Ayyad

A Soldier with Delta Company, 2nd Battalion, 22nd Infantry Regiment, 10th Mountain Division, secures a checkpoint on 6 October 2014 at Fort Drum, N.Y., during annual training exercise Mountain Peak.
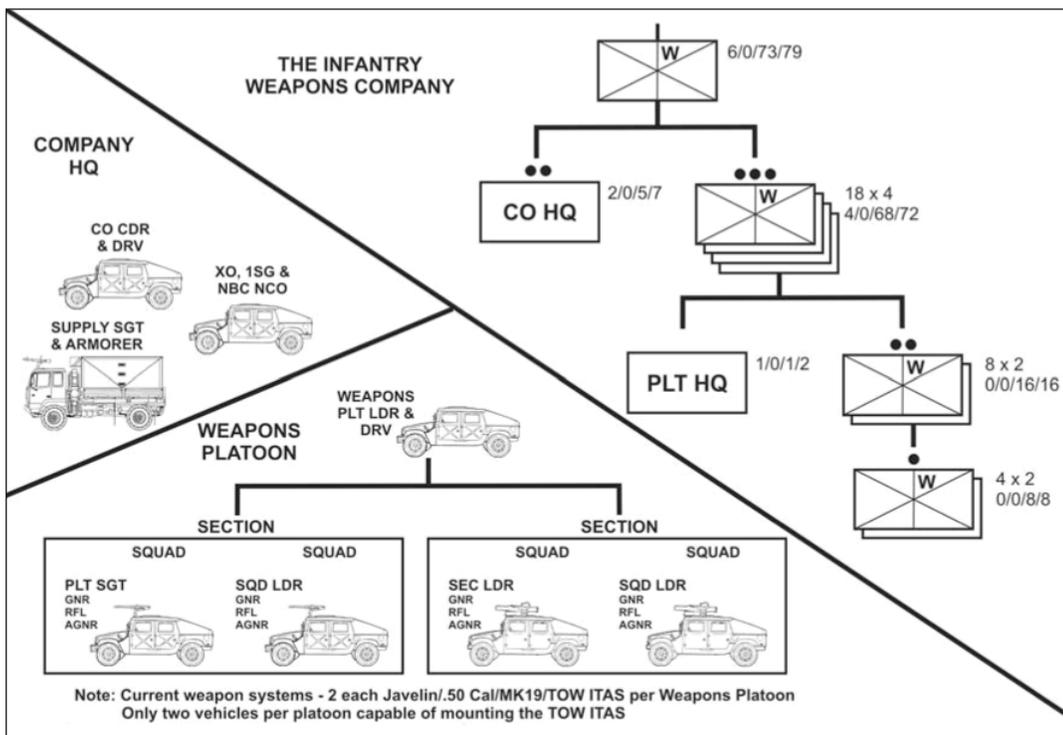
Figure 1 — The Infantry Weapons Company (FM 3-21.12)

in an assault platoon, a squad is three men in a HMMWV. A more sensible form of nomenclature would be to mirror that of the mechanized Infantry platoons. The nomenclature of each platoon should have two sections: alpha section and bravo section. Each section should then have two "crews" consisting of three men in a HMMWV. The term squad should be reserved for that of only dismounted maneuver elements consisting of two or more fire teams.

The next topic that should be addressed is the equipment within the Infantry weapons company. Each assault platoon currently has five vehicles: four armed HMMWVs and one command HMMWV. The command HMMWV is designated as the platoon leader's vehicle; however, this doesn't pass the common sense test. An Infantry platoon leader is expected to lead from the front and personally be at the decisive point of the operation. The fifth vehicle needs to be eliminated, and the platoon leader needs to be placed into one of the four armed HMMWVs. By dropping the fifth vehicle, it would improve the platoon leader's ability to conduct mission command since he would go with one section and his platoon sergeant with the other. In addition to the battlefield advantages, dropping one vehicle per platoon (four per company) would significantly reduce the costs associated with its maintenance and upkeep and would also reduce the airlift requirements in the case of rapid deployment.

In addition to the assault platoons, some changes are needed in equipping the company headquarters. There are only two command HMMWVs (one for the company commander and one for the company executive officer [XO]), and there is one armed Light Medium Tactical Vehicle (LMTV) for the supply sergeant. The two command vehicles

need to be upgraded to armed HMMWVs, and the company first sergeant should be moved from the company XO's vehicle to the LMTV with the supply sergeant and his clerk to facilitate both resupply operations as well as casualty evacuation (CASEVAC) in the absence of a field litter ambulance. The M2 .50 cal should be moved from the LMTV to the company commander's vehicle, one additional M240 would be needed for the LMTV, and one additional M-19 would be needed for the company XO's vehicle. These proposed changes would allow the company commander and the company XO to freely maneuver across the battlefield and enable them to lead from the front at the decisive point of the operation.

Other noteworthy pieces of equipment that need to be addressed are the tow-bar, thermal Driver's Vision Enhanced (DVE) viewers, and the Blue Force Tracker (BFT). The ability to conduct self-recovery not only affects the company's mission but also the rest of the battalion. The forward support company, which is typically preoccupied with providing transportation and logistical support to the rest of the battalion, would have to divert critical personnel and equipment to assist with a simple recovery. Each platoon (including the company headquarters) should have two tow-bars to enable each section to conduct self-recovery. Each vehicle should be authorized a DVE with night-vision devices to be used as only a backup in the case of DVE failure. In regards to the BFTs, each vehicle should be equipped with one to facilitate mission command with all vehicles as well as to help prevent fratricide. This becomes extremely important when conducting conventional operations against mounted enemy forces.

In terms of manning in the Infantry weapons company, there are some flaws that need to be addressed as well. Of all of the Infantry platoon formations within the three types of BCTs, the assault platoon has the second highest sergeant-to-Soldier ratio behind the dismounted reconnaissance troops of the IBCT reconnaissance, surveillance, and target acquisition (RSTA) squadrons. The current assault platoon has 18 total positions: the platoon leader, the platoon sergeant, the section leader, two squad leaders, four gunners, four riflemen, and four assistant gunners who also serve as the vehicle drivers, and one driver for the command HMMWV. This organization equates to a ratio of one sergeant to every 6.5 Soldiers; on top of that, the two sergeants manage the platoon's five HMMWVs. This
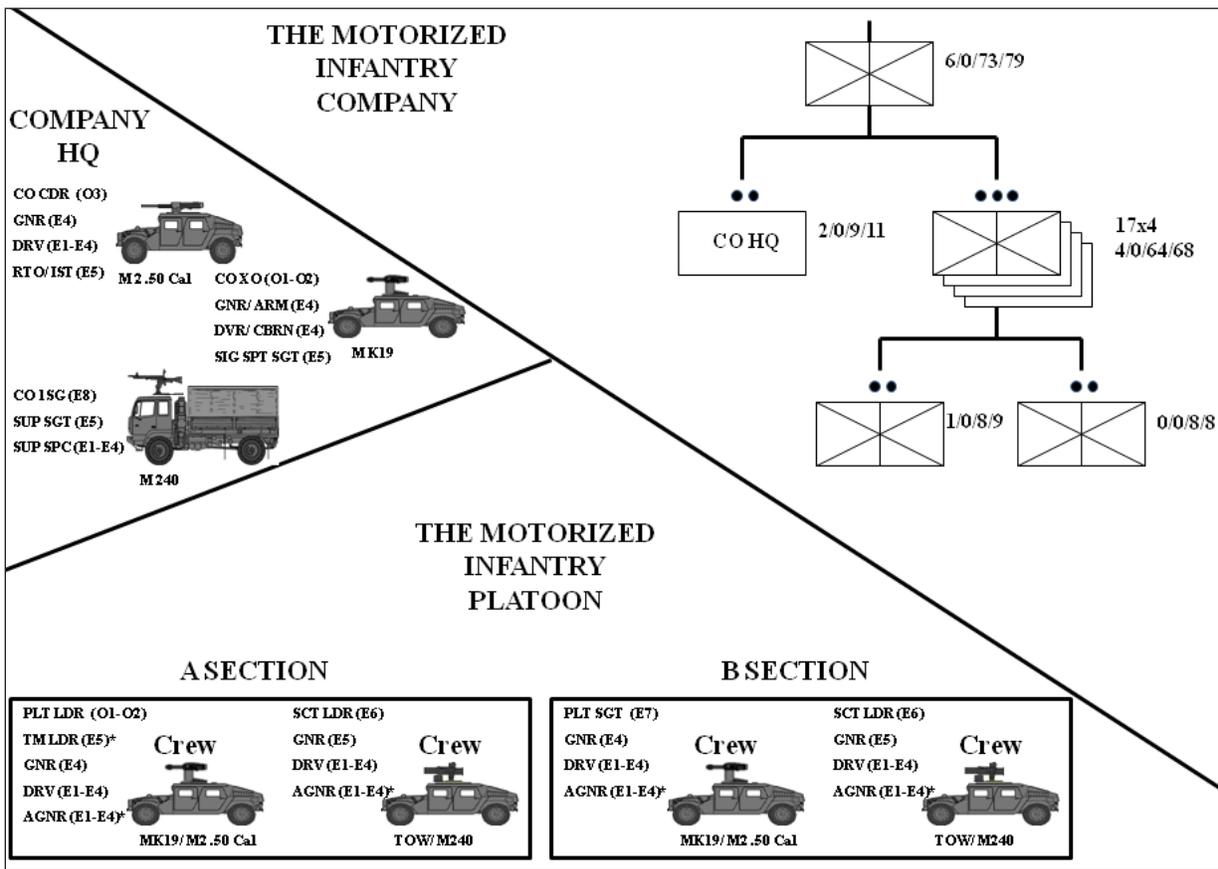
Figure 2 — Proposed Motorized Infantry Company

level of supervision exceeds the commonly accepted span of control of one sergeant to every three-to-five Soldiers. To help lessen the burden, each platoon should: shift one Soldier (E4) to the company headquarters, recode one Soldier (E3) to a staff sergeant to make another section sergeant, and recode one Soldier (E4) to a sergeant to create a dismounted team leader. The proposed assault platoon would have 17 Soldiers: The platoon leader, the platoon sergeant, two section sergeants (E6), two TOW/ITAS gunners (E5), one dismounted team leader (E5), two heavy weapons gunners (E4), four drivers (E1-E4), and four assistant gunners (E1-E4). The assistant gunners would double as the dismounted security element to help decrease some of the vulnerability inherent in mounted operations. This proposed configuration would reduce the sergeant-to-Soldier ratio from 1:6.5 to 1:3.3. The four Soldiers that were moved to the company headquarters (one per platoon) would provide a driver and gunner each for the company commander and the company XO's vehicles. The company radio-telephone operator (RTO) should be recoded to a sergeant to enable an NCO to crew the vehicle and still assist with mission command should the company commander have to dismount the vehicle. Additionally, the four newly acquired Soldiers would also serve as the company armorer; the chemical, biological, radiological, or nuclear (CBRN) specialist; the company intelligence support team (CoIST) specialist; and the training/administrative clerk.

These proposed changes would better allow the Infantry weapons company and its platoons to successfully achieve its objectives in both a conventional high intensity conflict as well as during static stability operations by providing the proper equipment and the right amount of leadership at the critical point of any operation whether purely mounted, dismounted, or a mixture of both. Additionally, these measures would reduce the burden placed on the forward support company, reduce the costs of maintaining four unneeded vehicles, and reduce the amount of space needed to airlift equipment during rapid deployment — all while maintaining the same amount of personnel. In a garrison environment, the reduction of the sergeant-to-Soldier ratio would reduce the leadership burden by allowing the sergeants to focus more on their Soldiers and their vehicles, which in turn would decrease discipline problems and would enable maximum concentration to be paid towards training and preparing for the next conflict.

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The commander of Company B, 1st Battalion, 67th Armor Regiment, 2nd Brigade Combat Team, 4th Infantry Division, talks with two lieutenants during a clearance operation in western Kandahar City, Afghanistan, on 1 February 2012.

EXPLAINING THE ARMY DESIGN METHODOLOGY

MAJ RAYMOND M. LONGABAUGH

"But any method by which strategic plans are turned out ready-made, as if from some machine, must be totally rejected."

— **Carl von Clausewitz**
On War

The U.S. Army and Marine Corps face operational environments that include a range of problems and missions that are extraordinarily complex. No two operational environments are the same, and each consists of multiple interrelated variables and sub-variables. It is difficult to determine the cause and effect relationships among the variables and sub-variables, which are often interdependent, non-linear, unstable, and inconsistent. An ambiguous and poorly understood operational environment severely challenges the human mind and the Army's traditional military thinking. At times, the Army's conventional planning methods have proven insufficient at solving complex problems. Commanders must find ways to navigate this complexity, gain greater understanding of the operational environment,

and develop workable solutions to reach their desired end state. The Army design methodology (ADM) helps avoid the unimaginative and routine application of well-worn solutions that often do not fit the unique characteristics of each new situation. It provides commanders a means to develop a sophisticated understanding of complex or unfamiliar problems and creative approaches to solving them.[1]

We have poor thinking habits that limit our ability to grapple with complexity, and our mental models fail to account fully for the complexity of systems. We have difficulty understanding the interconnectedness of complex systems so we cut them up or reduce them to individual pieces for analytical convenience. By doing so, we place artificial limits on our understanding of the world around us. We also unknowingly limit our range of action by our tendency to act in accordance with known and recognizable patterns. However, when we reduce non-linear complex systems into an artificial linearity, we create intellectual blind spots. This makes us vulnerable to unforeseen events that we attribute to chance.[2]

One of the most common traps planners fall into is what

Carl von Clausewitz called methodism. Methodism is the unthinking application of solutions that we know and have used successfully in the past. We become reliant on a few preferred responses to a given type of situation. We "de-conditionalize" actions and apply them to new situations that appear similar to past events but that often have important differences. Over time, we become less sensitive to features of new situations that appear anomalous, even experiencing occasional setbacks; nonetheless, we continue to apply the tried and true. Our thinking becomes clumsy and leads us to simplistic and unsophisticated conclusions about complex and nuanced problems.[3]

Another common planning trap is what Dietrich Dorner calls repair service mentality. Repair service is simply muddling through situations. We tend to fix only the immediate problems that we find first when we do not understand the complexity of problems or the complexity of the necessary objectives. An inadequate analysis of complex situations results in unclear goals and poor prioritization. Therefore, we end up fixing the wrong problems, or we only treat the symptoms and do not cure the disease. Small but important problems go unnoticed, grow, explode, and take us by surprise.[4]

We can develop cognitive processes that help us understand complexity and retrain our imaginations and thinking to make nonlinear interpretations of the world around us. We must avoid isolating the variables of a problem from their context. The use of holistic thinking can bridge the gap between the individual elements and the entirety of complex systems. In systems, we never do merely one thing because of their interconnectedness, and every solution creates a new problem. The Army design methodology can help re-shape our imaginations and our critical and creative thinking to tackle complexity more effectively.[5]

The ADM steers planners away from the cognitive traps described above and improves the quality of our thinking and planning. It uses "critical an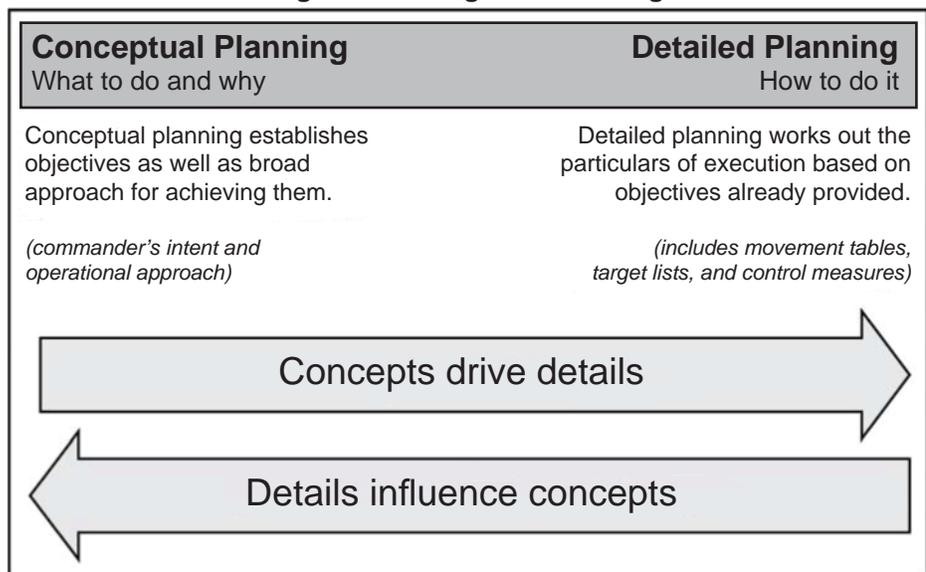d creative thinking to understand, visualize, and describe problems and operational approaches to solving them."[6] The ADM is one of three planning methodologies (along with the military decision-making process [MDMP] and troop leading procedures [TLPs]) that are part of Army integrated planning. The key components of ADM are critical and creative thinking, collaboration and dialogue, framing, narrative construction, and visual modeling. On the continuum of planning activities ranging from conceptual to detailed, ADM is primarily associated with conceptual planning and operational art while MDMP is primarily concerned with detailed planning. Conceptual planning provides the framework for the entire plan while responding to the constraints of detailed planning (see Figure 1).[7]

The ADM uses a systems approach to problems in order to identify problems correctly, find workable solutions, and acquire better ways to adapt. A systems approach to thinking gives planners a framework for synthesizing and organizing complex and confusing information. Systems are interconnected, and changes in some elements or their relationships produce changes in other parts of the system. Systems also exhibit emergent behavior that is different from its individual parts. The systems approach is a discipline that synthesizes intuitive and analytical thinking in order to see the whole system and its interdependencies. Blending intuitive and analytical thinking helps commanders avoid methodism and the repair service mentality that often results from ordinary Army planning.[8]

Critical thinking is using reflective judgment about "what to believe and what to do in response to observations, experience, verbal or written expressions or arguments."[9] Critical thinking is about asking and answering critical questions to find and appreciate the differences that make each situation unique. What is different, how is it different, and why? The appreciation of differences is the most important aspect of critical thinking. Creative thinking is creating new and original ideas that lead to new insights, approaches, and perspectives. Critical and creative thinking are essential to developing the greatest possible range of options for accomplishing missions. They help us recognize the uniqueness of each situation and avoid the trap of methodism.[10]

In order for commanders and staffs to apply critical thinking effectively, they must have continuous collaboration and open dialogue. Collaboration and dialogue create a learning environment in which participants can think critically and creatively with a candid and open exchange of ideas. Dialogue is about collaborating in a manner in which participants exchange ideas or opinions and encourage a competition of ideas. The ADM methodology enhances learning and adaptation to the unique

Figure 1 — Integrated Planning

Conceptual Planning	Detailed Planning
What to do and why	How to do it
Conceptual planning establishes objectives as well as broad approach for achieving them.	Detailed planning works out the particulars of execution based on objectives already provided.
(commander's intent and operational approach)	*(includes movement tables, target lists, and control measures)*

Concepts drive details →

← Details influence concepts

ADRP 5-0, *Operations Process*

context of each individual situation. As planners learn to learn, they improve their thinking over time, produce better products, and maintain a relevant understanding of the operational environment.[11]
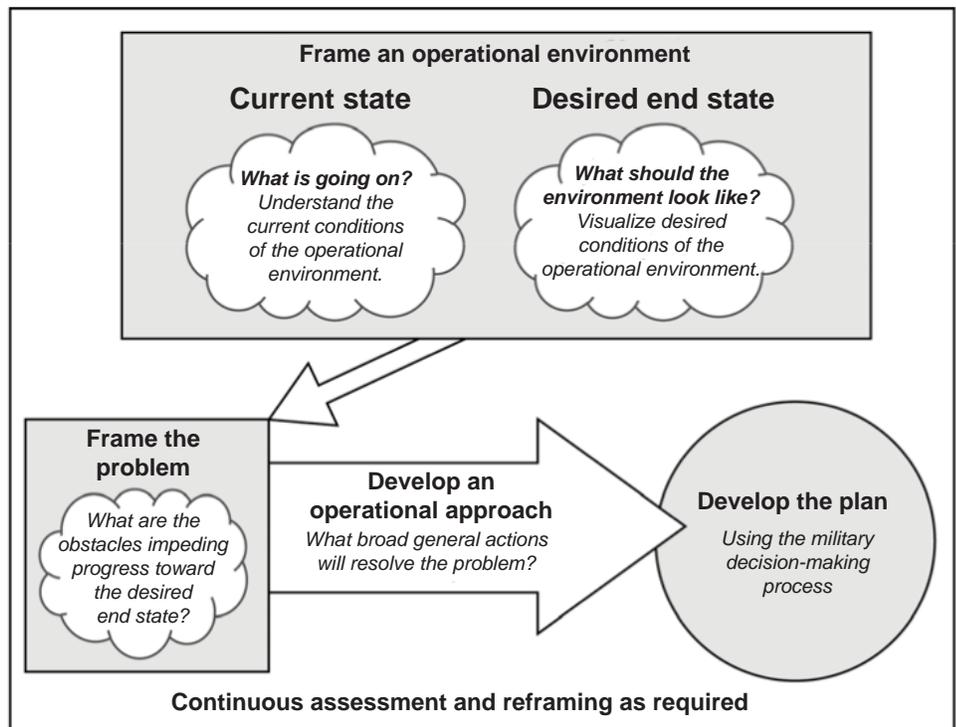
The understanding of an operational environment that comes from dialogue and critical thinking creates a frame of reference for developing solutions. Framing is selecting, organizing, and interpreting information in order to establish the context of an operational environment and the problem (see Figure 2). Framing the problem attempts to get at the root causes of a conflict and understand the things that impede progress toward the desired end state. How planners frame a problem will influence the possible solutions. For instance, it matters a great deal whether we consider the enemy to be terrorists, criminals, insurgents, some other type of combatant, or none or all of these.[12]

Frame an operational environment

Current state — *What is going on?* Understand the current conditions of the operational environment.

Desired end state — *What should the environment look like?* Visualize desired conditions of the operational environment.

Frame the problem — *What are the obstacles impeding progress toward the desired end state?*

Develop an operational approach — *What broad general actions will resolve the problem?*

Develop the plan — *Using the military decision-making process*

Continuous assessment and reframing as required

ADRP 5-0, *Operations Process*

Figure 2 — Army Design Methodology

Narrative construction and visual modeling are central to framing. A narrative is a story created to give meaning to things and events. Narratives typically attempt to answer such questions as what is the meaning of what we see, where does the story begin and end, and what happened and why?

Graphically depicted information is stimulating, helps organize information, and can point to relationships not derived from the narrative alone. Narratives and visual models are important because they provoke creative thinking, help us think through problems, and reveal hidden meaning in information and facts. They are effective tools that assist planners to think through and understand complex problems, systems, and abstract concepts.[13]

The planners use the elements of operational art (see Chapter 4, Army Doctrinal Reference Publication [ADRP] 3-0, *Unified Land Operations*) and the understanding gained from the environment and problem frames to develop a feasible operational approach. The operational approach helps the commander visualize and describe the potential courses of action that overcome the problem(s) and achieve the desired end state. The ADM is a continuous process. The commander and staff assess progress toward the desired end state, test the validity of assumptions, and decide whether to reframe the environment or the problem. The key outputs of ADM, which become the framework for detailed planning in MDMP, are the problem statement, the initial commander's intent, planning guidance, and the overall operational approach.[14]

French scientist and philosopher Henri Poincare said, "We cannot know all the facts, since they are practically infinite in number." Since we cannot know all the facts, we must make a selection of which ones we need to know. The ADM helps us select and understand the relevant facts of complex situations and see the differences that make each one unique. However, ADM is not a panacea for all problems, and it will not eliminate errors in military decision making. Unimaginative and poor quality thinking will produce poor results regardless of the planning process used. Nonetheless, commanders and staffs must find ways to understand complex problems, avoid methodism, and find creative operational approaches to solving them. The Army design methodology provides a means for understanding and approximating complex systems and problems to a level that enables meaningful action to transform systems and maintain a position of continuous advantage.[15]

Notes

[1] ADRP 3-0, *Unified Land Operations* (Washington, D.C.: Government Printing Office, October 2011), 1-1 to 1-2; ADRP 5-0, *Operations Process* (Washington, D.C.: Government Printing Office, October 2011), 1-2; Anna Grome, Beth Crandall, Louise Rasmussen, and Heather Wolters, *Army Design Methodology: Commanders Resource*. Rep. (Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences, 2012), 4; Dietrich Dorner, *The Logic Of Failure: Recognizing And Avoiding Error In Complex Situations* (NY: Metropolitan Books, 1996), 5-7; Alan Beyerchin, "Clausewitz, Nonlinearity, and the Unpredictability of War," *International Security* 17, No. 3 (Winter 1992/93), 61.

[2] Donella Meadows, *Thinking in Systems: A Primer*, ed. Diana Wright (White River Junction, VT: Chelsea Green Publishing, 2008), 86-87, 91; Dorner, 7, 185-90; Beyerchin, 80-81, 86

[3] John Shy, "The American Military Experience: History and Learning," *The Journal of Interdisciplinary History* 1, No.

2 (Winter 1971): 208-09; Clausewitz, 151-55; Dorner, 170-72.

[4] Dorner, 58-64.

[5] U.S. Army School of Advanced Military Studies (SAMS), *The Art of Design: SAMS Student Text 2.0* (Leavenworth, KS: Department of the Army, 2010), 26-28; Celestino Perez, "Army Design Methodology" (Morning 20 lecture, Seminar 1, Leavenworth, Kan., 13 February 2014); Peter M. Senge, *The Fifth Discipline: The Art and Practice of the Learning Organization* (NY: Doubleday, 2006), 3-5; Bryan Lawson, *How Designers Think: The Design Process Demystified* (NY: Elsevier, 2006), 15, 117-118; Robert Jervis, *System Effects: Complexity in Political and Social Life* (Princeton, NJ: Princeton University Press, 1997), 10-12; Dorner, 10, 197-98; Meadows, 88-89, 169-70.

[6] ADRP 5-0, 2-4.

[7] ADRP 5-0, 2-3 to 2-5; SAMS, *The Art of Design*, 9-10.

[8] Everett C. Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (NY: Frank Cass, 2005), 94-95, 114-15; Wayne W. Grigsby et al., "Integrated Planning: The Operations Process, Design, and the Military Decision Making Process," *Military Review* (January-February 2011), 31; Jamshid Gharajedaghi, *Systems Thinking: Managing Chaos and Complexity: A Platform for Designing Business Architecture* (NY: Elsevier, 2006), 9, 15-16; SAMS, *The Art of Design*, 52-54; Jervis, 6, 12-13; Meadows, 5-6.

[9] ADRP 5-0, 1-10.

[10] Neil M. Browne and Stuart M. Keeley, *Asking the Right Questions: A Guide to Critical Thinking* (Upper Saddle River, NJ: Pearson Prentice Hall, 2007); 2-3; ADRP 5-0, 1-10; SAMS, *The Art of Design*, 48-49, 60-65.

[11] ADRP 5-0, 1-10 to 1-11, 2-5; SAMS, *The Art of Design*, 44-47, 77-80.

[12] ADRP 5-0, 2-5 to 2-11.

[13] Porter H. Abbot, *The Cambridge Introduction to Narrative* (NY: Cambridge University Press, 2008), 10-11; ADRP 5-0, 2-5; SAMS, *The Art of Design*, 72-76, 114-16.

[14] ADRP 5-0, 2-6 to 2-11.

[15] Henri Poincare, *Science and Method*, trans. Francis Maitland (NY: Thomas Nelson and Sons, 1914), 15; Grigsby, 29-30; SAMS, *The Art of Design*, 14-16; Grome et al., *Army Design Methodology*, 5-6; Meadows, 167-70; Gharajedaghi, 125-26, 130.

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CSA's Professional Reading List

### http://www.history.army.mil/html/ books/105/105-1-1/

The U.S. Army Chief of Staff's Professional Reading List is divided into three categories: Armies at War: Battles and Campaigns; The Army Profession; and Strategy and the Strategic Environment. These sub-lists are intended to steer readers to topics in which they are most interested. Each of these books is suitable for readers of any rank or position.

The books included in this list offer entry points into the many publications available regarding military art and science. They are provided as selected works that can help Soldiers, Department of the Army Civilians, and anyone interested in the Army to learn more about the Army profession and to sharpen their knowledge of the Army's long and distinguished history, as well as the decisive role played by landpower in conflicts across the centuries.

A sustained personal commitment to critical study of a wide range of readings constitutes an essential professional responsibility for members of the Army profession. The U.S. Army today confronts extraordinary complexity in the strategic environment with new and emerging missions competing with core warfighting requirements to challenge Army professionals. This reading list is intended to serve as a guide to the many topics worthy of professional consideration, contemplation, and serious discussion.

The appearance of a title on this reading list does not imply that the Chief of Staff endorses the author's views or interpretations. Nevertheless, these books contain thought-provoking ideas and viewpoints relevant to our Army.
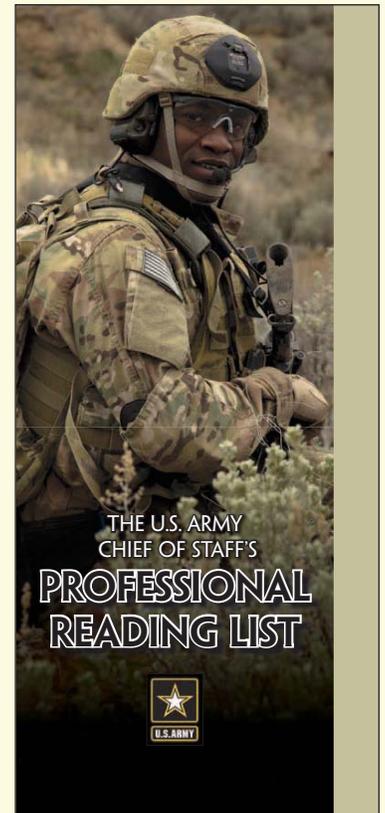
THREE THINGS EVERY G3/S3 SHOULD KNOW ABOUT GEOSPATIAL ENGINEERS

CW3 FREDERICK I. DESSAU

Sun Tzu devotes an entire chapter to understanding terrain in the classic military treatise *The Art of War*. Terrain matters because it's a central element of any strategy, and no mission can succeed without knowledge of the terrain.

Today, knowledge of the terrain comes through geospatial analysis provided by a team of geospatial engineers. Crucial to the success of the military decision-making process (MDMP) and intelligence preparation of the battlefield (IPB), geospatial engineers enhance planning, support the priority intelligence requirements (PIRs) and commander's critical information requirements (CCIRs), and more importantly, allow the commander to visualize the terrain. But often geospatial engineers are not integrated and synchronized into the planning process because the staff doesn't understand what a geospatial engineer can do. As a result, our geospatial support lags far behind the technology.

Successful geospatial support doesn't need to be that difficult. Geospatial support does not require that a staff officer is a subject matter expert (SME) on computer systems or software but on the fundamentals of good leadership. Simply put, a staff officer needs to only remember three things: **Soldiers**, **products**, and **supplies**. By understanding how these fit into geospatial support, a staff officer can ensure the success of geospatial engineers.

Soldiers

The Army's experts in the production of geospatial products, geospatial engineers are Soldiers trained to produce the products of most use in mission planning. Geospatial engineers (military occupational specialty [MOS] 12Y and warrant officer MOS 125D) extract geographic data from satellite imagery, aerial photography, and field reconnaissance to create and maintain multiple geospatial databases. This data is then compiled into maps, which help commanders visualize the battlefield. Also, a staff officer can prepare military-style briefs and reports. When Soldiers are on detail or being utilized outside of their MOS however, no geospatial analysis takes place. A geospatial engineering technician, while technically an engineer officer, is ill-used when not serving as an SME. Similarly, assigning a geospatial engineer as the CBRN (chemical, biological, radiological, nuclear) NCO, sergeant major's driver, or perpetual gate guard, wastes the special training and expertise these Soldiers possess. Geospatial skills are perishable if not regularly used. Low-density training should be incorporated into sergeants' time training, and leaders should take advantage of mobile training team opportunities and the Foundry Program. Esri, a mapping software firm, also provides online training to Soldiers for free. Challenging collective and individual training and validation exercises are essential to being ready and relevant.

Products

Products displaying operational graphics are always requested. There are, however, more powerful products geospatial engineers are trained to produce. These "standard products" include cross country mobility (CCM), and with the addition of other layers of information, a resulting combined obstacle overlay (COO). The G2/S2 can then use this COO, add relevant information, and produce the modified COO (MCOO). Adding multiple overlays results in a mobility corridors product. Similarly, a line-of-communication product identifies

Photo by SPC Ben Hutto

A geospatial analyst assigned to the 3rd Heavy Brigade Combat Team, 3rd Infantry Division, pulls a map off a plotter at a contingency operating site in Iraq, on 30 March 2010.

Photo by SPC Brian Chaney

A Soldier from the 1st Brigade Combat Team, 1st Cavalry Division conducts a mission brief during exercise Combined Resolve III at the Joint Multinational Readiness Center in Germany on 31 October 2014.

available road and transportation networks. Hydrology analysis shows the operational impacts of water sources. Drop zone and helicopter landing zone analysis locates and displays possible drop zones to support airborne operations and/or possible landing zones to support air assault operations. Vegetation analysis depicts the suitability of an area (such as cover and concealment, mobility restrictions) based on the effects of the vegetation, while soil trafficability shows the effects of soil on movement. An artillery slope tint product templates enemy artillery assets based on slope restrictions. Line-of-sight (LOS) analysis shows areas of direct observation from a given point that can help position LOS-based systems. These standard, basic products are the building blocks of geospatial support. This is only a start though. If it is related to the terrain, chances are it can be visualized and displayed on a geospatial product.

Supplies

Geospatial engineers currently utilize the Digital Topographic Support System (DTSS) to produce geospatial products but are increasingly using the Distributed Common Ground System-Army (DCGS-A), which is the Army's primary system to post data, process information, and disseminate intelligence. Geospatial processing software programs, such as ArcMap, are used to view, edit, create, and analyze geospatial data. The systems have to be functioning properly and can't work if there's no data to process or any paper and ink to print. The National Geospatial Intelligence Agency (NGA) and the Army Geospatial Center (AGC) provide data free online as do other national agencies. Hard drives and disks

can be ordered as well. Even before receipt of the mission, a geospatial team should be building a database of geospatial information. Similarly, updates to hardware and software, as well as security patches, are essential and should be completed prior to an exercise or deployment. The crucial beginning days of an exercise or deployment should not be spent on fixing broken equipment or installing new software. While the Army has gone digital, there remains a reliance (and some could argue preference) for paper maps. Simply put, paper maps require lots of paper. One 150-foot roll of paper doesn't go very far when each commander and staff section wants a large wall map. Because the first product the geospatial team will produce are multiple versions of this big map. By keeping the map free of information that is likely to change, paper is saved. Paper and ink are essential because there's not much of a workaround when the section runs out. If the supply section isn't ordering paper regularly (it's available through the supply system), geospatial production could grind to a halt. That's why printing endless posters and PowerPoint slides wastes valuable resources and results in the geospatial team lacking the necessary supplies to complete its mission. Supervising these requests and developing a good standard operating procedure (SOP) describing priorities will help prevent much of this.

With integration of the Soldiers, creation of standard (and non-standard) products, and by providing the necessary tools and supplies, the geospatial team is a valuable tool in planning and operations. Successful geospatial support results in knowledge of the terrain, but understanding how geospatial assets support mission planning is key. Common sense and good management go a long way. Understanding how to lead and manage geospatial support will thus reap great results in planning as well as in visualizing the battlefield. It's not so much about technology but leadership. By concentrating on the Soldiers who create the products and providing the tools necessary to complete the mission, results in geospatial support will seem effortless.

During 18 years of service, **CW3 Frederick I. Dessau** has served as a geospatial engineer at all echelons from company to brigade NCOIC to theater as well as joint and NATO assignments. CW3 Dessau supported the 1st Cavalry Division twice in Baghdad, Iraq, as the officer in charge of the Division Engineer Geospatial Cell. He has completed seven deployments including rotations to Haiti, the Balkans, Iraq, and NATO Support to the African Union in Addis Ababa, Ethiopia.

BECOMING ALPINI:

A TOP-NOTCH BROADENING EXPERIENCE THROUGH THE MILITARY PERSONNEL EXCHANGE PROGRAM

Photos courtesy of author

LTC THOMAS M. HOUGH

Over the past year I have had the great privilege to serve in a broadening assignment with the Italian Army as a member of the "Julia" Alpini Brigade (Mountain Infantry). For officers serving in basic branches such as Infantry, Armor, Aviation, Field Artillery and others, opportunities such as this are possible through the Department of the Army Military Personnel Exchange Program (MPEP). The U.S. Army has exchange positions in multiple combatant commands, and positions range from the tactical to strategic level. As the decade plus of combat operations draws toward an end, it has become clear that broadening is an important component of an officer's professional development. If working in and gaining a better understanding of the multinational environment interests you, then you should consider applying for the MPEP, a top-notch broadening opportunity.

Broadening

At this point in your career, you are more than likely familiar with the concept of broadening and should be thinking about what broadening opportunities interest you the most. The Army Leader Development Strategy (ALDS) identifies different time periods during an officer's career where broadening should be the focus (see Figure 1). As part of ALDS, the Chief Of Staff of the Army has identified numerous new broadening opportunities that the Department of the Army is pursing to include "increasing the number of personnel exchanges with our closest allies." Serving as an exchange officer with one of our allies is just one of many ways in which you can participate in a broadening program.

No matter which broadening option you choose, what is clear from the timeline in Figure 1 is that broadening is important to your professional leader development. If you are like most of us serving in the Army, we have given considerable thought throughout our careers as officers and senior NCOs as to where we wanted to serve. As much as possible we try to align our career timelines to ensure we have the right positions at the right rank and for the right amount of time. Broadening should be no different. The officer who will invest the same amount of time and energy to plan for and prepare for his or her next broadening assignment will likely find a myriad of opportunities such as the MPEP that many others are simply unaware of.

MPEP

MPEP provides unique opportunities as well as some challenges. You should read AR 614-10, *Army Military Personnel Exchange Program with Military Services of Other Nations*, before making a decision. As an MPEP participant, you will most likely report to the Army Service Component Command that is responsible for the region in which you reside. For my position in Italy, my higher headquarters throughout my exchange assignment was U.S. Army Europe. If you choose to pursue one of these positions or an MPEP position in another combatant command, here are some additional considerations:
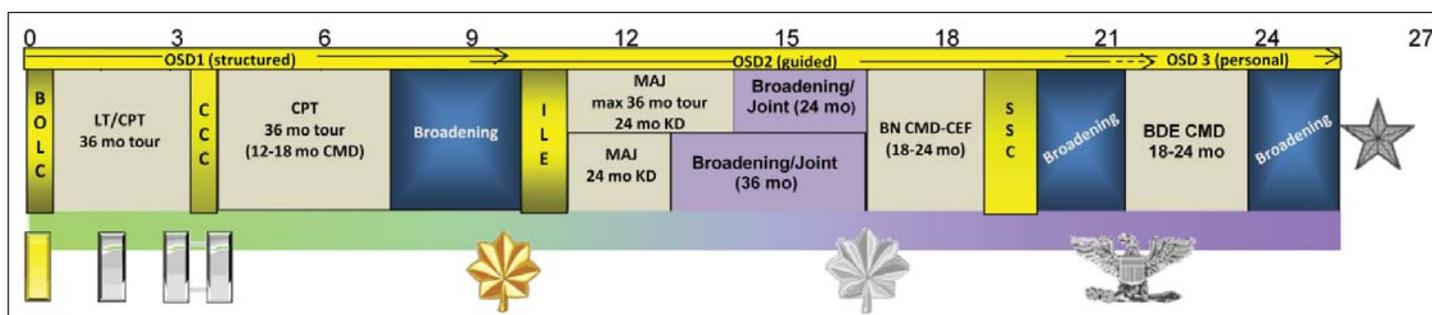
The Army Leader Development Strategy

Figure 1 — Officer Career Timeframe (Illustrative for Active Component)

You might need to learn a foreign language: Depending on the country, you may need to attend the Defense Language Institute (DLI) if you do not already possess the required language skill. For many basic branch officers, the opportunities to attend DLI are rare and a real benefit if you get the chance. Be advised that DLI is a rigorous course regardless of the language. Also know that your language training is not finished just because you complete your basic language course at DLI. Once in country, I found it necessary to continue to study every day and made language training a part of my daily battle rhythm. As your language improves, you will become a more valuable member of the team and the better your language capability, the greater the experience will be. If you are willing to commit to completely immersing into your new environment, you will not only improve in your language but also earn the respect of your host army.

You and your family should be prepared to live remotely: While every experience will be different, your family can anticipate immersing in the host-nation culture as well. If living outside the supporting range of a U.S. military installation, then you will need to become familiar with programs such as TRICARE Remote and the Non-Department of Defense (DoD) Schools Program if you have children. The DoD already has the infrastructure in place to support you and your family in a remote location; your task will be learning how to navigate through these programs.

You can deploy as an exchange officer: Some exchange assignments are with operational units. I deployed to Afghanistan with my exchange unit less than 90 days after arriving. If selected for an MPEP position, you should contact the U.S. Army Service Component Command and your new unit. Some of our allies have operational deployments to locations where the U.S. Army does not currently have an operational footprint. If authorized by the Secretary of the Army, an MPEP officer can deploy with his host nation. You will need to begin your preparation as soon as possible.

Multinational Broadening Lessons Learned

First, let me caveat this by saying that these are only my observations and lessons learned from my experience. Every MPEP officer or NCO is going to have vastly different experiences based on operational vs. institutional exchange, deployments, language proficiency, and many other variables. What I have listed below are the major lessons learned from my experience as an exchange officer that

were not the most obvious or intuitive when I first started.

• ***Your key task is building military-to-military relationships:*** Shortly after my Italian regiment had assumed control of Regional Command-West I was in my commander's office when a senior U.S. Army officer called my commander. This officer knew my Italian commander from a previous assignment and spoke excellent Italian. This officer had clearly taken the time to build a relationship with my commander over the years. It was in that moment that I understood the true value of the exchange program. The ability to pick up the phone and talk to a general officer from one of our closest allies in their own language is invaluable. Imagine the number of issues that could be resolved just from having this level of rapport and the value of these relationships for our Army.

• ***Don't assume that all our allies speak English:*** Prior to this assignment I assumed that most, if not all, of our NATO allies spoke English. I had never really thought about what it would be like to sit through meetings or video teleconferences being conducted in a language other than your own. What I found was that while most of my Italian brothers can speak some English, they still struggled to keep up with a presenter who talks too fast or a video teleconference with poor sound quality. What I also found was that most U.S. Army officers and senior NCOs are completely insensitive to this issue as speaking a foreign language is not a normal part of our culture. I learned firsthand what this experience can be like as I struggled for the first couple of months to keep up with conversations or meetings. As you can imagine, it can be very intimidating. Fortunately, my Italian counterparts have all suffered through this as well and were very willing to help me along the way. After a few months, I was able to put the language barrier behind me and became a much more valuable member of the team. Additionally, once I gained some real proficiency in the language, I found myself being invited to more and more events such as promotions, video teleconferences, or even just dinner with friends. I found that language was the key to building personal relationships.

• ***Perspectives matter:*** If you are going to succeed in the multinational environment, you must be willing to look at the operational environment from the perspective of our allies. Much like our Army, many of the geo-political constraints that our allies must contend with are outside of their ability to influence. Work with your multinational partners to figure

• Be the part: We, Soldiers of the U.S. Army, have a great reputation with our allies for our professional, disciplined force. In a position such as this you are the only one who will hold yourself accountable for maintaining U.S. Army standards. There is no need to go "native." Be the standard bearer for the U.S. Army while representing our great Army as a member of a multinational force. Both your host nation and the U.S. Army expect nothing less.

Conclusion

Change is not the exception, it is the rule. Anyone who has been deployed over the past few years understands the complexity of the environment that we, the U.S. Army, will continue to operate in. Multinational operations are a part of that change; they have become a normal part of the operating environment. If you are looking for an opportunity to engage with and learn how to effectively operate in the


Italian Army LTC Enrico Pizzileo (center) and U.S. Army LTC Thomas Hough (center right) conduct battlefield circulation with Italian Task Force Victor Soldiers in Afghanistan.

out what they can and cannot do and what levels of risk they are authorized and willing to accept. By knowing this information, you can help plan operations they can do and not operations that they are unable to support.

• Think strategically: The next time you get the opportunity to work in the multinational environment, or if you get the opportunity to serve as an exchange officer, keep in mind that maintaining our long-term relationship with our allies is much more important than whatever the tactical problem of the day might be.

multinational environment, then volunteering for the MPEP may be right for you.

LTC Thomas M. Hough is currently serving as commander of the 1st Battalion, 5th Infantry Regiment (Bobcats), 1st Stryker Brigade Combat Team (SBCT), U.S. Army Alaska. As a part of the U.S. Army's Military Personnel Exchange Program, LTC Hough attended the Defense Language Institute in Monterey, Calif., and arrived in Udine, Italy, in January 2013. He deployed to Regional Command-West, Afghanistan, with the Italian Army's "Julia" Brigade in March 2013 as the deputy J35 for RC-West and later as the J35.

CENTER FOR ARMY LESSONS LEARNED

http://usacac.army.mil/organizations/mccoe/call/publications

Handbook 15-01 - Command Deployment Discipline Program — The Command Deployment Discipline Program (CDDP) is a commander's tool designed to enhance unit deployment readiness. This handbook is a combination of doctrinal and regulatory tasks that address Army standards, fundamentally focused on equipment movement and associated tasks from division to company level, to include installation tasks.
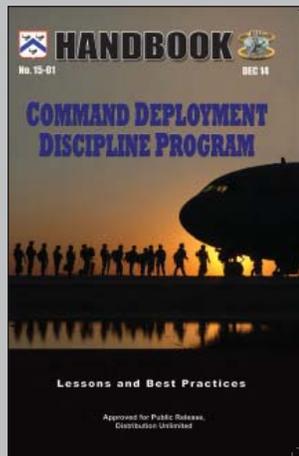
Handbook 14-10 - Commander's Guide to Support Operations Among Weaponized Displaced Persons, Refugees, and Evacuees — This handbook focuses on a particularly daunting concern related to mass displaced populations — that of the weaponized displaced person, refugee, and evacuee (DPRE).
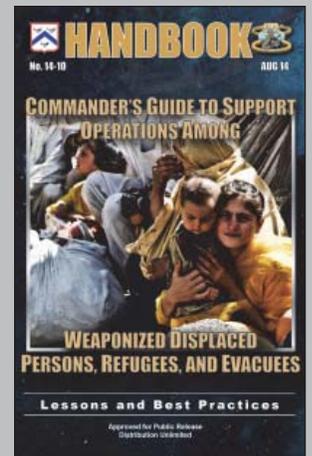
LNOs: THE CRITICAL LINK IN CF-SOF INTERDEPENDENCE

MAJ MICHAEL LOVEALL
LTC PHILLIP J. KINIERY III
MAJ ISRAEL VILLARREAL JR.

As our Army moves forward with the formalization of the concept of interdependence, conventional forces (CF) and special operations forces (SOF) will continue to work through the implementation of this activity during joint training and operations.[1] This implementation in training and operations is imperative as the future operational environment demands a seamless unified effort between all U.S. military efforts. Unfortunately, understanding the imperative does not inform the practical application of a concept. So how do CF and SOF execute this concept of interdependence? While there are many aspects to interdependence (such as interoperability of communications platforms, integration of assets, and communication between leaders and staffs), one specific action enables successful implementation of interdependence more than any other — the proper selection and utilization of a liaison officer (LNO). The LNO is the critical link to successful CF-SOF interdependence and is the single biggest factor in enabling operational effectiveness and ensuring consistency in CF-SOF unified action.

Interdependence is defined in U.S. Army Training and Doctrine Command (TRADOC) Pamphlet (PAM) 525-8-5, *U.S. Army Functional Concept for Engagement*, as: "…the deliberate and mutual reliance of one unified action partner (UAP) on another's inherent capabilities to provide complementary and reinforcing effects. …[Interdependence] applies to both Army units working interdependently and to unified action partners working interdependently with those Army units." This discussion will focus exclusively on the relationship between CF and SOF forces, but many of the comments and recommendations can be applied further by both CF and SOF in their interactions with other UAPs, whether they are U.S. government (USG) entities, intergovernmental and non-governmental organizations (IGOs/NGOs), host-nation entities, or private groups. While CF and SOF can and will be deployed in unilateral operations in the future, this discussion assumes CF-SOF operation in a shared or adjacent operational environment.

Bridging the Gap: Making Two Forces One

The culture that exists in the Army's CF is different than the culture that exists in SOF. This is not a pejorative statement, nor is it a statement implying quality or

Soldiers with the 3rd Battalion, 509th Infantry Regiment, 4th Infantry Brigade Combat Team (Airborne), 25th Infantry Division, keep watch from a fighting position at the Joint Readiness Training Center in Fort Polk, La., on 18 April 2014.

Photos by SSG Christopher Klutts

righteousness of one culture over the other. It is not an opinion but a statement of observable fact. But it is important — in fact, it is critical to interdependence — to acknowledge the difference in cultures and understand that difference. This understanding is critical because it allows us to bridge that cultural gap, which in turn is the foundation of CF-SOF interdependence. This cultural difference is about systems and processes — how a brigade combat team (BCT) plans versus how a special forces advanced operating base (AOB) plans. It's about how a special operations task force (SOTF) processes information and how a BCT shares information. It is beyond what we wear and how we wear it — it is a difference in how we conduct our operations. When these two cultures share an operational area, are stakeholders in a non-contiguous or non-adjacent operational area, or are in some other combination of planning or operating with common interests, the most efficient single touchpoint for those two cultures is the establishment of an LNO (or team). Our doctrine tells us that the nature of military operations is an inherently human endeavor; therefore, it ought to follow that the conduct of military operations and how we execute military operations is also a human endeavor. Rather than using this to inform our suppositions of the enemy forces, operational environments, and civil populaces, we also ought to allow this principle to inform how we interact with our own military partners. As important as nodes, functions, and systems are to the implementation of the interdependence activity, they cannot replace the genuinely human aspect of putting Soldiers from one culture into the other (and vice versa) to bridge the cultural gap.

As important as nodes, functions, and systems are to the implementation of the interdependence activity, they cannot replace the genuinely human aspect of putting Soldiers from one culture into the other (and vice versa) to bridge the cultural gap.

Interdependence as a Requirement of the Future Operational Environment

TRADOC PAM 525-8-5 discusses the future force requirements for engagement and interdependence in the future operational environment in detail.[2] But what does that look like at the BCT, battalion task force, SOTF, and AOB levels? During the past 18 months, rotations at the Joint Readiness Training Center (JRTC) at Fort Polk, La., have increased emphasis on interdependence between CF and SOF forces.[3] This training is validated by multiple current operations in the U.S. Africa Command (AFRICOM) area of area of responsibility (AOR) where 1st Infantry Division regionally aligned forces (RAF), from brigade to company level, are working adjacent to or within effects of the 10th Special Forces Group from SOTF to team level. During the JRTC rotations, interdependence has validated its relevancy multiple times. The significant highlights of this validation includes disparate planning efforts leading to conflicting mission execution, inability to develop common operating pictures, and lack of information sharing. Each of these observations can be analyzed in detail, but proper selection

and utilization of LNOs is a common denominator in addressing the solutions. In short, CF and SOF must synchronize and coordinate various activities to ensure the effective accomplishment of the geographic combatant commander's end state.

Additionally, mission command of Army forces is heavily reliant on a holistic approach to conducting operations and agility and adaptability. As opposed to the old construct of command and control — where the underlying philosophy assumed that with more information and more systems commanders could come close to a perfect description — mission command understands the importance of what we don't know in addition to what we do know. Three of the six principles of mission command (build cohesive teams through trust, create a shared understanding, and accept prudent risk) are examples of why mission command construct requires interdependence more so than the outdated construct of command and control. Mission command's acceptance of wicked problems inherent in complex, ever-changing, and uncertain operational environments demands that all forces within an operational area or stakeholders in a general geographic area develop a strong relationship to create shared understanding, build the cohesive UAP team, and understand what they don't know to help better inform their acceptance of risk.

Building Relationships and Addressing the Cultural Divide

As stated earlier, systems, nodes, and functions are important. But the interoperability that those networks enable is only a component of interdependence. To truly reap the benefits of interdependence, CF and SOF organizations must build relationships with each other. Employment of an LNO is the most discernible and productive way to build organizational relationships. Commander-to-commander dialogue is more effective but occurs at irregular and lengthy intervals. Additionally, commander-to-commander dialogue oftentimes excludes key staff. Co-locating or co-basing, while also highly effective, is often not practical due to mission requirements for one or both of the forces. Systematic information exchange is readily available and informing but is far less effective at developing relationships. To get beyond interoperability and integration, units must employ and properly utilize LNOs in the interdependence activity.

"Connectivity gives us the illusion of knowing... Real connections come when people engage, when there is eye contact, when there is a hand on the shoulder, and when the conversation is not one way."

— GEN (Retired) Stanley McChrystal, April 2014[4]

In the end, organizational relationships are much like individual relationships. Sending the right LNO to another organization is like looking them in eye and having a fruitful conversation with them, to use GEN McChrystal's example.

Much of the cultural divide stems from familiarity with each force. SOF officers and NCOs are being assessed earlier in their careers than in the past, and operations in Iraq and Afghanistan notwithstanding, CF and SOF units rarely train or operate together. While they may have the same home station or conduct operations in the same operational environment, they rarely train or operate together. All of the discussion below is applicable to both CF LNOs sent to SOF units and SOF LNOs sent to CF units.

Planning Considerations

An excellent example of the difference of cultures is the planning methodologies utilized by each force. The BCT generally uses an in-depth military decision-making process (MDMP) methodology that generates mission orders and is sometimes informed by an abbreviated design methodology. Notably, it is the tactical mission and the tactical tasks that they will utilize to accomplish that mission that is driving the brigade's planning effort. The AOB and SOTF often use a planning effort based on MDMP but is more operational in nature. Considerations such as centers of gravity, target audience analysis, and time and space are weighted much more heavily. While grounded in MDMP and Army doctrine, it can appear to be a mission-tailorable confluence of MDMP, design, and the Joint Operation Planning and Execution System (JOPES). Special Forces teams are, like their conventional counterparts, conducting tactical tasks in the operational environment; however, unlike their conventional counterparts, the missions are often operational or strategic in nature. This is often what drives the difference in planning process. An LNO that is exposed to and can see the fight at the tactical, operational, and strategic levels can provide irreplaceable perspective to both forces when friction might arise.

Additionally, the planning horizons will often be different between CF planning and SOF planning. In the future operational environment, the seven phases of unconventional warfare (UW) will often drive SOTF planning. CF planning efforts will not start at the same time that SOF planning starts. CF planning will likely not start until Phase V of the UW planning process and employment — if it occurs — will be in Phase VI or later. More significant than the fact that the planning efforts are different is that planners at each force are not familiar with the other's process and sometimes aren't aware that a different process even exists. An LNO that is grounded in his parent unit's planning process and involved in the attached unit's planning process can provide invaluable insight to both organizations to better inform each planning process.

Lastly, the BCT's planning process is heavily dependent upon a large staff and leveraging all of the warfighting functions present in that staff. The SOTF's, and certainly AOB's, planning process is much less dependent on warfighting functions because of the lack of a robust staff. The effectively employed LNO can help facilitate critical staff-to-staff interaction that helps each element identify and leverage the other's inherent capabilities.

Multiple and Alternate Perspectives

Probably the most important human element an LNO

A 5th Special Forces Group Soldier teaches members of a host-nation force (role-played by U.S. Army Soldiers) how to assign sectors of fire before a training mission at JRTC on 12 April 2014.

can provide a unit is a different perspective, specifically the perspective of his organic unit. Again, there are several fundamental differences in how SOTFs and BCTs conduct operations. These differences are necessary for each force to accomplish their assigned mission.

One such multiple perspective is the nature of tasks and end states for each force. In general, BCTs will conduct tactical tasks that achieve tactical end states. Historically, brigades operate at the tactical level of war. While modern warfare — molded by the information revolution — has blended the levels of war, brigades still achieve tactical end states in support of a larger headquarter's operational objectives. The SOTF, on the other hand, often conducts operations directly in support of operational or strategic objectives. Particularly in the conduct of UW, SOF elements operate in a different level of war. Certainly they are still conducting tactical tasks (destroy, seize, neutralize, etc.), but these tactical tasks gain operational and strategic effects by way of operating by, with, and through indigenous forces (at the tactical level) and garnering legitimacy for a shared cause. Partnered units often cannot see the difference of purpose between the two units. One unit might not understand another focusing on something they see as inconsequential while the other unit

might not understand the ramifications of targets that they are not tracking. The mature liaison element, grounded in its unit's modus operandi and adapted to its partnered unit, can provide a different and alternate perspective that helps paint a much clearer picture of partnered unit operations. This perspective can greatly inform planning sessions, the targeting process, and other integrating processes and continuing activities within a force headquarters.

Another area where perspective is important is methods and information sharing. All too often, miscommunication occurs simply because we don't understand how to transmit. We know what to communicate but get lost in how to transmit information. Sometimes this is a mission command systems issue, sometimes it is a time management issue, and sometimes it is organizational dynamics. Whatever the reason, the most effective method for mitigating these miscommunication mistakes is a quality LNO.

Information sharing is an important consideration in interdependence. Unfortunately, this is an area where units will often harm relationships by either not sharing enough or not handling information accordingly. Appropriate clearances for LNOs is just the beginning. How each force headquarters integrates the LNO into their main command post (MCP) or operations center (OPCEN), and what information they are willing to share is critical to building the relationship.

"It was the idea that we were now part of a team where information became the essential link between us, not a block between us."

— GEN (Retired) Stanley McChrystal, April 2014[5]

Alternate control/compensatory measure (ACCM) programs and other need-to-know type operations obviously cannot be violated, but in general, the more information partnered units share the better refinement to each other's shared understanding of the operational environment. Again, the liaison element serves as the critical link and can be of most benefit to each force by ensuring both comprehensive information sharing and ensure each unit is responsible and understands sensitivities attached to information.

Each unit is unique. With this uniqueness, each unit develops its own distinct perspectives. From non-standard logistics to the way in which they see the civil environment, a quality LNO can serve as a small investment that can bring an entire organization's perspective to another unit. This ability to help a partnered unit understand its partner will also help them provide that unit complementary and reinforcing effects on the battlefield.

Integrating the LNO to Operationalize Interdependence — Recommendations

Effective integration of liaison officers and teams is — like most everything else in combat — easier said than done. However, one of the key purposes of JRTC is to provide the force with observable practices that enable tactical success for BCTs and SOTFs. As any unit has experienced, just providing a liaison team to another headquarters doesn't solve anything. We must properly resource and integrate these LNOs so that they may operationalize the concept of interdependence.

Changing the Meaning of LNO

The absolute first step in proper integration of liaison teams is a cultural shift in attitude about what the LNO is and what the LNO does. The very term "liaison officer/NCO" carries a tremendous amount of baggage. The assignment is viewed negatively for several reasons. First, you are away from your unit (and your boss and team) working for someone that has little vested interest in your success or failure, other than that tied to his own success or failure. Second, LNOs are rarely provided the detailed resources (specifically commander's critical information requirements [CCIR], reporting criteria, and daily communication with senior leaders from their organic units) that are required for successful execution of their jobs. Lastly, the term is usually associated with junior officers or NCOs that go to a higher headquarters just to serve as a communications link. It is imperative that we reframe our concepts about what constitutes a liaison team and its mission.

An LNO that successfully operationalizes interdependence really looks more like an area specialist team (AST) from SOF. They embed during planning, integrate themselves into the team, are viewed as part of the team, and work as a part of the staff rather than an outsider just observing or acting as a radio-telephone operator (RTO). Again, this change in perspective is required from both the supported and the supporting unit. A SOTF headquarters that receives a CF LNO and doesn't integrate him into the staff is just as negligent as a BCT that sends an inexperienced lieutenant with no security clearance to a SOTF. In fact, proper integration and utilization by the supported (receiving) headquarters is probably more important than anything the supporting (losing) headquarters can do insofar as preparation of the liaison team. Reframing our organizational concepts of what an LNO is — at least with regards to interdependence — is critical in the effort to operationalize and effectively execute interdependence.

Getting the Right Person

Selecting the right Soldier for the job seems self-evident. Organizationally, however, we often select liaison teams as a matter of rank, position, or military occupational speciality (MOS). We limit ourselves to junior officers or mid-grade NCOs, maneuver or intelligence Soldiers, and those around the headquarters staffs. The selection of the LNO ought to be more about personality, interpersonal skills, and intellectual ability than rank, position, or MOS. As discussed earlier, SOTFs conducting UW have different perspectives on the missions and operations to be accomplished. Brigades should consider selecting Soldiers who see the big picture and think in terms of the operational and strategic levels of war. They ought to consider intellectual agile thinkers who can quickly assimilate SOTF-specific terminology and concepts. It is not enough to know what to say; you must understand the meaning behind these terms and concepts as well. SOTFs ought to consider sending those with interpersonal skills that will facilitate

their integration into a larger organization; someone who will not get overwhelmed with the friction created by such a large staff and the processes that define it.

And, of course, it should hurt. If the loss of the selected Soldier(s) doesn't hurt your organization, that is an indicator that you are not doing enough to enable interdependence. Commanders and leaders should remember that the loss of your LNO will be offset by the commensurate abilities brought to the staff by the reciprocal liaison team of your partnered unit. If two organizations exchange quality liaison teams, then they are enabling a far greater understanding of the operational environment, consideration of perspectives, and bridging of organizational cultures than if those Soldiers stayed in the unit. Contrary to the afore-mentioned misconception that selecting the right Soldier to be an LNO is self-evident, sending an LNO to a supported headquarters that hurts your unit actually helps your unit in the longer term and in the bigger picture. Commanders and leaders invariably come to this realization at the end of each rotation after seeing the many missed opportunities of interdependence.

Commander and Staff Officer Responsibilities

The liaison team is only part of the equation. Supporting (organic) and supported (receiving) headquarters also play a critical role in the proper implementation of LNOs. For supported headquarters, expectations and critical information requirements are absolutely necessary to enable the liaison officer. While we want to select mature, smart people, none of our LNOs will have the experience or insight into what the commander wants or needs like the commander or his executive staff (deputy commanding officer [DCO], command sergeant major [CSM], executive officer [XO], S3). The commander ought to consider having a thorough discussion with the liaison team to clearly outline requirements. Someone on the commander's executive staff ought to have an open line of communication with the LNO and establish a daily reporting or communications window. Additionally, the brigade staff officers must know the liaison team's capabilities and requirements. They must understand where they can leverage the LNO, when they are wasting their time, and when they can assist the liaison team. Much as with a commander, the staff must anticipate their partnered unit's needs and assist them through either staff-to-staff coordination (facilitated by the LNO) or by leveraging the liaison team. As interdependence is defined as an "activity" of the engagement warfighting function, it is inherently a staff task.

The supported unit has responsibilities as well. The supported unit must integrate the LNO immediately and as much as possible into the unit's planning and operations. This includes the current operations floor of the MCP/OPCEN, working groups, planning sessions, and tactical command post (TAC) operations, if necessary. The supported unit needs to provide the liaisons with their own information requirements and shape their understanding of the unit and its systems and processes. Additionally, the supported unit ought to be receptive to the contributions of the liaison team. It does no good for the LNO to bring alternate perspectives and attempt to bridge the cultural divide if the supported unit does not consider the team's input and contributions. Lastly, the supported headquarters staff should leverage the liaison team and work with or through them to leverage the capabilities and resources of their counterparts in the partnered headquarters. The success of the LNO rests as much on the ability of the supporting and supported commanders and staffs as it does on the individuals executing the LNO mission.

Conclusion:
The LNO as an Operational Imperative

The contemporary operating environment continually demonstrates to our Army the necessity for forces to work closely with other forces. Gone are the days when operations and missions in one unit's area of operations (AO) or another district or province did not impact another unit operating adjacent or near another force. The future operational environment — at least the understanding, prediction, and evidentiary prognostication that we have of it — further necessitates functional relationships between forces operating in, around, and near each other. Most importantly, the implications of failure in our interconnected global commons compel us to find ways to work better as a team. There are many ways in which units can further interdependence and tasks to accomplish

this activity. But none of these tasks or methods are as valuable as establishing a quality and effective liaison team to build the organizational relationship. This concept — that organizational relationships are what really matter in interdependence — is what drives the importance of the LNO. It is the LNO's ability to enable operational effectiveness and ensure CF-SOF unity of effort that truly makes them the critical link in CF-SOF interdependence.

Notes

[1] TRADOC Pamphlet 525-8-5, *U.S. Army Functional Concept for Engagement*, dated February 2014, is the most comprehensive and authoritative articulation of interdependence to date. It lists interdependence as the fourth of four key activities of engagement, the seventh warfighting function. It broadly outlines the concept of interdependence and discusses force requirements.

[2] TRADOC PAM 525-8-5, page 18, para 2 and 3.

[3] For a comprehensive summation of interdependence at JRTC, see LTC Lawrence W. "Hank" Henry's article "Institutionalizing Interdependence: The Mindset Change for the Future Operational Environment," which appeared in the April-June 2014 issue of *Special Warfare*. Of note, LTC Henry outlines the concept of ACPEA (acknowledge, coordinate, plan, execute and assess) for executing interdependence. The article is available at http://www.soc.mil/swcs/swmag/archive/SW2702/APR-JUN_2014.pdf.

[4] GEN (Retired) Stanley McChrystal at TEDx event, published 20 April 2014, accessible at http://www.youtube.com/watch?v=PVzcGhZ8Aeg.

[5] GEN (Retired) Stanley McChrystal at TEDx event, published 7 May 2014, accessible at http://www.youtube.com/watch?v=9jRkACywckE.

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Platoon leaders with B Company, 1st Battalion, 501st Infantry Regiment, 4th Infantry Brigade Combat Team (Airborne), 25th Infantry Division, create a terrain model during a decisive action training environment exercise at JRTC, Fort Polk, on 24 April 2014.

A Strategy for Future Victory:

Institutionalizing SOF-CF Interdependence

COL MICHAEL R. FENZEL
COL JOSEPH G. LOCK

un Tzu suggested that although it was easy to see the tactics by which he conquered armies, it was substantially more difficult to see the strategy from which his victories evolved. The tactical success of our special operations forces (SOF) and conventional forces (CF) are chronicled by Green Berets and conventional Soldiers alike through well over a decade of continuous conflict from Iraq to Afghanistan. An honest appraisal of where the most significant progress in warfare was made during this unprecedented period in our military history would mark the close interaction between our two warrior communities as one of the largest leaps forward. We conclude that achieving success in future conflicts will demand an interdependent strategy. Yet despite the clear need to move in this direction, there is a growing institutional tendency to return to our "tribes" and train together infrequently as the current wars come to an end. The tactics that are individually applied in combat by both communities must give way to an institutionalized strategy to leverage the other's inherent strengths and promote SOF-CF interdependence beyond the requirements of our current fight. Continuing this evolution of collaboration demands a more concerted and structured effort.

In late summer of 2013, an opportunity to forge that variety of cooperation was presented to the Army with a rotation to the Joint Readiness Training Center (JRTC) at Fort Polk, La. The 3rd Brigade Combat Team, 82nd Airborne Division (3/82 BCT) from Fort Bragg, N.C., and the 4th Battalion, 5th Special Forces Group (Special Operations Task Force [SOTF] 54) deployed to JRTC from 29 July to 2 September 2013 to execute JRTC Rotation 13-09. This rotation was a Chief of Staff of the Army-directed exercise designed to test "SOF/CF Interdependence in a complex Weapons of Mass Destruction (WMD) scenario" against an adversary that possessed near-peer capabilities, including weaponized WMD, robust air defense systems, rotary wing aviation, significant artillery assets, organic ISR (intelligence, surveillance, reconnaissance), mechanized/armor units, and employed a complex array of asymmetric threats. In short, a scenario that made it next to impossible to address effectively without SOF and CF heavily depending upon one another.

COL Michael R. Fenzel, commander of the 3rd Brigade Combat Team, 82nd Airborne Division, and then LTC Joseph Lock, commander of the 4th Battalion, 5th Special Forces Group, greet one another prior to a meeting during Joint Readiness Training Center Rotation 13-09 at Fort Polk, La., in August 2013.

Photo by MAJ Loren Bymer

The 3/82 BCT and SOTF 54 achieved measurable success during this JRTC rotation and defeated the well-trained opposition force in every phase of the rotation. Reflecting upon the lessons learned during this time together revealed just how much our own collective approach and commitment to interdependence contributed to this success. Our experience during this rotation highlights three imperatives we feel are necessary to institutionalize interdependence between our communities:

• Habitual relationships between SOF and CF units must be established to make opportunities to train together routine.

• Interdependent training opportunities at the Combined Arms Maneuver Centers (JRTC, National Training Center [NTC], Joint Multinational Readiness Center [JMRC]) must be expanded to further test interdependence concepts.

• Broader and more sweeping commitment must be made to change SOF and CF cultures and create institutional expectations for close and functional cooperation.

The Inescapable Importance of Relationships

The story of JRTC Rotation 13-09 is one where the key personalities meshed well in advance of execution. Three months before the rotation began the SOTF 54 and 3/82 BCT commanders were strangers. Before completing the initial staff estimate, 3/82 BCT contacted SOTF 54 leadership requesting an in-person coordination meeting at the SOTF headquarters at Fort Campbell, Ky. The initial meeting between the commanders of SOTF 54 and 3/82 was several hours long and began with a verbal commitment to cultivate the relationship. As it happened, the trust developed through this process would become a powerful weapon throughout the training rotation at JRTC. The initial investment of time and lengthy discussion laid the ground work for all the collective success that would be enjoyed three months later. Investing in the relationship from the start is a step that cannot be skipped on the road to functional cooperation.

During the few months that preceded the start of the JRTC rotation, 3/82 BCT and SOTF 54 continued the process of integration and collaboration at increasingly lower staff levels. Relationships developed between SOTF 54 and the multiple other battalion formations organic to 3/82 BCT for the combat training center rotation. Planners were cross-leveled during staff exercises, there was joint participation in the JRTC-led Leader's Training Program (LTP), and there were numerous joint planning conferences that built relationships at the operator level. The end result was what should be identified as a key characteristic of true interdependence: a deep and common understanding of counterpart missions and the attending plans to accomplish those missions.

By the start of the rotation, both units had moved well beyond just being acquainted with one another. There

The 3/82 BCT's ability to quickly mass ground forces, hold terrain, employ devastating indirect fire, control the airspace, and move an impressive amount of troops and equipment across the battlespace was complemented by SOTF 54's ability to operate undetected behind enemy lines, disrupt enemy forces, provide real-time intelligence on enemy disposition, and conduct foreign internal defense by advising partner nation forces.

was a shared vision of a solution to the challenges ahead, there was a common understanding of counterpart priorities and, most importantly, there was a trust and respect for one another that had grown. This early commitment, developed in advance of experiencing our "fog of war," established a foundation of confidence and created a culture of interdependence throughout both units. The momentum that was carried into the start of the JRTC rotation grew through each phase of the subsequent training operation. This momentum facilitated our ability to translate this intangible interdependence into tactical action.

Within the construct of our JRTC scenario, SOTF 54 was already forward deployed on the ground within a friendly partner nation. This scenario was very realistic in that SOF are currently forward deployed throughout the world conducting theater security cooperation and building the capability of host-nation forces in dozens of countries at any given time. Special Forces elements are often on the ground in many places long before a conflict erupts and frequently have developed relationships with the U.S. Embassy country team, host nation, and other friendly actors. Special Forces elements may also have a firsthand, nuanced understanding of both the enemy and friendly tactical situation. JRTC replicated this type of scenario extremely well by providing an embassy staff that consisted of role players who had previously served as ambassadors, defense attaches, and chiefs of station. Host-nation role players, partner force military, and well-manned guerilla units were well resourced and accurately represented the dynamic personalities and stressors present in a multinational/multicultural environment.

As a result of the deliberate and shared effort to build a strong SOF/CF relationship prior to arriving at JRTC, once the JRTC rotation began there was a clear picture of how 3/82 BCT and SOTF 54F hoped integration with one another would proceed. There was an exchange of liaison officers (LNOs) that embedded in each other's operations and targeting directorates. A detailed and redundant system of communications was developed that included cross-leveling a number of SOF-specific secure communications devices. While not perfect, these mechanisms provided a secure and dependable voice method of communication in the event that our primary systems failed. Indeed, it was the concerted effort to develop such a system that was as important as the system that was chosen. It was a tacit demonstration of organizational commitment. We agreed upon supported and supporting roles during the different phases of the operation, created a battle rhythm of regular communication, jointly developed a deception plan, engineered a nuanced non-lethal targeting matrix and then divided the responsibilities for engaging host-nation leadership.

The establishment of these staff systems coupled with a commitment to achieve interdependence enabled both units

U.S. Army paratroopers assigned to the 3rd Brigade, 82nd Airborne Division at Fort Bragg, N.C, conduct a foot patrol near the training village of Dar Alam during JRTC Rotation 13-09 on 21 August 2013.
Photo by TSgt Parker Gyokeres, USAF

to leverage our counterpart's inherent strengths. The 3/82 BCT's ability to quickly mass ground forces, hold terrain, employ devastating indirect fire, control the airspace, and move an impressive amount of troops and equipment across the battlespace was complemented by SOTF 54's ability to operate undetected behind enemy lines, disrupt enemy forces, provide real-time intelligence on enemy disposition, and conduct foreign internal defense by advising partner-nation forces.

This commitment to enable interdependence largely succeeded throughout the rotation. However, the complexity of the scenario also exposed some shortcomings. Much of the pre-rotational training focused on integrating staff functions, developing joint plans, and designing a communications plan that would enable a common operating and intelligence picture. As the rotational scenario morphed beyond our initial plans, the ability of our tactical elements to synchronize actions became more limited due to a mutual unfamiliarity with the other's tactical battle drills.

When two tactically offensive-focused elements are maneuvering in the same battlespace, the opportunity for fratricide is always high. Our lack of prior on-the-ground training together did not enable "on-the-fly" integration and forced us to institute restrictive control measures that effectively divided up the battlespace but prevented our ability to truly reinforce one another. While our pre-rotational plans largely succeeded in a deliberate defense, the complex battlefield geometry in the offense outpaced our ability to integrate and exposed our mutual unfamiliarity with counterpart systems. Real success in combat operations and achieving ingrained trust between our organizations would have required much more than 90 days of staff and command collaboration.

Aligning Conventional Divisions and Special Forces Groups

One strategy that would create greater opportunity to rehearse tactically and to enable the development of long-term relationships would be through the establishment of formal partnerships between specific conventional force divisions and Special Forces Groups. As the Army experiments with the establishment of regionally-aligned BCTs, the opportunity also exists to select and focus conventional BCTs that are geographically co-located with already regionally aligned Special Forces Groups. Special Forces Groups have long enjoyed the benefit that comes from near continuous presence in and focus on specific regions. Advanced foreign language capability, deep cultural understanding, and years of building relationships all result from the ability to remain focused on a specific region. Special Forces officers and NCOs often spend most of their careers deploying to the same region and remaining focused on the same area of operations. Committing specific conventional divisions and the BCTs that comprise them in the same manner and codifying established partnerships between BCTs and the battalions that comprise Special Forces Groups would help create unit-level relationships that would endure well beyond specific commanders or JRTC rotations and create efficiencies in areas where ramp-up for BCTs

would otherwise be cost prohibitive.

If there is one lesson learned from our experience together at JRTC, it is that interdependence between two such different professional cultures must always begin well in advance of the fight, whether that is a training fight or a combat deployment. If a habitual relationship is already established, then coordination is made easier because trust already exists between the organizations and there is already foundation for the mutual support necessary to succeed in a hybrid threat environment. When the expectation of cooperation is inculcated in both communities, the major obstacles to operational synthesis are removed.

Making the time in busy schedules to cultivate a strong relationship is the first step to breaking through the stasis of inaction and moving beyond the inherent limitations associated with being unfamiliar with our counterpart's operating systems. Establishing an identity for the partnership and forecasting the opportunities to work together at the subordinate level have the potential to break down the natural barriers that exist in both the SOF and CF communities. The forcing function for SOTF 54 and 3rd BCT was a JRTC rotation between two commanders who both wanted to win. The rotation facilitated a formal commitment to further collaboration through numerous face-to-face coordination meetings and precursor training events, all in advance of the focal event at Fort Polk. Both teams felt the desire to win at JRTC and so there was common ground built into our coordinated efforts. By creating long-term partnerships between conventional force divisions/BCTs and Special Forces Groups/battalions, we can formalize, codify, and expand the opportunities for increased partnerships.

Testing Interdependence at the Combined Arms Maneuver Centers

Regardless of how we develop habitual relationships upstream of the next fight, the way to test these concepts is undoubtedly best done at combined armed maneuver centers like JRTC in the uneven terrain of Louisiana; NTC in the desert of southern California; and JMRC in the forests of Bavaria. There is simply no other equally effective way to create a training environment with the scale and complexity necessary to truly stress interdependent systems. Beginning in 2012, U.S. Army Training and Doctrine Command created a training program with focus on what they called the decisive action training environment (DATE). This program completely revamped the approach the training centers took toward testing rotational units. Rather than focusing on pre-mission training for deployments to Afghanistan and Iraq, the DATE incorporated a much broader hybrid threat consisting of regular, irregular, terrorist, and criminal challenges.

No longer focused on previously known deployment locations, the DATE rotations represent a much more realistic environment that is applicable in equal parts for the SOF and CF communities. Best of all, it forces the rotational units to leverage one another's strengths in order to succeed. The free-play environment evolves in cadence with the decisions made by the participating communities. Flexibility and agility are rewarded, and overly rigid and micromanaged plans are quickly exposed. It is a training environment with a well-

resourced complement of role players and opposing forces that creates a high degree of realism, which enables truly interdependent units to excel.

Within the context of this DATE, JRTC continues to evolve the training scenario to include greater joint, interagency, intergovernmental, and multinational (JIIM) involvement, better reflecting the operating environment that exists outside of current fights. JRTC has also begun the process of codifying lessons learned in this interdependent environment and formalizing these into more formal interdependence doctrine. Pairing Special Forces battalions with BCTs during decisive action combat training center rotations will help to define the systems, nodes, and functions that must complement strong relationships in order to succeed.

Changing Institutional Cultures and Creating Collaborative Expectations

There is little question that interdependence is maximized when the right personalities are in place. The objective of our efforts must be to transcend the vagaries of personal relationships to ensure interdependence is achieved as a military imperative in all future operations. Command climates that foster initiative, reward humility, and discourage parochialism are the best insurance policies to ensure interdependence is consistently achieved at all levels and in both cultures. Even through JRTC Rotation 13-09 and despite the close relationship of the two lead commanders, the fragility of the link between SOF/CF forces was on display. Cultural differences exist that must be bridged on an institutional level in order to achieve real and enduring interdependence.

Regardless of one's personal feelings toward institutionalizing SOF/CF interdependence, future conflicts will require a cooperative approach to defeat those as yet undefined adversaries. There are core competencies within both enterprises that cannot be effectively replicated by the other. Now back in garrison, we have begun to return to our "tribes" in a quiet but apparent effort to work alone until we are thrust together again in exigent circumstances. This seems a terrible way to proceed since there will be so much at stake when the call does come to work together. If action is not taken now to bridge this growing divide, the risk to both the mission and to the Soldiers in both communities will continue to grow. We must resolve to increase our interaction before that call to fight comes so that our relationships are well established, roles and responsibilities are clearly delineated, and the full power of that cooperation is unleashed.

Ironically, there are corners of the Army that are concerned that we leave too much of the success of interdependence to relationships. These doctrinaires believe that we need more structure so that very little is left to the cooperative spirit. From the perspective of this rotation, both 3/82 BCT and SOTF 54 determined that effective interdependence was most facilitated by command influence and command culture: leadership that continually sought opportunities to amplify mission success of the other unit based upon the inherently unique capabilities possessed by each partner.

The capacity within both communities to pursue closer relationships should be left to promotion and command boards that will select leaders who inherently understand their importance. Indeed, the foundation of interdependence is, at its root, about trust. Relationships are what make interdependence work, and leaders from both worlds must cultivate these relationships whenever they are afforded the opportunity. Effecting a position of familiarity in advance of conducting combat operations is what we must work toward in both warfighting communities. Formalizing the emphasis on structure is admirable and necessary, but if relationships are bad then structure will not ever salvage the situation.

Interdependence between 3/82 and SOTF 54 began with an initial afternoon-long brainstorming session with both commanders where the mission and intent of each unit was shared. This effort culminated three months later with a highly successful JRTC rotation that demonstrated the synergy that is achievable when true interdependence is pursued. This type of success can be replicated with a commitment from both the SOF and CF communities to prioritize these training opportunities (particularly at the combined arms maneuver centers), develop habitual relationships between SF Groups and BCTs, and continue to seek opportunities to practice this approach outside a theater of war. As operations in Afghanistan draw to a close, the opportunities for SOF/CF integration will invariably be reduced without a strong commitment from senior leaders on both sides of the operational coin. We cannot afford to return to the days where deep cultural divides exist in our formations and attitudes of distrust prevail.

If there is one thing the last 13 years of continuous combat operations has achieved, it is to break down the barriers between SOF/CF communities, unite our tactical and operational efforts, and create a healthy environment of interdependence on the battlefield. This commitment from both communities is what must be sustained in the future. In an era of diminishing resources, we simply cannot afford to endure a roll back in the progress we have achieved through the last decade of counterinsurgency operations. All of these lessons learned were on full display through JRTC Rotation 13-09. This example is one piece of tangible evidence that pursuing true interdependence is a strategy that will lay the ground work for both greater combat readiness and lead to success on the battlefields of the future. We must move beyond all parochial opinions about tactics that we think will lead to future success inside our own narrow warfighting communities to develop a sustainable strategy from which those future victories will evolve — a strategy that routinely brings us together on the training field before we step onto the next battlefield.

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Combat in Cities:
The Chechen Experience in Syria

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During the early part of Operations Enduring Freedom and Iraqi Freedom (OEF/OIF), analysts were quick to see Chechens in Afghanistan, Iraq, and other hot spots outside of Chechnya. Actually, the Chechen combatants were still at home fighting the Russians who had joined the Global War on Terrorism with the specific goal of completing their mission of subjugating Chechnya. They were in the third year of their second war in that small, mountainous country. Now, the Russians have reconquered Chechnya, and the republic is ruled by Ruslan Kadyrov, a former Chechen rebel who considers himself a protégé of Vladimir Putin and on very good terms with Russia. Although a few remain, many of the anti-Russian, anti-Kadyrov Chechen combatants have left the tiny republic, and some of them have taken up arms in other countries. Currently, at least three Chechen "battalions" are engaged in fighting against the Syrian government, and some individual combatants are part of ISIL (Islamic State of Iraq and the Levant). These Chechen are sharing their combat-in-cities tactics, techniques, and procedures (TTPs) with other rebel groups trying to overthrow the Syrian and Iraqi governments.

Figure 1 — Chechnya

How Did the Chechens Become Involved in Fighting in Syria and Iraq?

There are three factors worth consideration. First, the Chechens have a recent history of fighting in foreign conflicts. Both Shamil Basaev and Ramzan Galaev brought their "battalions" to Abkhazia in 1992 to fight on the Abkhaz side of the conflict. Chechens were also present in South Ossetia in 1991 and in Nagorno-Karabakh around the same time. Although some speak of high-minded ideals to justify their foreign involvement, for many, life as a fighter was simply better than civilian life in Chechnya.[1] Long-held "warrior" ideals prevalent in Chechen society also cannot be underestimated when the call of foreign combat presented itself. Eventually these Chechens returned to Chechnya with combat experience and became the backbone of the Chechen resistance when Russia tried to pacify the rebellious region in late 1994. So, a history of foreign involvement isn't new to the Chechen warfighting experience, and many still see it as a better

alternative to life in Chechnya under Kadyrov. Isa Manaev, the previous "Defender of Grozny" during the Second Chechen War and a staunch nationalist who rejected Islamic radicalism, recently fielded a Chechen volunteer battalion in Eastern Ukraine. He is one of a handful of non-radical Chechens now sharing their fighting experience in Ukraine.[2]

The second factor to consider is foreign intervention within Chechnya itself. During the First Russo-Chechen War (1994-1996), Thamir Saleh Abdullah Al-Suwailem came to Chechnya. Known by his nom de guerre of Ibn al Khattab, Thamir was a Saudi Arabian who had fought along with Osama bin Laden in Afghanistan. But it was after Afghanistan, while fighting in Tajikistan, that Khattab first

heard about Chechnya. He arrived in Chechnya in the spring of 1995. Originally he linked up with Salman Raduev, but that relationship was short lived and he eventually formed a close friendship with Shamil Basaev. As a result, he moved his whole operation into the Vedeno Rayon, ancestral home to the Basaev clan. He immediately proved to be a very effective fighter and battlefield commander, and dozens of foreign fighters followed him to Chechnya while many Chechen combatants gravitated to him as well.[3] At the start of the First Russo-Chechen War, the average Chechen insurgent was nominally Islamic, drank vodka, smoked, and fought the Russians with the intent to break free of Russia and establish an independent Chechnya. Khattab established a school and training camp near Serzhen-Yurt and in addition to battlefield TTPs taught Wahhabism, a radical militant form of Islam at odds with the Sufi tradition of the Chechen people. Still, because of his battlefield prowess, Khattab and his followers were more or less accepted. The handful of Chechens who attended his training camp and fought alongside him were indoctrinated not only in the fine art of tank destruction but also radical Islamic study.[4] This continued through the interwar period (1996-1999).

During the Second Russo-Chechen War (1999-2009), serious divisions within the Chechen resistance began to emerge. The "laid-back" Chechen nationalists were faced with a disillusioned, ideologically charged often younger generation of Chechen combatants hardened by years of war and more easily radicalized. Chechnya had a population of some million people. Combat attrition had impacted significantly on the nationalists. As many as 600 Chechen combatants were killed during their withdrawal from Grozny in January 2000. In March of the same year, another 800 Chechen combatants were killed in fighting in Komsomolskoe. Many senior combat leaders had been killed and replaced by younger leaders. The new leaders and many of the surviving old leaders were changing the message from separation from Russia to trans-regional Islamic jihad. Khattab and his other foreign jihadists continued to play a significant combat, training, and indoctrination role until 20 March 2002 when Khattab was killed by a poisoned letter arranged by the Russian security services.[5]

Khattab was replaced by another Saudi, Abu al Walid. Khattab and Walid had taught the Chechens spiritual restraint and pushed a focus on cleanliness of spirit and intent, which were considered critical to effective jihad. The Chechens were also very successful with their media campaign until the Russians shut down media access. Khattab travelled with a camera crew that he used for information warfare operations and to secure further funding and recruits from abroad. These are some of the same information operation tactics now being used to greater effect in Syria and Iraq due to a more robust global internet capable of disseminating information nearly in real time anywhere in the world.

Finally, the third factor to consider regarding Chechens

Today, the success of the hard-line rebel groups, as well as ISIL, seems to rely on their simplicity of message, or Islamic purity if you will. ISIL combatants are not the same people the coalition fought during the last 13 years in Iraq. The foreign-fighter presence is significant in numbers and in the capabilities they have given to ISIL.

fighting in Syria and Iraq is that some of the most notable Chechens fighting in Syria and Iraq are not technically Chechen but Kists from the Republic of Georgia's Pankisi Valley and Gorge. The Kists are a close relation to the Chechens and are often referred to as cousins. During the wars with Russia, the Pankisi Valley was a refugee destination but also a sanctuary or "R&R" location for Chechen combatants taking a break from the fight up north. It was well known that Galaev would take his whole battalion to the Pankisi. Other Chechen combatants also made their way south to the Pankisi. In addition, it was a way station for foreign fighters seeking to get to Chechnya. The fact that important Chechen combatants fighting in Syria and Iraq are not even Chechen but rather Kist attests to the spread of Chechen influence and also TTPs beyond Chechnya, beyond the Caucasus, and now into the Middle East. Take the case of Umar Shishani, a Georgian national born Tarkhan Batirashvili and raised in the Pankisi Valley who is now a military leader in ISIL. While some might shrug off the differences between Kists and Chechens, it matters to Chechens. And if accurate intelligence matters, it is important to note that Umar Shishani represents another brand of Chechen combatant — one who takes on the banner of being Chechen with all its credos, ethos, and reputations but without actually being a modern-day Chechen and having little or no Chechen war experience.[6] This next generation of "Chechen" fighters seems content to carry the Chechen banner into new conflicts with their goals being far from the original aspirations of Chechen independence.

Today, the success of the hard-line rebel groups, as well as ISIL, seems to rely on their simplicity of message, or Islamic purity if you will. ISIL combatants are not the same people the coalition fought during the last 13 years in Iraq. The foreign-fighter presence is significant in numbers and in the capabilities they have given to ISIL. Rebel groups that couldn't place three people on the street in the beginning without drawing regime attention are now present in force. In many respects they are more dedicated, harder, confident, more goal oriented, and better prepared.

The translated article that begins on page 35 describes fighting in Syria's Aleppo districts of al-Zahra and Leramon beginning in March 2014.[7] The rebel offensive aimed to take over the city's Air Force Intelligence (AFI) headquarters (HQ). The AFI HQ was part of a large complex that included a massive construction that was to be Aleppo's future courthouse (or "justice palace" and which the article nicknames "the skeleton"), the Syrian Red Crescent Building, the Technical Services Building, an orphanage, a mosque, and an electric sub-station. The AFI HQ was considered a key operations center for the Syrian government in Aleppo and was located on the northwest edge of the city. It was the bulwark protecting the northwest entry to the government-controlled western half of Aleppo; the northwest countryside

Figure 2 — Syria

The rebel attack was launched by a coalition headed by the JMA and also included Jabhat al-Nusra and the Islamic Front (along with several other Syrian Islamist fighting groups). JMA field commander Mohanad Shishani was killed in the fighting.

The JMA first joined fighting in Syria as the "Muhajireen Brigade" in late summer of 2012. It fought in the Aleppo countryside and was led by Umar Shishani. In the spring of 2013, it merged with other groups to become the JMA and began collaborating closely with ISIS. In September 2013, a group of fighters led by JMA deputy commander Sayfullah Shishani split from the group, stating a desire to remain independent and given their pledge of loyalty to Dokka Umarov and the Caucasus Emirate. A few months later Umar Shishani openly pledged loyalty to Abu Bakr al-Baghdadi and ISIS. Within weeks a second faction split from Umar Shishani, once again stating a desire to remain independent and in light of their pledge of loyalty to Umarov. This splinter group, which was led by Salah al-Din al-Shishani, retained the JMA name and is the one involved in the Leramon al-Zahra fighting described in the article.

all the way to Kilis across the border in Turkey was largely in rebel hands.

The toughest fighting was building to building in the district of al-Zahra (Jama'iat al-Zahra or "al-Zahra Cooperative"). The neighborhood housed government supporters including AFI employees. It was a modern area consisting of wide boulevards and blocks of identical square, multi-story commercial-residential buildings. Schools, mosques, and empty lots provided occasional open spaces between the buildings. This is a very different type of urban setting than Aleppo's core, which is dominated by narrow, winding alleys. Rebels took over the "Leramon Halls" to the north of the AFI HQ in April while making slow and gradual progress, fighting building to building from the south and the west.

In late April, the Chechen-led Jaysh al-Muhajireen wal Ansar (JMA) claimed to have taken "the skeleton." A video dated 28 April shows what appears to be a black flag fluttering atop the unfinished hi-rise, though it is unclear whether and for how long rebels held the building (see Figure 3). In mid-July, rebels released video showing a massive nighttime explosion that partially destroyed the orphanage in the AFI complex. Accompanying videos explain that a mined tunnel dug from the nearby frontlines had caused the blast. According to rebels, the tunnel was 15 meters long and had taken around a month to dig. Video evidence implies that the tunnel had been dug using a combination of electric and hand tools and that large quantities of fertilizer were used in the blast.

The March 2014 offensive coincided with two other Chechen-led operations: one an ongoing attempt to storm Aleppo Prison to the northeast (eventually broken by Syrian government forces), in which Sayfullah Shishani had been killed the month prior; the other a simultaneous attack launched by a different Chechen faction (Junud al-Sham led by Muslim Shishani) on the Christian Armenian town of Kassab along the border with Turkey in the province of Lattakia, considered Syria's Alawite heartland. Umar Shishani (Umar "the Chechen") has assumed the role of military commander of ISIL. The following is a translation from a Russian-language article on a Chechen website about urban combat. The author is a member of JMA, which is the Caucasus Emirate proxy force in Syria. It is labeled part one, so hopefully more will follow:

Combat in Cities: Experience from Syria and Chechnya[8]

This is data compiled from the experience of Mujahideen and unbelievers fighting in Syria and Chechnya. Although the data that is recommended here is for urban combat, much of it may and should be used during combat in other terrain (rural settings, mountains, gorges, and so on).

The common world-wide experience with military action in inhabited places shows that urban combat may be considered the most complex. It establishes harsh demands on tactical training, weapons, and munitions as well the

morale of the combatants. Every building can become its own "fortified region" with multiple window embrasures, canalization traps, attics, and basements.

Technology gives practically no advantage to any army during urban combat. Individual training and the morale of the opposing sides is the first determinant in urban combat. The importance of technology trails on a secondary plane.

For the successful outcome of an urban combat mission, it is necessary that groups contending with a larger enemy force must have powerful weapons, reliable communications, and be well trained in tactics. The last requirement is the most important because insufficiency in tactics negates the value of the rest.

Every city is divided into regions and blocks. Modern buildings are often situated 90 degrees from each other, forming a box. Remember that when attacking these particular structures, it is best to attack the end of the building when engaging the defending security force. This stems from the fact that the majority of people shoot right handed, and it is easier for them to engage targets located to their left. If it happens, for example, that the building is located to the attacker's right, the attacker needs to engage the target by firing left handed, which will be uncomfortable and ineffective. It follows that it is desirable to have left-handed shooters in every group. If this is directed by senior leadership and included in rear-area covering groups, it will make things more uncomfortable for the enemy. It is necessary to develop the ability to fire from the left shoulder (for right-handed shooters, for left-handed shooters just the opposite). This can be developed by initiating a training regimen whereby the shooter switches the stock from one shoulder to the other. One of our brothers, a former Spetsnaz who at one time fought against the Mujahideen in Chechnya, later trained a group of Ansar al Sharia [an offshoot of al-Qaeda] to shoot from the left shoulder. They did not do badly, and over time the majority of the Mujahideen in Syria developed the ability to shoot from the left shoulder effortlessly. At this time in Khurasan (Afghanistan, Pakistan), they are acquiring this ability.

When moving toward a building in a city, it is necessary to move alongside a wall or similar obstacle. Under no circumstance should one move down the center of the street. There is less chance of being hit by enemy fire (usually they fire down the center of the street, also there is less chance of being noticed moving alongside a wall) and you can move under cover more quickly from the side of the street. If you must cross an open space, it is better not to do it directly, rather move in circuitous fashion (the principle being not to move down the center of the street). If you need to cross an open space, move very quickly. When you have to run across a dangerous section covered by enemy fire, determine the distance of the danger zone that you must run across and the probability that the enemy is expecting you at this section and at this given moment. If the section to be crossed is not very big, then it is better to run across in groups of several men without maintaining set distances between the runners. In this case, the enemy may simply not react to your appearance. If the distance to be crossed is appreciably wider, then it is better to cross singly — one runs while the rest wait. If you run across in a small group, the enemy rifleman may notice you and simply fire into the crowd, and most often no one is hit. During fighting in the al-Zahra, Leramon in Aleppo, the brothers ran across a wide-open section in groups of several men. The unbeliever machine gunner fired into the group and wounded one brother. It is best of all to cross a dangerous section under covering fire. The covering fire is provided by brothers who do not need to run across the section or those who have already crossed. At first, one or several brothers take up positions to provide the covering fire, then the remainder run across in order. Those who have run over also take up firing positions to provide covering fire for those who have still not crossed over.

Always maintain distance from one another and don't bunch up. One burst of fire, grenade, mine or mortar round may suffice to kill or wound everyone. During the spring offensive in the Leramon region of Aleppo, the unbelievers shelled our front line. Our brothers in the reserve were eating out on the street. In the distance, mortar rounds fell — one, two. One of the seasoned veteran brothers suggested that they take shelter in a building. The others replied that the mortar rounds had landed in another area. Then another mortar round dropped right on top of them, and several brothers became martyrs, God willing. Therefore, even if the mortar or artillery rounds land several hundred meters from you, it is necessary to move to shelter (building, bunker). The unbelievers may shift fires between the front and the depths. Very often, in order to seize

Figure 3 — Screenshot of Black Flag Over "Skeleton"

a particular building, it is necessary to capture the neighboring buildings since fire from them can block the advance of the assault troops. After accomplishing this action, those buildings which have their ends facing the target building can conduct surrounding fires. The space between the buildings is swept by fire, and often the ends of many buildings do not have windows.

Also, you can achieve an advantage if you are able to drive the enemy into the building located next to your force and are able to observe the stairwell. In this case, the enemy is unable to freely move between the floors since he is only able to appear on the stairs as an excellent target. In this case, you have locked the unbelievers in the rooms located away from the critical side of the building.

For example, the enemy reasons similarly to you. He is not interested in ground-level and uncomfortable positions. He is more attracted to the multiple-storied cement buildings towering over all the surrounding neighborhood, located next to wide streets or other open areas.

Thus it was at al-Zahra in the Leramon region in Aleppo. The unbelievers occupied a huge, unfinished concrete "palace of justice" (the brothers called it "the skeleton"), which has a tall, partial framework of a tower erected next to it. There was a large-caliber machine gun emplaced on the top floor. The unbelievers were able to observe in all directions for a long distance from the tower, which greatly impeded the Mujahideen. Enemy fire from "the skeleton" was one of the main problems. "The skeleton" was surrounded on all sides by wide roads. The closest distance between houses occupied by the brothers and "the skeleton" was 80 meters over open ground. We tried to take it several times, but finally it simply could not be done.

It is very easy to control the situation from the highest floor; everything that goes on in adjacent buildings and their surroundings is as visible as the palm of your hand. One can conduct effective fire from the top floor of a tall building; moreover destroying these firing points with small arms is very difficult. The primary dangers to us were the unbelievers' tanks, "zushki" (the ZU-23-2 anti-aircraft machine gun either ground or jeep-mounted), and heavy machine guns.

Do not attempt to force a passage through the enemy defenses and penetrate deep into the territory occupied by the unbelievers. While capturing a few buildings, you may come under fire from three sides; or even worse, you may be cut off from the main body. This situation may be skillfully set up so that the enemy may lure you unwittingly into a trap. Not only is it forbidden for you to fall into these traps, but you also need to practice setting your own traps. The brothers in Aleppo used similar enticements into traps during the first months of fighting when the unbelievers did not stop falling for these tactical tricks. Also, the brothers fell

Figure 4 — Screenshot from Syria State TV Broadcast Inside AFI HQ

into such traps in various locales. In 2013 in the city of Ra's al Ain (in the Province of Al-Hakasan), the Kurdish murtad [apostate]-communists from the PKK (Kurdish Workers Party) used a trick against the brothers from the Jabhat al-Nusra organization to lure them into a trap and killed many brothers. The assault on the city collapsed, and the newly-arrived Mujahideen had to withdraw from it.

A very effective means is the use of a bomb to mine a building. For example, the building is mined so that the explosion not only razes the building but also weakens the enemy. One press of the button can bury more than a squad of the enemy. It is also possible to mine a building that the unbelievers are already occupying. Here, the principal problem is approaching the building (secretly or under the cover of fire) and the possibility of providing enough explosive material, the sum total of which is sufficient to destroy the building or a part of it, or, as a last resort, in order to deafen and confuse the enemy and/or to create an additional entrance for safe passage for penetrating into the building during an assault. We have received reports from the Jaish al-Muhajireen wal-Ansar [jihadist group of Chechens and other Russian-speaking fundamentalists] that during the spring fighting for the al-Zahra, Leramon region in Aleppo, the Mujahideen employed this method with great effectiveness.

There is the possibility of using underground passages to get under a building to mine it. Reports indicate that this is also very effective. This was and is being put into practice all over Syria. In Aleppo, in one instance, they blew up a tunnel containing 15 tons of explosives. The tunnel was under the Air Force Intelligence Headquarters in the al-Zahra, Leramon region. Tunnels were also blown up in Idlib, Damascus, and other places.

In Syria, there is also a widespread prevalence of digging tunnels for secret movement within cities. Newly dug tunnels are used to move between our own points and as secret approaches to the unbelievers' positions. These are widely used for these purposes in Damascus and lately in Homs.

If an assault is going to be made under the cover of a smoke screen, you need to position the smoke charges after considering the direction of the wind. When the smoke densely shrouds the enemy front line, the group moves toward the end of the building they intend to assault (for security, they sometimes "scrub out" the passageway between the buildings with the use of directional [claymore] mines). Even the use of a thin smoke screen lessens the effectiveness of aimed enemy fire. This is especially so for snipers who rely on optical sights for conducting fire.

But it is necessary to remember that mistakes can put smoke on your own positions, and then the advantage passes to the enemy. It is particularly important to determine wind direction before using chemical and/or irritant agents with the goal of smoking the enemy out of his location or putting him out of commission. During the penultimate assault on the Minnag military air base near the city of A'zaz in the northern part of Aleppo Province, the brothers did not determine the wind direction and were struck by their own gas attack (they used police CS tear gas grenades fired from a special police grenade launcher designed to disperse demonstrators). Now, in summer, in northwest Syria, in the vicinity of Halab [Aleppo], the wind is predominantly from the west from the sea. It increases especially at night. It is necessary to study the wind before creating a smoke screen or using chemical/irritant agents against the enemy and to learn during firing where the firing points are, particularly for the snipers and grenadiers. Also, it is necessary to study the wind direction when secretly moving closer to the enemy or conducting reconnaissance. You do not want to be heard, and therefore you need to approach the enemy from the leeward side (that is to say, the wind must blow from the enemy toward you). Thus the sounds that you make are carried off by the wind, and, on the other hand, the sounds that the enemy makes are more audible.

In Syria, as a rule, the Mujahideen use homemade smoke charges. The majority of them are unable to obtain factory-made smoke charges. They seldom use factory-made smoke grenades. I have encountered Soviet RDGs (smoke hand grenades) which have a cardboard shell with a cord connected to a friction ignition element (a giant match inside the smoke compound). If the smoke grenade does not ignite, simply light it with a cigarette lighter. The RDG produces two smoke colors indicated by Б (white smoke) and Ч (black smoke). The RDG black smoke grenade, when ignited without access to oxygen, produces deadly phosgene gas. The RDG smoke color is printed directly on the grenade as a large Б or a large Ч.

To drive out the enemy from his buildings, you might attempt the use of pepper-filled containers that are duct-taped to grenades. You may use the experience of Chechen Mujahideen who filled the interior of [RPG-7] grenades with crop-dusting insecticide or pepper (who does not know that the inside of the [anti-tank] grenade has a empty space, which functions to increase the penetration of armor). It is only necessary to bear in mind that the overall weight of the grenade has increased and the trajectory of the flight of the grenade is steeper.

The article ends abruptly, but this was supposedly part one with more to follow. Reading the article, one is struck by the return to basics with a few evolutions. During the fighting in Grozny, the mortar was the major casualty producer. Although a mortar did end the life of Sayfullah Shishani, this is not the case in Aleppo where the heavy machine gun seems to have that honor.[9] The goal of having combatants who can fire equally well right- or left-handed is a Russian special forces technique that is used to fire around obstacles. It is trained as a movement efficiency skill that works due to the low sight line and shorter "Warsaw Pact" length stock on the AK series rifles. Whether or not this tactic was introduced into Syria by Chechen combatants isn't clear, but two wars and a decade and a half later, Chechen combat veterans have had ample time and opportunity to study their enemy. Perhaps this was lifted from their Russian adversary. Muslim Shishani, Emir of Junud al-Sham, has openly stated that he continues Khattab's work in Syria while Syrian rebels seem to be organizing tank killer teams that are modeled exactly as the Chechen teams of Grozny in early 1995. Finally rather than a route, the proclaimed "tactical withdrawal" of ISIL forces at Mount Sinjar in Iraq under heavy bombing smacks of Shamil's exodus from Grozny so many years ago in March 1995 — an operation he himself described as a tactical withdrawal. This could be linked to the confidence of Chechen leaders who are quite familiar with Russian use of aviation and large artillery barrages and comfortable with riding them out.

The Chechens are not present in overwhelming numbers anywhere in Syria or Iraq, nor in ISIL. Nor are all Chechen combatants in Syria former combatants in Chechnya, but they are a product of the Chechen diaspora or have taken the moniker of "Chechen" — like Salah al-Din Shishani and Umar Shishani. However, they have "street cred" and a reputation to maintain. They represent a significant fighting capability with a strong track record in a combat force that is learning to fight by doing it and then taking what has worked since the initial street fights of Grozny in December and January 1994 to advance their ability in the current struggle for Syria and Iraq.

Notes

[1] In an interview with co-author Dodge Billingsley in 1997, Shamil Basaev stated that he went to Abkhazia to fight because he believed that the Muslim Abkhaz people were in threat of being wiped out by Georgia. Interviews with other combatants with Abkhaz experience seemed to indicate that it was more something to do.

[2] "Chechens Now Fighting on Both Sides In Ukraine," Radio Free Europe Radio Liberty, 30 August 2014.

[3] There were other Wahhabis who came to Chechnya before Khattab, but neither they nor Wahhabism gained traction. It wasn't until someone with real battlefield credentials (i.e., Khattab) arrived and proved his worth on the battlefield that he was given the respect and place in the Chechen resistance. It must be remembered that Chechens prize the ideal of the warrior above most other attributes, and Khattab proved to be a man among men. These thoughts were conveyed to me by many combatants in Chechnya. Interestingly, Khattab actually said as much as well. Speaking to my interpreter, a Muslim from Africa, he told him that

"the Chechens only respect two things, money and violence. They respect my ability to fight and otherwise I wouldn't have a future here." Billingsley interview taken in Salmon Basaev's house (Shamil's father) in Vedeno, November 1997.

[4] Interview with Abu Bakar, a Chechen mid-level combatant who attended Khattab's training camp near Serzhen-Yurt. Although Abu learned military tactics and the Quran, he claims to never have embraced Wahhabism. Dodge Billingsley. June 2008.

[5] Dodge Billingsley with Lester W. Grau, *Fangs of the Lone Wolf: Chechen Tactics in the Russian-Chechen Wars, 1994-2009* (Leavenworth, KS: Foreign Military Studies Office and Quantico, USMC, 2012): 4-7.

[6] Kist identity is a bit like splitting hairs. Although there has been debate, many within the Chechen and Kist community consider them Chechens. As the story goes, they were Chechens who settled along the Kist River in Georgia several hundred years ago and over time have identified more with the larger Georgian community. Geography played a significant role in this. The fact that they reside on the southern slopes of the towering Caucasus mountains facilitated easier interaction with Georgian peoples rather than Chechens on the north slopes of the Caucasus. In addition, the carving out of international borders separating the Kists from the larger Chechen community aided in isolation of the Kist people. Finally, intermarriage in the Kist community has further separated them from the larger Chechen community. Umar Shishani has a Kist mother and a Georgian father. It wasn't until the recent Russian-Chechen wars that there seemed to be a reawakening of the Kist's Chechen roots.

[7] It included two separate battles launched by rebels each with two stages. They were named: "al-itisam" and "batr al-kafirin."

[8] This report is taken from http://www.chechensinsyria.com/?p=22372. It is titled as "New Jaish al-Muhajireen wal-Ansar Essay: War in Urban Conditions: Experience From Syria & Chechnya" and was posted on 15 August 2014. It is based on Chechen fighting in the region of al-Zahra, Leramon region in Aleppo, Syria. It is written in good Russian by someone with a military tactical background. The Chechens involved in Syria are fundamentalist Sunnis [the brothers] whereas the "unbelievers" may be Russians in Chechnya or Christians, although the term is also applied to apostates in Syria — Sunni members of Sufi brotherhoods and Shia (including Alawites, Imamis, and Ismailis). Translated by Dr. Lester W. Grau, Foreign Military Studies Office, 22 August 2014.

[9] Lester W. Grau and U.S. Navy CDR Charles J. Gbur Jr., "Mars and Hippocrates in Megapolis: Urban Combat and Medical Support," *U.S. Army Medical Department Journal*, January-March 2003. Reprinted in the *Journal of Special Operations Medicine*, Summer 2003.

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Dodge Billingsley is the director of Combat Films and Research, a fellow at the David M. Kennedy Center for International Studies at Brigham Young University, and a senior faculty member at the Naval Post Graduate School's Center for Civil Military Relations. A long-time observer of many conflicts, Mr. Billingsley has spent considerable time in the Caucasus where he first became familiar with Chechen insurgent/separatist forces during Georgia's war with Abkhaz separatists in 1992-1993. He has written extensively on the topic and produced two documentary films (*Immortal Fortress: Inside Chechnya's Warrior Culture* and *Chechnya: Separatism or Jihad?*) based on his experiences with Chechen combatants. He recently conducted a number of interviews of former Chechen combatants for his current work, *Fangs of the Lone Wolf: Chechen Tactics in the Russian-Chechen Wars 1994-2009*.

Training Notes

PROACTIVE LEADERSHIP AND THE STANDARDS OF TRAINING

SSG CHRISTOPHER CANNADAY

With the tempo of the Army transitioning from heavy deployment cycles back to a focus on training, a simple fact eludes many of today's leaders: We have lost our working knowledge of how to train. This situation should not come as a huge surprise. The Army currently is comprised of many combat-experienced leaders who have not been afforded the opportunities to develop, resource, and manage unit training as in the past. The Army's strategy for developing these junior leaders is with standardized institutional training. While these are excellent stepping stones which rightfully deserve their place, they fail to address certain areas which formally were a leader's foundation — training. The focus of these schools is to address individual military occupational specialty (MOS) proficiency along with the concepts of counseling, drill and ceremony, or delivering a proper operation order (OPORD).

These schools do not address training management and execution, leaving the question: "Where does the leader learn these concepts?" This topic deserves to be a top priority, along with teaching time and resource management to ensure effective training is conducted to standard. Thorough and effective training is pivotal to the operational readiness and lethality of Army formations and requires the attention of leaders at all levels to become successful.

Range Operations

"Training, training, and more training" and "train as you will fight" have become the all-too-familiar battle cries heard consistently through the ranks without regard to the value of the training and an honest, holistic assessment. We need an honest dialogue about the effectiveness of our training. Unfortunately, having lost the working knowledge of how to train to standard, we rely on either range operations or those units which have come before us to set the "standard" which has become known in the Army as "turn-key" operations. Many leaders do not know what the standard is or where to find it; trusting the word of an individual is more acceptable

A Soldier with the 4th Brigade Combat Team, 101st Airborne Division (Air Assault) fires an M4A1 Carbine while at the weapons range on Forward Operating Base Thunder, Afghanistan, on 18 October 2013.
Photo by SGT Justin A. Moeller

than verifying that the standards are consistent with approved Army doctrine. Numerous times leaders are faced with the ever present common retort, "This is the scenario that they used" — indicating that if a unit used a training scenario in the past then it must be the standard. In this situation, proactive leaders must stand their ground. Leaders must take the initiative that is demanded of their profession and verify the standard is present, per doctrinal guidance. In garrison, this is typically accomplished by performing a range walk or training exercise without troops (TEWT). For the uninitiated, a range walk is the reconnaissance conducted by unit leadership to determine the capabilities and shortcomings of a training area. A TEWT, on the other hand, focuses on leader and staff tasks.

> *Leaders must never accept less than the standard when it comes to the training of their Soldiers. When in doubt of the capabilities of a range or if the range meets the Army standard, refer to TC 25-8 along with verification on the Army Range Requirements Model (AARM).*

Why is this important, you may ask? The reply is simple — a leader cannot train to standard when substandard conditions are present in training areas and ranges. Typically when someone does question if a facility meets the standard, they are greeted with either ignorance or contempt. The shortcomings are readily apparent by leaders upon their arrival at a training range. This comes in the form of missing or inoperable targetry, unserviceable latrines/buildings, or merely a facility with overgrowth and a rundown appearance. Where does the Army leader find the standards to which all training ranges should adhere to? The answer is Training Circular (TC) 25-8, *Training Ranges* (https://itsweb.us.army.mil/armypubs.asp?doctrine/DR_pubs/dr_d/pdf/tc25_8.pdf). All leaders need to become intimately familiar with this training circular, and it should serve as an inspectable item for leaders conducting reconnaissance of ranges.

However, this publication must be accompanied by the doctrinal publications which pertain to the training to be conducted. For example, qualification for the M2 .50 caliber machine gun, according to TC 25-8, must be conducted on a multi-purpose, machine-gun (MPMG) range. There is no alternate course available to perform this type of training; performing it elsewhere circumvents the established Army standard. If a range is not suitable or available for required training events, leaders must make this clearly known to higher levels of installation management. Leaders must never accept less than the standard when it comes to the training of their Soldiers. When in doubt of the capabilities of a range or if the range meets the Army standard, refer to TC 25-8 along with verification on the Army Range Requirements Model (AARM). This resource, which is available online at https://srp.army.mil/ArrmProd/Default.aspx, is a leader's best tool. Once the range requirement for the training is identified, the leader now must verify the range has been kept to standard through routine maintenance.

A key area of concern should be target presentation. To meet training requirements, 90 percent of the target must be visible from the firing position. The range must conform to targetry and capabilities outlined in TC 25-8. For example, on an MPMG range there are 98 stationary infantry targets;

24 double target-arm, stationary infantry targets; 24 moving infantry target emplacements; 20 stationary armor targets; 10 firing lanes; 10 target boots; and 20 iron maiden targets. The range must also be able to support the firing of Mk19 and below. Anything less than what is required should serve to alert leaders that training cannot and should not be performed until range standards can be met. Unfortunately, these conditions most likely exist because of negligence or mismanagement. The job of the leader is to never walk past a deficiency, and training areas should not be treated any differently. In the event substandard conditions exist, leaders should immediately inform their commanders to report these shortcomings on their unit status report (USR). USRs are one of the most critical tools leaders should use to improve training resources and facilities. "All units report the degree to which resource constraints prevent them from achieving and maintaining the highest training status level (T–1 level)."[1] The USR provides commanders with codes that reflect if the resource field has an insignificant impact, minor impact, major impact, or if the resource field prohibits training necessary to achieve or maintain T–1 level. "Precise and concise commander comments that describe the cause/effect relationship between deficiencies and current unit readiness and capability are extremely important to explain or clarify any significant resourcing issues."[2] These are only a small example of the requirements of training ranges, with each training event requiring a specific range and standard.

Crawl, Walk, and Run Methodology

The crawl, walk, and run methodology of training is the foundation of how the Army trains to a demanding, yet achievable standard. Many times, this simple concept is lost on the inexperienced leader whom, through a lack of knowledge, bypasses performance measures and steps designed to aid those being trained. A typical scenario is in the application of "train as you will fight," which means training under an expected operational environment for the mission.[3] The young leader interprets this to mean wearing full gear at all times, regardless of the event, or carrying loads well above the recommended level despite insufficient physical preparation or lack in understanding of the given task. This is absolutely not the case nor should it be emphasized by senior leadership as an indicator of proficiency. Warrior proficiency is built through muscle memory formed through repetition and clear and concise guidance. A Soldier should not be expected to wear upwards of 95-plus pounds of gear when they have not successfully learned the basics of the task at hand. The concept and principles of the action should be focused on before the conditions of the task. A complex training event not fully understood by the subordinate is a rush to failure scenario.

How does this apply to me? As a leader, you have a vested interest in the level of proficiency of the Soldiers within your formation. This vested interest comes with an inherent

responsibility to ensure training is structured in a manner which facilitates a thorough understanding, minimizes wasted time and resources, and produces tangible results such as qualification. The proper use of a crawl, walk, and run methodology for the M16/M4 is a simple but sometimes time-consuming one. Leaders should formally counsel their subordinates on upcoming events, expected results, and required equipment. Leaders provide basic preliminary marksmanship instruction conducted to the standards outlined in Field Manual (FM) 3-22.9, *Rifle Marksmanship M16-/M4-Series Weapons*. Soldiers, with the aid of their leaders, borelight their assigned weapon according to the applicable technical manual and prepare for the range. The leader conducts a thorough range walk, ensuring the range is to standard, and prepares for the arrival of the Soldiers. The training event is conducted with remedial and concurrent training established, and the qualification is recorded for each individual Soldier. With qualification completed, then and only then should the inclusion of additional training be considered. A leader's emphasis should be the task at hand before the addition of advanced skills. Soldiers' proficiency in other areas should never interfere with their ability to defend themselves or others in combat with their assigned weapon. Uniform standards should act in a beneficial manner, not one which impedes movement, coordination, and most importantly, a Soldier's confidence in themselves and their equipment.

Training Standards

Army leaders must ensure consideration to the standards which must be adhered to for all events. Firing a weapon system during the day but not at night does not teach Soldiers how to employ their weapon system to its fullest capability. Additionally, if the doctrine which supports your training does not explain or inaccurately portrays actions, conditions, or standards, leaders must take action to correct these occurrences. This action consists of finding the proponent agency and submitting recommended corrections on DA Form 2028, *Recommended Changes to Publications and Blank Forms*. This is another crucial tool which leaders must use to assist themselves and others. The standards which apply to all weapons are found in DA PAM 350-38, *Standards in Training Commission*. This document provides all required training events, authorized ammunition per fiscal year, and training interval requirements for each branch of the Army. Required events for each weapon are annotated by a superscript number ([1]) and must be performed to be considered qualified. Continuing with the example of machine-gun qualification, "Ninety percent of Soldiers assigned the M2 .50 cal. MG will meet the day and night qualification standards according to the tables and standards listed in FM 3-22.65 (*Browning Machine Gun, Caliber .50 HB, M2*) every six months for the AC (active component) and 80 percent for the USAR/NG (U.S. Army Reserve/National Guard) every 12 months."[4] With the interval of training now known, the events surrounding the qualification are examined. Table II Day Zero/Qualification and Table IV Night Qualification must be completed together for a Soldier to be considered qualified per DA PAM 350-38.

Turning to FM 3-22.65, we find the standards listed for Tables II and IV. Table II consists of zeroing on a single, stationary infantry target at a distance of 500 meters and then firing on five additional single, stationary infantry targets at one minute intervals, two of which are engaged while under CBRN (chemical, biological, radiological and nuclear) conditions, and finally two double stationary infantry target presentations with two-minute intervals. Firing at the wrong presentations (different targetry), incorrect distances, and not performing the CBRN requirement provide little to no training value and waste valuable training time and resources.

Leader Self-Evaluation

The hardest part as a leader in the Army is evaluating the most important member of the training cycle — yourself. As a leader, you play the most important role in the training of the Army's future leaders. Ask yourself, when was the last time you fired a true qualification, not a familiarization (FAMFIRE)? When was the last time you conducted preliminary marksmanship instruction (PMI) for your Soldiers or performed a range walk? Leaders must stop following what has been done and lead their subordinates to what is right. Leaders must take action now against elements which provide negative training value, such as unsatisfactory training facilities, and use the proper reporting channels to cause a change. Quality training requires an ongoing effort from leaders at all levels and should never be grouped with the phrase "good enough for government work." Leaders who commit themselves to taking "the harder right over the easier wrong" truly set the example for their subordinates to follow. Soldiers who have witnessed true substantial, thoughtful, and thorough training will remember those events for the remainder of their careers, and when the time comes conduct training to the standards which they have seen. We as leaders should strive at all costs to achieve this effect during all training events, never accepting substandard conditions or excuses. The Army is only as successful as its lowest leaders and requires the utmost attention to prevent fraud, waste, and abuse of its resources and in the upkeep of its training ranges to ensure a bright future for its Soldiers.

Notes

[1] AR 220-1, *Army Unit Status Reporting and Force Registration — Consolidated Policies*, dated 15 April 2010, http://www.apd.army.mil/pdffiles/r220_1.pdf.

[2] Ibid.

[3] ADP 7-0, *Training Units and Developing Leaders*, dated August 2012, http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/adp7_0.pdf.

[4] DA PAM 350-38, *Standards in Training Commission*, dated 21 October 2014, http://www.atsc.army.mil/tcmlive/strac/MenuFY14.asp.

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Using the ITE to Prepare for Future Air Ground Operations

MAJ P. JOHN CULPEPPER

In March 2014, the 3rd Combat Aviation Brigade (CAB), 3rd Infantry Division conducted a mission rehearsal exercise (MRX) to prepare Task Force (TF) 1-3 Attack Reconnaissance Battalion for a future rotation to the Joint Readiness Training Center (JRTC), Fort Polk, La. The MRX utilized the Integrated Training Environment (ITE) at Fort Stewart, Ga., to provide the commander and his staff a tough, realistic training event.

TF 1-3 and 3rd CAB had recently returned from Afghanistan, and this MRX served as their first training exercise within the decisive action training environment (DATE). This first step proved critical as the units transitioned their mindsets from counterinsurgency to decisive-action operations against a near-peer threat. The training objectives for this MRX forced their staffs to use both digital and analog systems within their command post, conduct the military decision-making process (MDMP), and plan and conduct air ground operations (AGO) in a constructive and virtual simulation. With the help of the 2nd Battalion, 7th Infantry Regiment, TF 1-3 was able to conduct AGO utilizing the Close Combat Tactical Trainer (CCTT) and the Aviation Combined Arms Tactical Trainer (AVCATT) to train on close combat attack (CCA), interdiction attack (IA), and air assault operations. These tasks represent the return to decisive-action tasks utilizing virtual trainers to increase proficiency prior to live exercises or combat training center (CTC) rotations. The goal of this article is to inform both ground and aviation commanders on the capabilities of the ITE to train mission command and AGO at home station and to reintroduce decisive-action tasks aviation units will conduct in support of ground forces.

The Integrated Training Environment

ITE was utilized to make this exercise a tough and realistic event to prepare the unit for future live training. The ITE, a system of systems, by design combines and connects key training enablers in a persistent and consistent manner to accurately stimulate mission command systems (MCS) to meet the commander's training objectives within the appropriate operational environment. Key components of the ITE include the live, virtual, constructive – integrating architecture (LVC-IA) and DATE. With the ability to stimulate MCS, the staff and commander are able to manage operations just as they would in a live exercise or real-world operating environment. The difference is the unit does not have the logistical or support requirements inherent with a live exercise. Training with the ITE allows the commander to focus almost exclusively on the identified training audience and the training objectives.

DATE is a document that provides detailed information to build an operational environment to operate in and conduct a range of military operations. The DATE provides detailed information commanders and staffs need to understand the environment and create the conditions that challenge leaders to think critically and become more adaptive. For this exercise, the Caspian Sea region was overlaid on the Fort Stewart terrain so that the operational environment could support virtual and constructive training simultaneously on correlated terrain. The area of operations was constructed to support an east-to-west movement that utilized the Atlantic Ocean as the Black Sea and parts of coastal Georgia as Gorgas (see Figure 1). Although live training was not a training objective for this exercise, the products now exist to fully utilize live instrumented units within the ITE for future exercises.

The storyline for this exercise involved defeating elements of the Atropian military that conducted a coup to overthrow the legitimately elected Atropian government. The DATE merely sets the conditions of the operational environment by providing the political, military, economic, social, information, infrastructure, physical environment, and time (PMESII-PT) variables for each of the countries. The Training Brain Operation Center (TBOC) assisted in the development of the scenario by building the operation and fragmentary orders for the exercise. Based on the TBOC's recommendation, we selected the Atropian military coup scenario because it allowed for a realistic, smaller opposing force (OPFOR) to confront our aviation battalion, which was supporting a brigade combat team (BCT). The scenario also utilized the DATE's hybrid threat with insurgent and local militia forces working in concert with

Figure 1 — Fort Stewart LVC-IA Terrain Box (Caspian Sea Scenario)
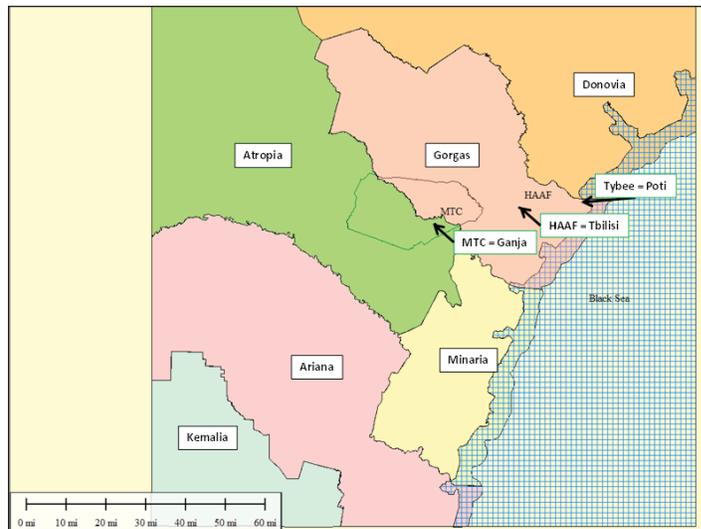
the Atropian forces and supported by Ariana.

To stimulate the training audience's MCS, this exercise employed the LVC-IA to tie together the CCTT, AVCATT, and Joint Conflict and Tactical Simulation (JCATS). The CCTT and AVCATT are virtual training devices (simulators) with real people executing simulated actions. JCATS is a constructive simulation that involves simulated people executing simulated actions relying on the simulation for outcomes. These systems were originally designed as independent training aides. The LVC-IA was and continues to be developed to link these systems together through the architecture created in order to train multiple echelons across training environment boundaries. Companies from 2-7 IN supported this exercise by providing a company commander, platoon

Pilots from 3rd Combat Aviation Brigade conduct a mission brief in the AVCATT prior to execution. The AVCATT and CCTT were integrated in order to conduct CCA missions.

leaders, and fire support officer each day in the CCTT. Simultaneously, 40 miles away, pilots flew virtually in AVCATT and conducted AGO with the maneuver unit. JCATS represented the remainder of the blue force (BLUFOR) units and all OPFOR units. What makes the LVC-IA so useful is that it combines all of the advantages of using selected training aids, devices, simulators, and simulations (TADSS) into one near seamless environment within which ground and aviation forces can work together and improve AGO tasks and battle drills.

Some key advantages of utilizing virtual trainers include an expanded training environment, adjustable environmental conditions, repetition, and playback in support of the after action review (AAR). One of the most difficult aspects of training a mechanized force at Fort Stewart is the limited and compartmentalized training areas available that units can train on and reduce noise pollution surrounding communities' experience. By employing the LVC-IA to train within the ITE, our training area expanded to 180 square kilometers, and the limits of the Fort Stewart boundaries disappeared. By leveraging the high fidelity terrain data base, both the ground and aviation units could execute longer and more realistic movements to gain the tactical advantage over the enemy. The virtual environment was built to replicate the real-world environment so all of the map products were relevant; we simply added a layer to change training areas and city names in accordance with the DATE scenario. This environment allows units to transition from wooded areas to highly populated cities which more accurately represent the range of conditions a unit may operate within. The virtual environment also eliminates the constraints placed on firing

weapons such as Hellfire missiles. For instance, units could conduct CCA anywhere without real-world limitations due to surrounding communities or restricted firing areas. With more area available, the air assault conducted during this exercise was at a realistic distance to stress all aspects of the operation.

Another advantage of virtual training absent from live training is the ability to quickly and easily change environmental conditions. Environmental conditions include everything from weather to illumination that impact the training audience's ability to maneuver. Poor weather conditions can prevent or significantly hamper aviation units from conducting live training due to safety and risk concerns. However, pilots may be expected to fly in those same (poor) conditions to support the ground unit in combat. Virtual training allows the commander to challenge leaders to operate in nearly any environmental condition(s) without the risk of loss or injury to Soldiers and equipment. This exercise was conducted during daytime hours in clear weather since this was the first exercise in which most of the ground units, Soldiers, and pilots had the opportunity to train together. However, in future exercises, as proficiency is gained, conditions will change to provide more dynamic, challenging environments and conditions. For instance, missions will be conducted where the unit begins movement at dusk but is engaged by OPFOR or does not make it to the objective until dark. In this manner, all the tasks of transitioning from day-to-night driving and operating under low visibility will be conducted in the exercise.

Virtual trainers allow units to quickly reset and execute a mission or task again if the unit failed to meet the commander's

training objective(s). Resetting often involves a simple magic move back to the start position or to any other appropriate location. In contrast, live training requires physically moving the unit and OPFOR back to the start point or other location. That move can be so difficult and time consuming that resetting is not worth the effort, or time and resources prevent it. In our exercise, the ground unit took a wrong road and missed the objective. Although there was benefit from this mistake that ultimately reinforced the need to maintain situation awareness, the training objective to conduct CCA was missed. Once the ground unit realized their mistake and fought through an ambush, the unit was quickly repositioned back at the start point and the mission was conducted again. This time the lead tank was more aware of the route, and the unit made it to the objective and had an attack weapons team (AWT) in support. In a live exercise, it would have been difficult to impossible to quickly position an OPFOR along a route the training audience was not supposed to take and help reinforce the importance of troop leading procedures and situational awareness. In the virtual world, it merely takes a few mouse clicks or key strokes to quickly move or emplace an OPFOR to change the dynamics of an engagement to challenge leaders' critical thinking and adaptability.

Having the ability to see and playback unit actions in the virtual environment significantly adds to the value of AARs. In live training, observations are limited to the location and number of observer controller/trainers (OC/T). In the virtual environment OC/Ts can be anywhere on the battlefield from multiple vantage points. As the OC/Ts observe events they want to highlight in the AAR, they can move the camera to that point and begin recording. With the OC/Ts behind the screens in the control room, the unit is not distracted or alerted to OC/Ts in the area. OC/Ts can observe unit actions from a third person perspective from any angle to clearly see what units are doing. This same capability is especially important for unit commanders to understand the actions of subordinate leaders. Many leaders are familiar with some of these training tools; however, now that we are able to train together using the CCTT and AVCATT, commanders can better understand how leaders operate three dimensionally and identify the challenges associated with air and ground units attempting to see and orient on the same terrain. AARs in the virtual trainers increase the effectiveness in capturing and identifying lessons learned by leaders and aids in making Soldiers more capable and better prepared to conduct live training.

Aviation Tasks in Support of Ground Forces

Three of the tasks assigned to the aviation battalion to support the ground unit involved CCA, IA, and the air assault. While some of these tasks were conducted during prior deployments, the significant change for this exercise involved the presence of enemy air defense systems, synchronized movement, and synchronization of field artillery. The true power and potential of the combined arms team is only realized when all members of the team work together. Practice and repetition are essential to mastering the execution and synchronization of these tasks, which is why training in the virtual trainers is critical prior to live training. Being better prepared prior to live exercises reduces the learning curve and allows the unit to achieve a higher level of proficiency in less time and cost than in live-only training.

CCA provides the maneuver commander another means to attack an enemy in close proximity to friendly forces. The distances where CCA takes place range from tens of meters to several thousand meters. It is important to note that CCA is not synonymous with close air support (CAS), which is typically provided by the Air Force and involves different requirements and procedures. CCA can be coordinated and directed by a team, platoon, or company ground unit. Tables and briefs outlined in FM 3-04.126, *Attack Reconnaissance Helicopter Operations,* provide both the ground unit and the pilot the most critical information to ensure a safe and effective use of force in close proximity.

The three components of a CCA involve the CCA fragmentary order (FRAGO), check-in brief, and the CCA brief. Standardized procedures and practice help reduce the risk of fratricide and increase the effectiveness of the combined arms team. The CCA FRAGO communicates critical information from the ground unit to the pilot. FRAGO information should note whether or not changes have been made since the final conditions check. Once the aircraft are in the area, the pilot gives the ground unit a check-in brief to inform them of their restrictions and limitations. These briefs are important anytime a new aircraft team checks in

Figure 2 — CCA Brief from FM 3-04.126

The author (right) briefs BG Peter L. Jones, the 3rd Infantry Division's deputy commanding general-support (middle), and COL John D. Kline, 3rd CAB commander (left), on the commander's training objectives and expected end state of the MRX.

because the brief provides details such as team composition, ammunition type, and station time. The CCA brief is used to initiate the attack and helps reduce the risk of fratricide and ensure enemy destruction. Table 3-5 of FM 3-04.126 provides the most complete transmission of information between ground and air units (see Figure 2).

Since most CCA missions are hasty, conducting team training and battle drills in virtual trainers are critical to build familiarity and confidence for the future. One of the most difficult parts of CCA is clearly understanding where friendly forces are located in relation to the enemy. During this exercise, ground commanders and pilots realized how difficult referencing ground features can be. While the tank crew thought it was clear what corner of the intersection they were marking, the pilots at altitude and moving from a different direction could not see the same reference cues. Misunderstandings like this could lead to delays in the attack or worse — fratricide. Repetition while varying the conditions as crews gain proficiency can help ensure that CCA missions are timely and lethal. In the future, ground unit Soldiers and pilots will switch roles in the AVCATT and CCTT. This training method will help the ground and air units gain a better understanding of the other's limitations and capabilities. This type of training is nearly impossible in real aircraft, and the difference in perspective is enlightening.

The IA can be hasty or deliberate and is used to disrupt or destroy an enemy force from limiting friendly forces freedom of movement or from reinforcing an enemy force. Deliberate IA missions can be planned as a branch plan on a decision support matrix. IA may be planned to prevent an enemy from conducting their most dangerous course of action, destroying a fleeting high-value target or tied to a key objective. IA are often hasty as in the case of intelligence-gathering assets discovering an impending enemy attack. This exercise directed a deliberate IA as national intelligence assets determined that an Ariana armored force was moving north into Atropia to reinforce the military coup. Since these missions are mostly out of direct contact with friendly forces, a number of additional planning factors must be considered such as recovery of downed aircraft or refueling to remain on station long enough to effectively destroy the enemy.

Air assaults are some of the most difficult missions to execute due to the high level of synchronization required to maintain the element of surprise and build friendly combat power. Air assaults can be utilized for a variety of reasons such as emplacement of reconnaissance elements, seizure of an objective, or dislocate enemy forces. The ITE is a valuable training tool to practice air assaults within DATE as it allows the commander and staff to coordinate fires, visualize the movement of aircraft and equipment, and react to enemy actions.

Conclusion

ITE provides the commander and staff the ability to train in tough and realistic environments. This exercise challenged our leaders' ability to execute mission command within the DATE. The commander and staff refined battle drills and digital and analog products. Utilizing the CCTT and the AVCATT allowed both the ground unit and the pilots the opportunity to practice AGO and refine procedures necessary to make the combined arms team more lethal while reducing the risk of fratricide. The use of the IA provided the ground commander the means to destroy an enemy force from reinforcing the objective well before other friendly assets could maneuver into place. And finally, the air assault planning drove the staffs to coordinate all the critical tasks necessary to conduct the mission. The missions conducted in the ITE with support from the LVC-IA allowed commanders to utilize all MCS while subordinate units practiced battle drills, thus preparing units to train at a higher proficiency during live exercises and which will increase lethality in combat later.

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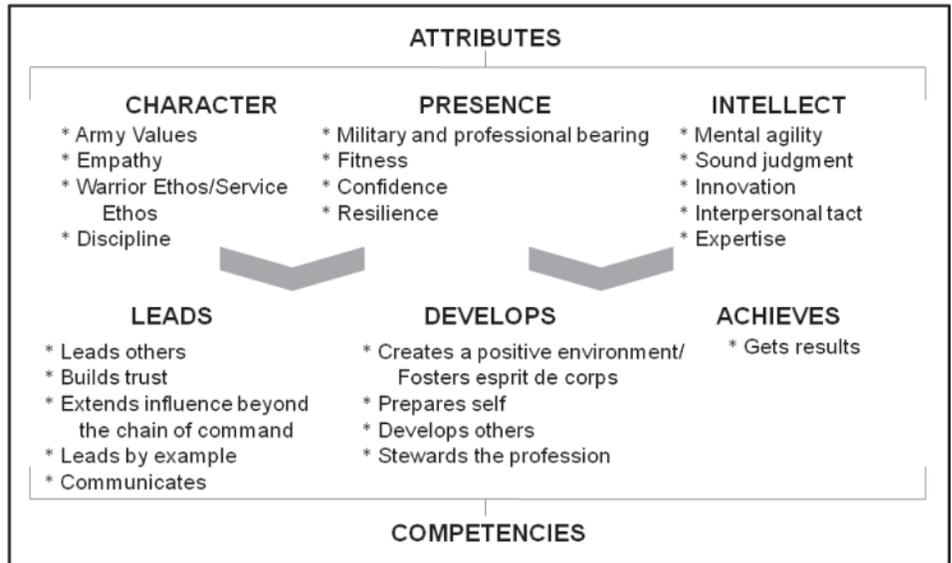
Leader Development at the Organizational Level

COL (RETIRED) DAVID G. COTTER

In 2013, Secretary of the Army John McHugh, Chief of Staff of the Army GEN Raymond T. Odierno, and Sergeant Major of the Army Raymond F. Chandler III all endorsed the Army Leader Development Strategy (ALDS) which makes clear that leader development is the *sine qua non* for a successful present and future force.[1] That ethos carries through in Army Doctrine Publication (ADP) 6-22, *Army Leadership*, which identifies "develops" among leader competencies in the Leadership Requirements Model. Thus, it's patently clear that the Army is dedicated to leader development as evidenced by the focus it receives from the very highest levels because, after all, organizations do well what the boss declares as important. The ALDS describes leader development as a responsibility that is shared by the institutional Army, the operational force, and the individual. It further describes this in an ends-ways-means construct that describes training, education, and experience across the institutional, operational, and individual domains.[2] But the ALDS is short on the "how." How do we do leader development at the organizational level?

Successful commanders develop leaders. It's an investment in the future and part of the stewardship role to which all commanders are beholden. We all strive to constantly improve our organizations with the goal of achieving mission excellence as well as passing on a formation that is better than the one we inherited. To this end, many organizations employ qualification programs (for example, spur rides in cavalry units and prop blasts in Airborne formations). These are developmental in that they require some level of certification. Each leader must successfully perform a myriad of mission and unit-specific tasks that grant them entrée into the ranks of the accepted. These programs are of great benefit because they help keep the organization operating within the band of excellence and are fundamentally developmental but tend to be narrowly focused on the competencies required for excellence at the specific organization. If properly executed, staff rides are also excellent, albeit resource intensive, development

Figure 1 — Army Leadership Requirements Model

ADP 6-22

The command historian and chief public affairs officer for the Army Reserve's 99th Regional Support Command leads Soldiers and civilian employees in learning about the American Revolution's Second Battle of Trenton and Battle of Princeton during a staff ride in western New Jersey on 17 November 2012.

Photo by SGT Salvatore Ottaviano

opportunities that can be employed to great effect at organizational level. Staff rides have the advantage of a more expansive professional focus which addresses the ALDS's priority to broaden leaders by stretching them professionally and intellectually by requiring them to operate beyond their core competencies. This enhances their value to the Army at large. Other organizations focus less on the unit and more on the individual by utilizing professional reading programs that are developmental at the Soldier level but only derive tangential benefit to the unit.

At the Command and General Staff College (CGSC), the Department of Command and Leadership offers an Advanced Application Course entitled "Organizational Leadership Case Studies" that can be easily and inexpensively adapted by a battalion or brigade commander/command team to work at organizational level.[3] The course, authored by Dr. Tom Bradbeer, is purpose designed for majors at the CGSC, using popular films as leadership case studies. The focus is on organizational leadership and requires the officers to "... evaluate the leadership competencies of organizational-level commanders that weighed heavily on the outcomes of their decision making in combat or preparing for combat with the intent of deducing implications that relate to your future roles as an organizational leader in full spectrum operations."[4] The library of films used for this course totals 18 and includes *Glory, Breaker Morant, The Lost Battalion, A Bridge Too Far,* and *A Bright Shining Lie* among others (see Figure 2). Each officer is required to watch the film individually and conduct some background reading before coming together in a group to discuss the protagonists as they deal with the problems within their organizations and what challenges that unit must confront to accomplish its mission. Not a history course, each session is inaugurated by a 15-20 minute overview that puts the case study into context for application by the assembled leaders. To give some structure to the discussions, we pose the following questions, in various formats, for each case study:

1) In each case study, there are at least two main protagonists that are in conflict with one another. What are their purpose, mission, and anticipated endstate?

2) What Army values are in conflict with one another? Explain?

3) Identify at least three competencies or attributes from the Leadership Requirements Model that the protagonists demonstrated as organizational-level leaders.

4) If the organizational-level leader was successful, explain why?

5) If the organizational-level leader failed, explain why?

6) Identify and explain the environment, culture, and climate you observed in the case study.

Using this construct, with just a DVD (generally available from the post library) and access to the internet for some background reading, an organization's leaders can gather to perform a case-study analysis of a complex organization facing a perplexing problem(s). Leveraging the LRM, the discussion leader can initiate and vector the discussion among the assembled leaders. For example, in the case of

Figure 2 — Library of Films Used in Organizational Leadership Case Studies course

- *Glory* (U.S. Civil War) directed by Edward Zwick, 1989
- *Breaker Morant* (Anglo-Boer War 1899-1902) directed by Bruce Beresford, 1980
- *The Lost Battalion* (WWI, Meuse-Argonne Campaign, 1918) directed by Russell Mulcahy, 2001
- *The Paths of Glory* (WWI, French Army, 1916-1917) directed by Stanley Kubrick, 1957
- *Lawrence of Arabia* (British Army in Palestine, 1917-1918) directed by David Lean, 1962
- *The Court-Martial of Billy Mitchell* (Inter-War period, 1919-1925) directed by Otto Preminger, 1955
- *Midway* (WWII, U.S. Navy in the Pacific, June 1942) directed by Jack Smight, 1976
- *The Devil's Brigade* (WWII, Special Forces in Italy, 1943-44) directed by Andrew V. McLaglen, 1968
- *The Enemy Below* (WWII, U-Boat Campaign, 1943-44) directed by Dick Powell, 1957
- *A Bridge Too Far* (Allied Airborne Operations, European Theater, 1944) directed by Richard Attenborough, 1977
- *MacArthur* (WWII and Korea, 1942-1951) directed by Joseph Sargent, 1977
- *Patton* (WWII, Africa and European Theaters, 1942-1945) directed by Franklin J. Schaffner, 1970
- *Ike: Countdown to D-Day* (WWII, Normandy Invasion, 1944) directed by Robert Harmon, 2004
- *The Battle of Algiers* (Algerian War of Independence, 1954-1962) directed by Gillo Pontecorvo, 1966
- *Lost Command* (French Army in Indo-China and Algeria, 1954-1962) directed by Mark Robson, 1966
- *A Bright Shining Lie* (American Advisors in Vietnam, 1962-1972) directed by Terry George, 1998
- *K-19: The Widowmaker* (The Cold War, Soviet submarine operations, 1957-1987) directed by Kathryn Bigelow, 2002
- *Bloody Sunday* (British Army in Northern Ireland, 1972) directed by Paul Greengrass, 2002

The Lost Battalion, the battalion commander finds himself deep in enemy territory in a communication blackout, cut off from contact with units that were supposed to be on his flanks. With dwindling resources and no anticipated resupply, facing a numerically superior enemy, the commander must hold his position in order to meet his mission requirements. After watching the film, the leaders can assess the commander's ability to:

- Be a leader with presence, demonstrating resilience that contributes to the unit's mental and physical well-being and morale
- Create a positive environment in the face of daunting odds
- Communicate a vision that motivates others to achieve the desired endstate

- Lead by example by demonstrating a competent and confident approach to the high-pressure conditions of combat

- Lead others by example and by direction

- Prepare self; self-aware leaders are capable of anticipating and exploiting both expected and unexpected opportunities

- Get results by achieving the mission by gaining and maintaining situational awareness and situational understanding.

As the discussion unfolds, it is important to make sure that the process has relevance to the leader. Specifically, how will what we observed in this film and gleaned from the group discussion be of benefit to the individual as a leader in the future? Just as importantly, it is every leader's responsibility and duty to develop subordinate leaders. How can leaders use what was discussed to assist their subordinate leaders?

Following the discussion, each leader writes a short, single page paper, a précis, that provides a concise summary of the essential facts of the case. To ensure brevity, the leader should focus on the principal protagonist of the case study and use one attribute and one competency from the LRM as the basis for the prose. The leader can then finish up with the key reason the case study analysis will be of use in the future.

There are some potential traps that can make this approach to leader development problematical. For instance, depending upon the audience, some movies may fail to connect. Specifically, here at CGSC, we are focused on the organizational level of leadership and, as such, shy away from films that operate at the direct level. For instance *Saving Private Ryan* is an extraordinary case study, but it reflects direct level leadership and is appropriate for junior NCOs and company-grade officers. Apart from entertainment value, it has no real developmental benefit for senior NCOs or field grade officers. Conversely, *Glory* is an excellent example of organizational leadership for both senior NCOs and field-grade officers. *Glory* would not provide the same value for a squad or platoon-level leaders. In a related manner, *Ike: Countdown to D-Day* is an excellent case study vehicle for strategic-level leaders.

This model provides an inexpensive and flexible means of leader development that can be executed at unit or organizational level with a minimum for resources in a format that is not daunting to most leaders. It has the added benefit of entertainment value. Moreover, commanders can also leverage individual development opportunities within the context of this methodology by causing junior leaders to plan and lead discussions. With due care taken in case study selection, the leader development requirements of any formation in the Army can be achieved using this case study methodology.

Notes

[1] The Army Leader Development Strategy 2013: Training, Education, Experience. Department of the Army, 2013.
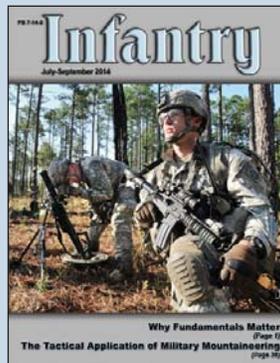
[2] Ibid, 10.

[3] Command and General Staff Officers Course, Advanced Application Program, Elective A724, "Organizational Leadership Case Studies," Lesson Plan.

[4] Ibid, Advance Sheet, A-724-AS-1.

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SUBMIT ARTICLES TO *INFANTRY* MAGAZINE

RAZOR 2014:
SHARPENING THE BLADE THROUGH MISSION COMMAND

LT. COL. GIANMARCO DI LEO, ITALIAN ARMY

In February 2014, the Italian Army's 4th Alpini Airborne Infantry Regiment (Ranger) headed to the Monteromano Training Area in Italy to conduct a battalion-level field training exercise (FTX) called Razor 2014. The exercise lasted two weeks and tested the Ranger unit's capabilities in fighting regular and irregular threats while integrating joint and multinational enablers. The main training objectives were:

* Completing the pre-deployment training of a task unit ready to move to Afghanistan;

* Verifying the capabilities of soldiers attending the Ranger qualification course;

* Increasing the readiness level of the regimental recon platoon; and

* Improving the battalion's capability to integrate joint and multinational enablers while conducting complex full-spectrum operations.

The Ranger battalion was joined by elements from the 2nd Alpini Combat Engineers Regiment, the 1st Army Aviation Regiment "Antares," the 33rd Electronic Warfare (EW) Regiment, the Italian Air Force (ITAF) RESTOGE (Repartor Supporto Tecnico Operativo alla Guerra Electronica) EW unit, the 6th ITAF Squadron, the 32nd ITAF Squadron, the U.S. Air Force (Air Support Operations Squadron [ASOS] joint terminal attack controllers [JTACs]). All but the EW units were in a supporting role. The EW units assumed the opposing force (OPFOR) role, jamming the communications of the friendly forces during the main events.

The culminating events consisted of the simultaneous infiltration of all task units (heliborne, airborne, or by land on Lince wheeled vehicles and BV-206S armored tracked vehicles) in a target area where hostile forces were reported. All units had 24 hours after infiltration to find, fix, and strike their assigned objectives. The mission was to search and destroy the adversary infrastructure (command posts, weapons storage facilities, enemy compounds, and bunkers) in order to clear the target area from hostile presence in a non-permissive environment (see map on page 51).

During the last years the training of Ranger units focused heavily on counterinsurgency (COIN) operations, so it was decided to shift the attention more on skills related to combat operations. In particular, training was concentrated on combined-arms distributed maneuver and mission command at squad level. Mortars, attack helicopters, and bombers were available during the main events to test the capability to synchronize maneuver with joint fire support. Italian combat engineers and U.S. Army JTACs were attached to the task units and fully integrated as team members of the Ranger squads with limited time for amalgamation of personnel and rehearsals, but that did not hinder the efficacy of operations.

Upon execution, the events highlighted the importance of building up confidence in the junior leaders, and the only way to do it was to get their boots muddy. The abundant rain in the training area not only helped get soldiers' boots very muddy, but it also added other challenges for the soldiers to deal with such as recovering stuck vehicles. Decisions had to be made, unexpected delays had to be managed, and junior leaders had to make the call without support from their higher headquarters. Communications were jammed in critical moments, and squad leaders had to give orders in time-sensitive situations based on

Photo courtesy of Italian Army

Soldiers from the 4th Alpini Airborne Infantry Regiment (Ranger) prepare to jump from a Chinook helicopter.

their commander's intent only. It was challenging, and mistakes were tolerated so that the junior leaders could learn from their own errors.

As they maneuvered separately, the task units were autonomous and had to find, fix, and strike their assigned objectives on their own with scarce intelligence support. In order to overcome difficulties, they had to rely on the intuition, experience, and flexibility of their leaders. They faced challenging situations such as reorganizing with little notice for a hasty air assault when an airborne infiltration was cancelled due to bad weather, executing tasks without radio communications (because of jamming), or adjusting their movement-to-contact plans after leaving behind wheeled vehicles which were stuck in the mud.

These were just a few examples of the many issues squad leaders had to face, but they highlight the impact of agile junior leaders on the battlefield. Lessons identified during the after action review confirmed the three critical skills required for effective junior leaders:

a. **Rapid decision-making process** — Often, distributed maneuver and wide area of operations in a complex operational environment do not allow much time for planning. A smart glance at maps, well-established standard operating procedures (SOPs), and consolidated troop leading procedures may make the difference.

b. **Lead by example** — Soldiers follow the men more than the orders.

c. **Endure battlefield stress.** Tired or exhausted leaders are prone to bad decisions or late reactions to unexpected events.

Destruction of Enemy Command Post

Success is often decided on the battlefield by the decisions of junior leaders in the last 200 meters between friendly forces and enemy positions. If they master their craft through drills and repetition of basic tasks combining effective doctrine knowledge, creativity, and versatility, then the battalion maneuver may be fluid and flexible. Especially in the contemporary operational environment characterized by hybrid threats, strict rules of engagement, and the presence of many actors (government organizations, non-governmental organizations, private military, and security companies) which may significantly influence the events in the area of operations.
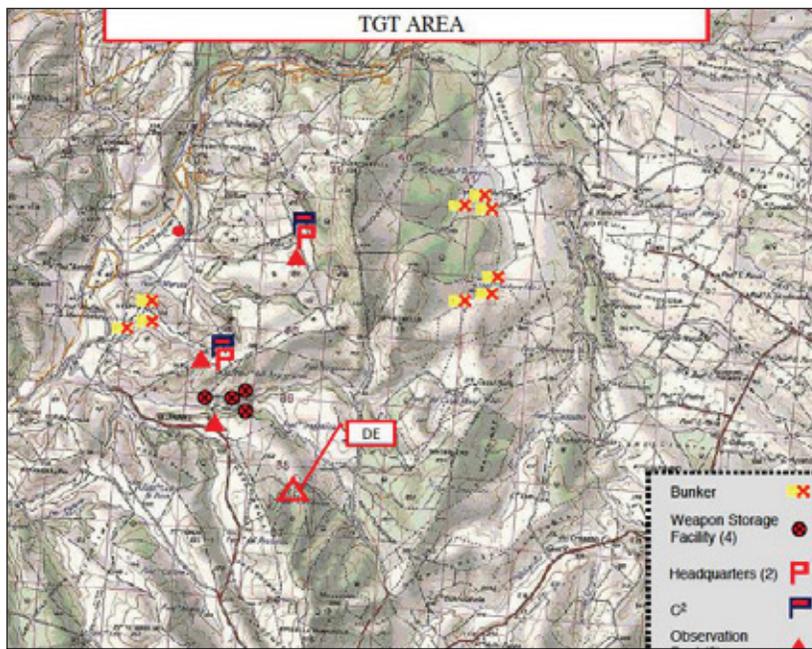
Ranger Target Area in the Monteromano (Italy) Combat Training Center

Otherwise, if they are only bound to the stringent instructions of their superior officers and their actions are always based on detailed orders, then the battalion maneuver will be slow, inert, and rigid.

Therefore, it is vital to push junior leaders to their limits and train them in the worst case scenarios (for example, meeting engagements with limited intelligence, jammed communications, and against superior enemy forces). Training should always be challenging and put them in positions where they need to decide among many options in a short time frame without higher echelon support. That is the way to learn how to adapt to unexpected situations on present and future battlefields.

"Less conversation and more action" was the general training guideline given by the battalion commander throughout the exercise. The indication was to make the most with the available time in the spirit of the regiment's motto "Mai Strack" (never tired), so many events were scheduled without significant pauses and rest time. That also gave the commander the chance to evaluate his junior leaders under substantial stress in estimating the tactical situation, choosing solutions, and issuing orders as well as to assess their reactions to unanticipated conditions.

The Razor exercise was an excellent chance to generally test the battalion's capabilities and particularly to measure the qualities, temperament, and character of all participants. Naturally, it is not possible to draw too many conclusions after a single performance, but it is surely possible to emphasize the value of mission command-focused training. It clearly develops the leader's confidence, reasoning, and grasp of tactics. Maybe that is not enough to win next war, but it may be enough to gain the initiative on the next battlefield.

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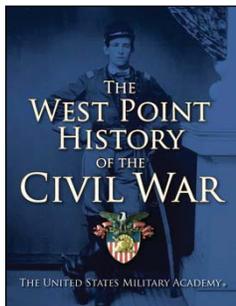
Book Reviews

The West Point History of the Civil War

The West Point History of the Civil War
Edited by Clifford J. Rogers, Ty Seidule, and Samuel J. Watson
NY: Simon & Schuster, 2014, 448 pages
Reviewed by
CPT Nathan A. Jennings

The historiography of the American Civil War, perhaps the most tectonic event in United States history, has never suffered from a dearth of scholarship. Despite the plethora of works available on the conflict, the U.S. Military Academy's Department of History has authored a highly informative, attractive, and remarkably innovative contribution to the genre. *The West Point History of the Civil War* arrives as an independent extract from the department's more expansive military history iBook that USMA currently employs to "educate and inspire" cadets in their final year of study. Utilizing digital technology to stimulate unprecedented conceptualization of historical affairs, the iPad version of the text includes an array of animated maps, interactive info-graphics, expandable primary sources, and rich period art that brings the history to life.

The West Point History of the Civil War consequently delivers a comprehensive study of the entirety of the confrontation that almost shattered, and ultimately strengthened, the expanding American republic between 1861 and 1865. Following an introduction by co-editor COL Ty Seidule that defines the conflict as "the most traumatic event" in West Point's existence, the book employs six chronological chapters by proven Civil War scholars Mark Neely, Joseph Glatthaar, Steven Woodworth, Earl Hess, and James Hogue to explore the origins, evolution, and conclusion of the event along both thematic and geographic frameworks. In addition to traditional emphases on "operational and tactical levels of war," they seamlessly integrate larger strategic, political, cultural, and economic factors to create a more complete explanation of dynamics that drove the epic confrontation.

Available in hardcopy and the enhanced iPad edition with Android and Windows versions to follow, *History of the Civil War* offers a broad range of utility to both civilian and military readership. In the academic setting the text supports both undergraduate and introductory graduate study through a combination of themes that focus multi-faceted narratives with dates, military data, terrain description, and statistics that inform without overwhelming. For both cadets and students attending professional military education schools from the Basic Officer Leadership Course to the Army War College, the inclusion of footnotes and hyperlinked primary and secondary sources provide detailed pathways to expanded research. However, despite these advantages, the book is limited in its applicability for advanced studies due to the sheer scope of material that necessitates relatively rapid transitions.

Moving past academic purposes, the West Point production also contains specialized applicability for serving Army leaders. As a resource for officers and NCOs in combat arms branches in particular, it offers utility for applying digitized conceptualization of battlefield events across time and space to facilitate tactical and leadership instruction. Just as the book aspires to allow cadets to "learn more about their roles as Army officers," the availability of interactive applications on portable screens provides new avenues for maneuver leaders to leverage animated maps, unit diagrams, and scrolling timelines to enhance seminars and staff rides. Sessions could analyze strategic decisional processes by famed theater-level commanders such as Robert E. Lee or Ulysses S. Grant, or center on more detailed operational and tactical examinations of campaigns like Antietam, Vicksburg, and Gettysburg. Efficiencies in comprehension will allow maximum payoff in discussion and analysis with minimum investment in reading time. Given this menu of developmental possibilities, West Point's ground-breaking production, and its innovative approach to exploring America's most destructive conflict, delivers an invigorating improvement to the current landscape of Civil War histories.

The Marines Take Anbar: The Four-Year Fight Against al Qaeda

The Marines Take Anbar: The Four-Year Fight Against al Qaeda
By Richard H. Schultz Jr.
Annapolis, MD: Naval Institute Press, 2013, 288 pages
Reviewed by LTC (Retired)
Rick Baillergeon
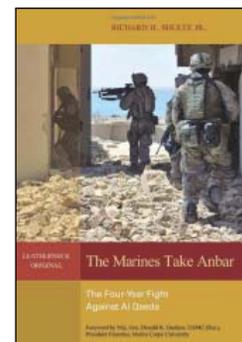
As we continue to study the Iraq War, one of its most analyzed aspects will clearly be the campaign waged in the Anbar Province. It is Anbar which provides numerous lessons in a wide array of subjects. Richard Schultz Jr. is one of the first authors to dissect Anbar in his outstanding book, *The Marines Take Anbar*. It is a volume which not only emphasizes the lessons learned there but also details the operations conducted in the province.

Schultz is thorough yet concise in his study of the Anbar campaign. He begins by setting the conditions for his readers. In achieving this, the author focuses on two key areas. First, he addresses the significant historical and cultural aspects of the region. Second, he details the initial decisions made (political and military) in regards to Anbar and the fighting which took place in the province during the initial year of the war — 2003. This background is invaluable as Schultz moves into the focus of his book: the U.S. Marines' role in Anbar from 2004-2008.

The Marines' operation in Anbar is a perfect example of a unit learning from their experiences and adapting. Schultz aptly

discusses the challenges the Marines initially faced in Anbar. He is candid when he says that the Marines had their struggles and had difficulty in meeting all these challenges. However, Schultz threads a theme throughout his pages — learn and adapt. He details the tough lessons learned by the Marines and the actions they took (in planning and execution) to adapt to the METT-TC (mission, enemy, terrain and weather, troops and support available, time available, and civil considerations) they faced.

Schultz displays numerous strengths throughout the book. These clearly enable him to answer the two questions he highlights in his introduction: "How did the Marines do it?" and "How were they able to learn and adapt in the midst of war?" Let me key on three of these strengths. Chief among these is the exhaustive research the author conducted (and subsequently utilized) in the writing of his book. In particular, he makes excellent use of field interviews conducted by the Marine Corps History Division's Field History Branch. These interviews were conducted on the battlefield immediately following key missions executed during the Anbar campaign. The impact of these is powerful and highlights the human dimension of war for readers.

The second major strength is the author's ability to make seamless subject transitions within *The Marines Take Anbar*. Throughout his book, he is able to take readers from decisions made politically or at a higher headquarters to the ramifications of those decisions on the Marines on the ground.

The final strength of the volume which I would like to highlight is its concluding chapter. Like the majority of you, I find the conclusions of many books to be abrupt and seem like an afterthought. In the case of Schultz, he has organized and crafted a book which flows into the conclusion. Within this conclusion, he superbly discusses the many lessons learned from Anbar (with an obvious focus on counterinsurgency). This ending alone is worth the purchase of this book.

In summary, Schultz has written an extremely valuable book. I have no doubt it will serve as a benchmark to which other Anbar-focused books will be compared. Unquestionably, *The Marines Take Anbar* is a book that must be read by those seeking further understanding of the Iraq War. Just as importantly, it should be read to serve as a reminder of the U.S. Marines' ability to learn, adapt, and accomplish the mission.

Guardian of Savannah:
Fort McAllister, Georgia, in the
Civil War and Beyond
By Roger S. Durham
Columbia, SC: The University of
South Carolina Press, 2008,
316 pages
Reviewed by
LTC Keith Everett
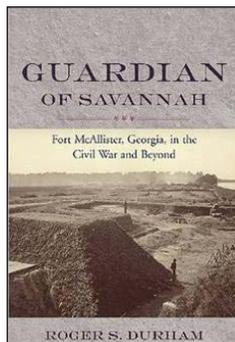
Throughout the Civil War, Fort McAllister near Savannah, Ga., was never captured from attacks from the sea. The men stationed there successfully guarded the mouth of the Ogeechee River against any naval attacks against Savannah. Sherman's troops took the fort from its land side in a brief footnote on his famed march to the sea. How did Fort McAllister survive seven naval attacks before its capture by Sherman's troops? The answer has to do with fort's unique construction; it was an earthwork fort instead of the brick and mortar fort such as Fort Sumter and Fort Pulaski, both of which were bombarded and surrendered. As an earthwork fortification, it could not be reduced to rubble or catch on fire. Cannonballs and all other types of projectiles merely blew sand and dirt into the air and the cavities were quickly filled in during lulls in the fighting. The lack of funds to construct a formidable brick and mortar fort proved the saving factor for Fort McAllister and Savannah. Engineers and other officers interested in protecting the force will find Fort McAllister's battle history an example of what can be accomplished with the materials at hand.

The historical significance of Fort McAllister is that it is one of the few earthwork fortifications preserved close to the way it actually was at the time of capture. Standing on the guide path today around the fort, it is amazing that this unimpressive earthwork was able to hold its own against one attack of four monitors and six other naval attacks. Author Roger Durham researched the defender's letters, official battle reports, soldier diaries, and many other sources to come up with this detailed account of the development, defense, capture, and then preservations efforts of Fort McAllister to bring the story alive. The story is told in a lively fashion to the point I felt I was listening to the soldiers themselves telling their stories. I felt compelled to visit the fort after reading about it and took a tour along the ramparts, the bomb proofs, and the museum. About eight years ago, museum staff took an old railroad rail and recreated a Sherman necktie — a railroad rail superheated over a wood fire and then bent completely around a tree so it could not be used again. This "necktie" is on display at the Fort McAllister museum and is interesting because the many Sherman neckties made during the Civil War were probably melted down and recycled into something else, as they just are not seen anywhere.

Rifled artillery reduced the brick and mortar walls of Fort Pulaski, near Hilton Head, S.C., resulting in its quick surrender in April 1862. Located north of the Savannah River, the capture of this fort made the fall of Fort McAllister appear imminent. Durham chronicles the attacks on Fort McAllister and how the men assigned there were able to fight off each attack and keep the route to Savannah closed to Northern naval forces. Stationary torpedoes in the water helped stop the attacking naval forces and almost sunk one of the monitor ships. After a torpedo blew a hole in the hull of that ship, Union sailors on board made quick repairs and kept the ship afloat. Early forms of land mines were planted at about 150 places on the land side of the fort when Sherman's forces came to attack. Some of the Union attackers were killed stepping on the land mines during the successful attack.

Any engineer will enjoy the story of Fort McAllister and the imagination of the men defending it, as they used the materials they had at hand to make one of the more successful forts of the Confederacy. The problems the attacking colonel solved in overcoming the defensive obstacles in capturing the fort is an intriguing part of the story as well.