

ARMOR

March-April 2009

ARMOR

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2009 Armor Warfighting Conference:

“Armor Strong: Meeting the Full Spectrum Challenge of the Future”

The U.S. Army Armor Center is preparing for the 2009 Armor Warfighting Conference at Fort Knox, Kentucky. This year's conference will be held from 12-14 May 2008. Registration begins at 0830 hours on Monday, 11 May, at the Leaders Club and will be available until noon Wednesday, 13 May.

The theme for this year's conference is “Armor Strong: Meeting the Full Spectrum Challenge of the Future.” In keeping with this year's theme, we have a dynamic and varied agenda, which includes a mixture of subject-matter expert briefings, focused discussion panels, and work product panels. Major General Campbell and Command Sergeant Major Troxell have invited leaders from across the battlefield spectrum to offer presentations on current and future operations for the force.

This year's conference focuses on both the current operating environment and future challenges. Guest speakers include brigade combat team (BCT) commanders with lessons learned in Iraq and Afghanistan, as well as maneuver leaders from U.S. Army Forces Command (FORSCOM), the Combined Arms Center, and U.S. Army Training and Doctrine Command (TRADOC). Conference topics will include doctrinal updates, equipping issues from TRADOC capabilities managers, and special topics, such as air-ground integration, full-spectrum operations, and the Base Realignment Commission (BRAC) move to Fort Benning. Finally, we will hear from the Vice Chief of Staff of the Army.

The Armor Trainer Update is scheduled on Monday, 11 May, which will be an afternoon session with brief-

ings and discussions, followed by an evening social. The Armor Trainer Update's topics will focus on the U.S. Army National Guard (ARNG) and its role as a mounted force. Presentations include transformation of force structure; equipping the armor and cavalry force; heavy brigade combat team update; training aids, devices, simulators, and simulations (TADSS) update; and a battlefield surveillance brigade update.

As always, the conference is packed full of social events, which include the Armor Association banquet, the commanding general's garden party, Stable Call at the Patton Museum, a golf tournament, and the static vehicle and vendor displays at Skidgel Hall.

As a standing tradition, the Frederick M. Franks Award will be presented during the conference. The Franks Award recognizes an Active Duty or Reserve officer, noncommissioned officer, or Department of the Army civilian, who has demonstrated a long-time contribution to the warfighting capabilities of the U.S. Army. In keeping with the example demonstrated by the award's namesake, any soldier in the Army can recommend another soldier or civilian. This award is a great chance to recognize someone who has worked hard to better our armor branch and Army.

The Armor Warfighting Conference is a great opportunity for the armor and cavalry community to celebrate its achievements as the greatest mounted combat force in history. For more information please visit the Fort Knox website at:

www.knox.army.mil/armorconf/

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Armor Trainer Update	LTC Scott Fowler	(502) 624-1315
CSM Update	SGM Thomas Klingel	(502) 624-1321
External Scheduling Conference	Bob Stubblefield	(502) 624-2591
Vendor Displays	SFC Walter Ivory	(502) 624-1451
Armor Association	LTC(R) Mark Gavula	(502) 942-6170
VIP Billeting	Reservations Desk	(502) 624-6180
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* DSN Prefix: 464		

2009 Armor Warfighting Conference and Armor Trainer Update

11-14 May 2009

“Armor Strong: Meeting the Full Spectrum Challenge of the Future”

TIME	EVENT	HOST	LOCATION
Monday, 11 May			
0830-1700	Registration		Leaders Club
0830-1700	Vendor Setup		Skidgel Hall
0830-1000	External Unit Scheduling Conference	DPTMS	Patton Museum
0830-1700	Combatives Finals		Natcher Gym
1300-1700	Armor Trainer Update	SACG	Leaders Club
1800-2200	Stable Call	OCOA	Patton Museum
Tuesday, 12 May			
0830-1700	Registration		Leaders Club
0830-1700	Vendor Displays		Skidgel Hall
0830-0900	CG's Welcome	CG	Waybur
0900-1200	Guest Speakers	CG	Waybur
0930-1530	CSM Update	CSM, USAARMC	Leaders Club
1300-1700	Guest Speakers	CG	Waybur
1800-2000	CG's Garden Party	CG	Quarters 1
Wednesday, 13 May			
0830-1200	Registration		Leaders Club
0830-0930	Guest Speaker	CG	Waybur
0830-1700	Vendor Displays		Skidgel Hall
0930-1500	Brigade and Battalion Commander's Conference *	OCOA	Leaders Club
0945-1045	Subject-Matter Updates/Panels		Waybur
1000-1400	Honorary Colonels and Sergeants Major of the Regiment *	OCOA	Leaders Club
1000-1500	Master Gunner Forum	Chief, MG Branch	Boudinot Hall
1300-1700	Subject-Matter Updates/Panels		Varied
1530-1630	Guest Speaker	CG	Waybur
1630-1700	14th Annual Franks Award Presentation	CG	Waybur
1800-2100	Armor Association Banquet	Armor Association	Leaders Club
Thursday, 14 May			
0830-1200	Vendor Displays		Skidgel Hall
0830-0930	Subject-Matter Updates/Panels		Waybur
1000-1100	Guest Speaker	CG	Waybur
1130-1200	Closing Remarks	CG	Waybur
1200-1300	Former Commandants Luncheon	CG	Leaders Club
1330-UTC	Golf Scramble	MWR	Lindsey Golf Course

* Indicates an "invitation only" event.

An expanded schedule will be available at registration and up-to-date information is available at the Armor Warfighting Conference website: www.knox.army.mil/armorconf/

Battlefield Surveillance Brigade: Continuing the Trend of Fielding Formations not Combat Capable or Leader Challenging

Dear *ARMOR*,

Major Jaren K. Price's article, "The Battlefield Surveillance Brigade: The Future of Division-Level Intelligence, Surveillance, and Reconnaissance," in the November-December 2008 issue, was an excellent look at the new battlefield surveillance brigade (BFSB). One particular area, however, requires an additional look on the part of maneuver officers.

The reconnaissance and surveillance (R&S) squadron, as described by Major Price, is composed of three line troops; one focuses on dismounted operations and is a 126-man strong organization and the other two are HMMWV-centric organizations, composed of 19Ds, and only amount up to 46 men. An initial reaction calls for comment.

As with the mobile gun system (MGS) platoon (9 men, a squad in the infantry), the Army has decided to field a formation that appears neither challenging for the leader nor capable of sustained operations. Instead, we, the Army, seem fixated on creating as many units as possible, within a certain manpower endstrength, with no thought to developing leaders (officers and NCOs) or to the capability of the unit in actual combat conditions. This is counter to what our force development folks should be focused on: combat capable units (possibly fewer, but more robust than what we want) and formations that will challenge and develop our leaders.

The first priority is that a unit, having gone through required preparatory training, will be capable of operating in combat within its primary role, without augmentation. It is combat effective, in design at least. Two-platoon units always seem to struggle with this. Even though the heavy brigade combat team (BCT) reconnaissance, surveillance, and target acquisition (RSTA) troop has only two platoons, it also has the mortar section. It also has much more robust platoons.

The second priority is that we develop our leaders with an eye on the 200-meter target at least, not the 25-meter target. While I am speculating and I would love for someone to research this concept, I believe leaders who command larger formations, those who challenge and develop their capabilities, are more likely to be better leaders and stay in the Army.

As a company commander in Iraq, each of my two attached mechanized infantry platoons were nearly the size of these two cavalry troops. I am only speculating, based on the size of the unit, the platform, and the number of officers, but it sounds like this will be two platoons of 18 men, each platoon mounting six HMMWVs. Platoons of this size, while certainly small, are capable of combat operations; light battalions usually have a D Company within such an organization. The void appears to be in numbers — those companies have four or five such platoons — not two.

Is there a reason these two companies could not be combined into one larger formation? It still would not be as large as a long-range surveillance (LRS) company. It most likely would not be overwhelmed by intelligence, as the LRS company runs many more teams. Perhaps no one wanted to tell a lieutenant colonel that his battalion would have only two maneuver companies.

I hope the Army does not continue this trend. From the heavy BCT RSTA troop, to the maneuver battalion heavy engineer company, to the MGS platoon, we are fielding many formations that do not meet some fairly basic criteria — combat capable and leader challenging.

STEVE WASILAUSKY
MAJ, U.S. Army

Kojro's Commonsense Approach to the Troubled Cavalry has Merit

Dear *ARMOR*,

I look forward to the bimonthly doses of common sense contained in LTC (Retired) Chester Kojro's letters. Over the years, he has documented the "troubled" cavalry with keen historical insight coupled with sensible suggestions to fix what is broken. It seems that no one listens and the same problems that have existed for nearly 70 years fester on.

A friend of mine, who commanded a heavy brigade cavalry squadron in Iraq, recently told me that had his squadron been employed in anything other than counterinsurgency, they would have been hard pressed in a higher intensity environment to perform the essential cavalry mission of fighting for information. It seems that the battlefield surveillance brigade, another offering on the altar of modularization, is yet another example of trying to do the same job we did better before.

While everyone has been busy singing the praises of the capabilities gained with a modular army, has anyone stopped to ask what capabilities we have lost? We have gained in many areas to be sure, but at what price.

Have we not seen the folly of doing things on the cheap? Have we not cleared our heads of the delusion of perfect situational awareness? Have branch politics and the merchants of technology for technology's sake not diverted us from the straightforward path long enough?

Some retired soldiers revel in the days of the campaign hat and Springfield rifle. Others judge a modern army against the timeless principles that work, and work even better with technology enhancements. Kojro is one of the latter, and his commonsense approach and willingness to tell the king he has no clothes, on occasion, is an added benefit to the armor community.

CHARLES W. TREESE
LTC, U.S. Army (Retired)

Railguns? "I Beg to Differ"

Dear *ARMOR*,

In *The Moon is a Harsh Mistress*, science fiction author Robert Heinlein described how electromagnetic "catapults" hurled freight containers of Luna-raised wheat back to Earth. As a plot device, these containers were instead filled with ore and used by the Luna rebels to bombard Earth, the terminal velocity and atmospheric friction resulting in nuclear airbursts. It was a good read, but science FICTION nonetheless.

I am bemused by Major Joshua M. Keena and Captain Jonathan A. Bodenhamer's article, "Reforging the Thunderbolt: How Railguns Can Revolutionize the Weapons of War," not for what it says about electromagnetic railguns, but for how little they have progressed in 25 years.

I recall a briefing given to us Armor School "combat developers" around 1984 by a colonel from TRADOC System Manager (TSM)—Tanks, who had recently observed a demonstration of a railgun firing. The gist was that it was an impressive demonstration of a tiny bullet traveling super fast through comparatively thick armor, and if only they could figure out the power management problem, they might get somewhere. Related issues, such as accuracy and dispersion, air friction, projectile composition, and design were also mentioned, all open issues at the time; ironically, all of these problems remain unsolved today. In "Figure 8" of the article, the authors refer to this as a pending "technology leap." I prefer the more appropriate phrase, "and then a miracle occurs."

The TSM also failed to mention recoil. When I asked about it, he stated that none was noticed, but then acknowledged that the demonstration railgun was mounted on a concrete stand. He repeated some mumbo jumbo that he had been told at the time about how the bullet is not pushed, but rather pulled through the electromagnetic field. I pointed out that this distinction is without a difference. The force expelling the projectile is against the mass of the rails; whether against the muzzle or the breech, the bullet's forward action forces the gun's reaction.

The authors also ignore recoil at their peril, as they then propose swivel- or gimbal-mounted guns in tank turrets. Regardless of recoil, these are impractical anyway. Machine guns and 37-mm cannons were mounted this way in U.S. tanks up to the early M3 "Stuart" light tank, until we finally learned in combat why it was a bad idea.

Regarding "military significance of a tactical railgun weapons system," I beg to differ.

The authors mention the benefits of *extreme range indirect fire* and also the *reduced collateral damage* of a kinetic energy projectile

Continued on Page 28

MG Donald M. Campbell, Jr.
Commanding General
U.S. Army Armor Center



The 2009 Armor Warfighting Conference

Armor Strong: Meeting the Full Spectrum Challenge of the Future

The 2009 Armor Warfighting Conference is fast approaching and leaders at Fort Knox are busy preparing for the opportunity to share invaluable information with the force. This year, much like preceding years, the conference will host speaking engagements from a multitude of high-level Armor leaders and Skidgel Hall will accommodate vendors who will display their latest innovations in armor and cavalry technology.

The conference is scheduled to formally begin on Tuesday morning, 12 May 2009. I encourage you to make reservations early as the conference will certainly be a “sold out” event. In past years, the conference started on Monday; however, this year, I purposely scheduled Tuesday as the start date, which frees up Monday for a travel day, giving everyone the opportunity to get settled before beginning the formal portion of the conference.

Beginning the 12th and running through the 14th, the conference will host a series of notable guest speakers who will certainly discuss full-spectrum operations and how they pertain to armor and cavalry. This year’s guest speakers include General Peter Chiarelli, vice chief of staff of the Army, and former commander, 1st Cavalry Division, Operation Iraqi Freedom and Multinational Corps-Iraq (MNC-I); General Charles “Hondo” Campbell, commander, U.S. Army Forces Command, and former commander, 8th U.S. Army, Korea; General Martin Dempsey, commander, U.S. Army Training and Doctrine

Command, and former commander, 1st Armor Division, Operation Iraqi Freedom and Multinational Security Transition Command-Iraq (MNST-I); Lieutenant General William Caldwell IV, commander, U.S. Army Combined Arms Center and Fort Leavenworth, and former deputy chief of staff, Strategic Effects, MNC-I; and Lieutenant General Ricky Lynch, commander, III Corps and former commander, 3d Infantry Division, Operation Iraqi Freedom.

During the guest speaker portion of the conference, Major General Michael Barbero, commander, Infantry Center and Fort Benning, will provide an update on the progress of the Maneuver Center of Excellence. There will also be theater updates from heavy and Stryker brigade combat team commanders, and an update from Colonel Mike Bills, former commander of the 3d Armored Cavalry Regiment. Additional updates will be provided by representatives from Future Combat Systems, TRADOC Capability Manager-Heavy Brigade Combat Team, Program Executive Office-Soldier, and Fort Knox Training, Doctrine, and Combat Development-Experimentation directorate. We are very fortunate to have so many high-profile guest speakers willing to share their expertise and priceless experiences during this exclusive forum.

The Armor Center will also host its annual menu of social gatherings, which make an ideal setting for attendees to reminisce and discuss the day’s events.

The unofficial kick-off of the conference will be the annual Armor and Cavalry Stable Call held at the Patton Museum on 11 May. This premier event always has an excellent turnout and gives everyone the opportunity to enjoy hors d’oeuvres and drinks with fellow tankers and cavalrymen while the historical collection of the Patton Museum serves as a backdrop — you don’t want to miss this one!

For early arrivals on Monday, Natcher Gym will be hosting the Combatives Tournament finals — stop by and observe the talents of these young soldiers! On Tuesday evening, I will host my annual Garden Party, another great chance to socialize as we enjoy drinks and a light fare in the backyard of Quarters 1. On Wednesday, the Armor Association will host its annual dinner, and following the close of the conference on Thursday, the annual Golf Scramble will be held.

As we shift operations to Fort Benning, I foresee this as one of the last Armor Conferences hosted at Fort Knox; therefore, I will endeavor to make it the biggest and best ever. If you have any questions or would like to know more about this event, feel free to contact either Andy Morrow, assistant director of the Armor School, at andrew.morrow@us.army.mil or Armor Conference action officer, Major Steve Hill, at steven.g.hill@us.army.mil.

I look forward to seeing each of you at this year’s conference.

Forge the Thunderbolt!

CSM John Wayne Troxell
Command Sergeant Major
U.S. Army Armor Center



The National Training Center: On the Cutting Edge

Greetings to all armor warriors! Two weeks ago, the armor proponent Sergeant Major, (SGM) Tom Klingel, and I visited the National Training Center (NTC), which is commanded by two great warriors, Brigadier General (BG) Dana Pittard and Command Sergeant Major (CSM) Bobby Moore. We saw firsthand the excellent training venue the NTC provides for rotating units and how relevant it is to the contemporary operating environment. We also witnessed how effectively the training center assists units in conducting full-spectrum operations; during a unit's rotation, they employ both core mission essential task lists (METL) and directed METL tasks.

We also had the opportunity to visit the Army Center of Excellence and were amazed at how well the NTC team assists units with critical tasks, such as search during tactical sight exploitation and new equipment training on mine resistant ambush protected vehicles (MRAPs) and signal intelligence (SIGINT) terminal guidance (STG) equipment, among others.

The NTC's battlefield is so realistic that I got a chill down my spine when I saw the towns populated with Arab role players; I felt as if I was back in Diyala Province in Iraq patrolling in Old Baqubah. The team at the NTC has done an impressive job in replicating Iraq and Afghanistan. We stayed at the Marcus Hotel, which is a lifelike replica of an Iraqi hotel, and during the night, there was a firefight in the town square between the rotating unit and the insurgents. Talk about waking up to a flashback!

In my opinion, the absolute best training tool is the medical situational train-

ing exercise lane; with its moulage kits and Hollywood movie effects, it is the most important lane at the NTC. As we train "psychological inoculation" to prepare our soldiers for the brutality of combat — this lane hits the mark. SGM Klingel and I were thoroughly impressed with the entire team during our visit, to include the mighty 11th Armored Cavalry Regiment and the observer controllers of the operations group.

During the visit, we were fortunate to observe the 4th Brigade, 1st Armored Division, Fort Bliss, Texas, commanded by two great leaders, Colonel Pete Newell and CSM Phillip Pandy, in action at the NTC. With this year being the "Year of the Noncommissioned Officer (NCO)," it was refreshing to see this unit in action. We observed a highly disciplined, officer-led, NCO-run organization. All over the battlefield, NCOs were taking the commander's intent and turning it into battlefield actions.

At every point of friction on the battlefield, there was an NCO bringing sanity to chaos. It was obvious that the brigade command team had empowered its NCOs to make the brigade successful in all missions. The soldiers understood the standards; the NCOs enforced and reinforced them at all levels. CSM Moore remarked that this brigade was the most highly disciplined brigade he had seen in 15 rotations.

Sergeant (SGT) Owen, who is assigned to D Company, 4th Combined Arms Battalion, 6th Infantry and has already had two tours in Iraq, is a perfect example of an NCO empowered by his capabilities and understanding intent. I observed his

tank crew (now a fire team as the unit trains for its upcoming deployment to Iraq) conduct a patrol into a village and then return to its forward operating base. The patrol executed outstanding patrol debriefs and one of SGT Owen's soldiers (an E2) gave me a situation report on the company's entire battlespace! This young sergeant has a powerful unit, enemy, and battlefield awareness — and has trained his soldiers to fill his shoes. He even constructed a make-shift litter from a poncho and engineer tape; and his fire team demonstrated its effectiveness using me as the casualty! SGT Owen is a fine example of how well this unit is prepared for deployment. As I was presenting SGT Owen a coin, he told me, "Sergeant Major, I would rather one of my soldiers receive the coin." This is a mark of a true leader — soldiers before self.

The NTC is on the cutting edge of preparing units for deployment and I thoroughly enjoyed my visit — hats off to BG Pittard, CSM Moore, and the entire NTC team.

I must take this opportunity to invite the force to the 2009 Armor Warfighting Conference, which will be held from 12 through 14 May at Fort Knox. We will have an impressive lineup of guest speakers from across the Army and the armor force. We will also host a CSM/SGM breakout session, complete with presentations from CSMs just returning from deployment; an Armor School update; NCOES transformation update; and briefings from the Asymmetric Warfare Group and Land Warrior. I encourage all who can to join us for this great event!

Forge the Thunderbolt!

EVOLUTION OF TANK GUNNERY:



Heavy Brigade Combat Team Gunnery

by Master Sergeant Stephen A. Krivitsky, U.S. Army, Retired

Since March 2006, the Doctrine Division, Directorate of Training, Doctrine, Combat Development and Experimentation (DTCDE) at Fort Knox has been revising U.S. Army Field Manual (FM) 3-20.21, *Heavy Brigade Combat Team Gunnery*, to create a “gunnery series” of manuals specifically directed toward a brigade’s composition. The intent is to provide commanders within a brigade gunnery references and resources in a single volume set (see Figure 1). The entire gunnery collection will eventually have four volumes with three individual brigade versions; the HBCT portion is expected to be released 2d Quarter, Fiscal Year 09.

Volume Designs

VOLUME 1, SMALL ARMS

In the small arms volume, all training and qualification requirements for individual and crew serve weapons (ground mount) are provided in detail. This volume will be a common reference used Armywide. It will detail all gunnery requirements for training soldiers’ individual weapons, discuss alignment procedures for any available optics and designators, and outline qualification requirements for those weapons. The crew serve weapons fired in a ground-mount role will also be described in detail.

VOLUME 2, BRIGADE SETS

This volume set consists of three versions specific to the maneuver unit’s brigade type such as the heavy brigade combat team (HBCT), Stryker brigade combat team (SBCT), or infantry brigade combat team (IBCT). These versions include the platform characteristics of the direct-fire weapons systems within each brigade, a general overview of ammunition available for training and combat, training devices associated with each weapons system, gunnery training plans, gunnery tables (GT), crew evaluation, and information specific to each platform. Each version will also include a detailed section or chapter on the collective

GTs and combined arms live-fire exercises (CALFEX) specific to each type of brigade.

VOLUME 3, SUSTAINMENT UNIT GUNNERY

This volume, FM 4-01.46, *Sustainment Unit Gunnery* (TBP), contains the standardized gunnery information for the sustainment unit community based on standardized truck gunnery. This standardized truck gunnery will establish the gunnery training program, GTs, crew qualification and standards, crew evaluation, and collective gunnery events in one manual. This volume represents a movement across the Army to have a standardized means of evaluating all crew serve weapons in a mounted role, either on a wheeled or tracked platform.

VOLUME 4, FIELD ARTILLERY GUNNERY

Volume 4 details all gunnery requirements, live-fire prerequisites and testing, and qualification standards for all indirect weapons systems, less mortar gunnery.

The Doctrine Division is concentrating on FM 3-20.21 to identify how it will affect soldiers, master gunners, combined arms battalions, commanders, and staff within the HBCT.

Manual Name	Focus / Content
FM 3-20.10	Volume 1, <i>Small Arms</i>
FM 3-20.21	Volume 2, Version 1, <i>HBCT</i>
FM 3-20.22	Volume 2, Version 2, <i>SBCT</i>
FM 3-20.23	Volume 2, Version 3, <i>IBCT</i>
FM 4-01.46	Volume 3, <i>Sustainment Unit Gunnery</i>
FM 3-09.8	Volume 4, <i>Field Artillery Gunnery</i>

Figure 1. Gunnery Manual Volume Set



Focusing the Manuals to Support HBCT Gunnery

To best develop the set of manuals, each must promote certain key aspects. The success of the firing unit depends on the commander’s flexibility to develop his gunnery based on his mission-essential task list (METL), both core mission-essential task list (CMETL) and directed mission-essential task list (DMETL); possible deployment locations; subordinate unit task and purpose when deployed; and platoon configuration. Further, to adequately prepare crews and small units for the various missions they may face requires the merger and standardization of tank

gunnery, Bradley gunnery, scout gunnery, and the sustainment unit crews within the HBCT into one manual. This merger is a challenge as the four variants of direct-fire gunnery are similar in some aspects, but quite different across the board. In these manuals, all aspects of the direct-fire engagement have been standardized, thereby creating a common foundation for an all-platform, direct-fire gunnery.

The manuals read well and are laid out in logical order, permitting commanders, crews, staff, and master gunners to easily locate and understand information. They provide standardized engagement processes, such as crew search techniques, fire commands, and engagement techniques, which ultimately create a common gunnery language for all direct-fire weapons systems. The flow of the manuals moves from overview, through the target acquisition process, to engagement of targets, indirect fires, use of platoon fire commands, gunnery planning, and gunnery execution and evaluation. The numbered chapters are the



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desk reference and the appendices are specific to what the respective crews should have on their vehicles, reminiscent of the old FM 17-12-1-1/2, *Tank Gunnery*, series from 1993, where the -2 represented the desk reference and the -1 was used on a specific vehicle.

The structure and commonality found within these manuals are designed to provide a baseline for developing the SBCT manual, including evaluation procedures, scoring, score sheet, GT modeling, fire commands, conduct of fire, or target acquisition. This will allow soldiers to transition easier to another type of brigade or vehicle crew assignment with a reduced learning curve when it comes to gunnery. Essentially, the predominant topics of the numbered chapters will be the standard way to do business across the Army, no matter what weapons system soldiers fire in ground combat — and that is a colossal change.

To design a brigade reference manual and provide a usable document for crewmembers without just “shuffling gunnery manuals together,” each gunnery manual was reviewed and ultimately assimilated into one master copy. Each school of thinking (Abrams, Bradley, and scout) and the sustainment unit crews (who had limited mounted gunnery experience) had to compromise on the “way we’ve always done it.” Each school had a little give and take from what they have always known to what the next generation of soldier will use.

Give and Take

Each platform’s methods have changed slightly to find a common ground for all direct-fire weapons systems. Some changes are small and seemingly insignificant; some are a bit more complex and can generate bitter argument among a respective platform’s faithful following. These manuals are not “tank-centric” or “Bradley-centric” references; they are the new standard baseline from which all direct-fire weapons systems begin — the evolution of Abrams, Bradley, scout, and sustainment unit gunnery. As evolutionary documents, the set of manuals purely maintains the foundation and principles of good gunnery and design a structure that can train, develop, and qualify competent, cohesive, and lethal crews, sections, and platoons — now and in the future. These manuals intend to:

- Provide HBCT and combined arms battalion commanders the most flexibility to create gunnery programs that equal their deployable configurations.
- Standardize the gunnery methodology within the HBCT across all direct-fire platforms, to include Abrams, Bradley, and scout.
- Provide a standardized model for Abrams, Bradley, and scout gunnery — building the framework for the SBCT gunnery manual.
- Provide a common manual reference set for all brigade combat team (BCT) and combined arms battalion commanders that encompasses all direct-fire weapons systems’ gunnery-related items.
- Provide the user of the platforms a user-friendly reference, as well as a stand-alone, platform-specific appendix.
- Establish standardized fire commands across all direct-fire platforms.
- Establish a common scoring and evaluation model for direct-fire gunnery.
- Establish a common GT methodology that incorporates training devices, simulators, simulations, and live fire that progresses from individual training requirements through

crew qualification, as well as collective training and qualification.

- Enable the incorporation of spinoff technologies from the future combat system (FCS) development seamlessly.

The manuals’ primary themes are *commonality* and *standardization*, which have the largest impact on the engagement process, GTs, and evaluation procedures.

Standard Engagement Process: Detect, Identify, Decide, Engage, and Assess (DIDEA)

The engagement process. The engagement process for all direct-fire platforms is, and has been, generally the same, although each element is termed or expressed differently, depending on the platform. The new set of manuals standardizes the entire process across all platforms, resulting in a common gunnery language that spans all direct-fire platforms and, to a larger extent, each brigade type. The engagement process is an update to the Abrams’ engagement process, crew search, detection, location, identification, classification, and confirmation (CDLICC). Although the names or phrases have changed, the fundamental process remains unchanged. The revision to the CDLICC process was constructed to standardize procedures across all possible platforms *Armywide*, not just within the HBCT.

The DIDEA process. The DIDEA process is the foundation of the direct-fire engagement. In its five steps or processes below, the evolutionary change is described in relation to current Abrams gunnery:

Detect. The means of threat target detection and target acquisition. This includes the crew search, detection, and location processes from CDLICC.

Identify. Clearly identifying the potential threat, classification of that threat, and confirmation of the threat as hostile. This step in the DIDEA process encapsulates the identification, classification, and confirmation processes from CDLICC.

Decide. This step in the DIDEA process determines the means of target destruction. The vehicle commander must decide the form of engagement he will employ to destroy the threat — direct or indirect fires. The decision process that includes using other forms of engagement enables the vehicle commander to develop the situation and defeat the threat with all the tools available to him on the battlefield.

Engage. This step not only includes the process of conducting the direct-fire engagement (or conduct of fire), but also includes the crew actions required to conduct a call for fire indirect engagement. The direct-fire engagement fire commands have been standardized across all platforms. The updates to the fire commands are evolutionary, but verge on revolutionary. The revisions to conduct of fire have extraordinary impacts on the crew, evaluators, simulations, and simulator instructor/operators.

Assess. These procedures confirm the threat has been neutralized or destroyed using engagement techniques employed by the crew or external direct- or indirect-fire resources. The majority of change from CDLICC to DIDEA is found in the engage procedure, most specifically within the fire commands.

Elements of Fire Command

There are several fundamental changes in the new manuals that differ from how armor crewmen conducted business in the past. Standardizing fire commands for all direct-fire systems posed a great problem — defining precision gunnery vice degraded gunnery. If the definition of “precision” requires a fire-

Element	Remarks
Alert	Alerts the entire crew that someone in the crew will be firing an engagement using the primary weapon, main gun, or coax. Vehicle with only one primary firer may omit this element. It must be used when an alternate firer is directed to engage (such as loader, or rear bank.)
Ammunition or Weapon	Identifies the ammunition to fire, requiring the gunner to ensure the ammunition is properly indexed, and the loader what ammunition to load after the initial round is fired. Vehicles mounting single weapons (caliber .50, M240B, or MK19 only) may omit this element.
Description	A clear and concise target description for the firer to identify. Vehicle commanders must use modifiers when multiple targets are presented.
Direction	This is required when the vehicle commander cannot lay the firing weapon for direction (e.g., the VC does not have the capability to move the turret to the target's general location using an override.)
Range or Elevation	This is required when the firing platform's fire control system does not provide the accurate range to target.
Execution	The vehicle commander is the only crewmember authorized to issue the command of execution. This cannot be delegated to the gunner.
Termination	Any member of the crew can terminate an engagement for any reason. Every fire command must be terminated.

Figure 2. Standard Elements of a Fire Command

control system with full ballistic solution, automatic lead, laser-range finder, and thermal optics, obviously a scout high-mobility, multipurpose wheeled vehicle (HMMWV) will always be degraded — never having the opportunity to be “precise.” For the most part, this is true from an armor crewman’s perspective.

The end result is the omission of “precision” and “degraded” terms, generally speaking, and relying on the firing weapons system’s capabilities. We have established seven standard elements of a fire command (up from six) that define the standard fire command (see Figure 2). A reduced fire command is the elements of the fire command, which must be issued by the crew and is not specifically provided by the fire-control system. These changes

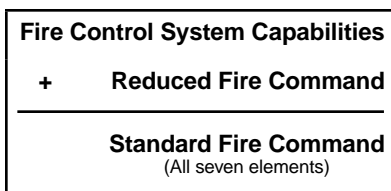


Figure 3. Fire Command Formula

are based on a simple equation: what your fire-control system provides, plus elements issued by the crew (reduced fire command), equals all seven elements of a fire command. If your fire-control system normally provides an accurate range to target, then you do not have to announce the range. However, if your laser range finder is inoperable, then you must announce the range.

This formula removes the necessity for “precision” and “degraded,” as it is based on the seven elements of the standard fire command, not your fire-control system. You can still be “degraded” from what you normally get, but that’s only relevant to the standard fire command. All fire commands will have the seven elements, period.

Elevation in a fire command. The new manuals add elevation to the range element of the fire command. The two are not interchangeable, but provide vehicle commanders the capability to announce the relative elevation of the target. This will be useful in restricted environments such as Korea and urban terrain. For example, a vehicle commander may announce “third floor, sec-

ond window from left,” to describe a target in a building. In restricted terrain, a vehicle commander may announce terrain elevations as “alpha,” “bravo,” or “charlie,” to indicate valley floor, side slope or middle section, or crest/hilltop, respectively. This series of terms will be determined by the unit’s standing operating procedures (SOP) for clarification.

Fire command terms. The new manuals have defined (not added) seven classifications of terms that will help the crew acquire, identify, and engage faster. These terms have always been used by crews to reduce confusion within the turret, or command the crew to perform a specific function. To streamline the process, the following terms were classified and defined in the engagement process:

Crew response. These terms are verbal confirmations of the vehicle commander’s fire command. They are stated to ensure clarity of the initial or subsequent fire command. The loader announcing “up,” is a crew response; the gunner announcing “identified,” followed by the determined range to target is another example.

Crew action. These terms require the crew to perform a given function to direct fires onto the target. They are stated on completion of the implied task as directed by the fire command. For example, the loader loading and arming the main gun after receiving a fire command is a crew action for the implied task to load the main gun.

Sensing. All rounds or bursts fired from a weapons system require the crew to sense or identify the strike of the round in relation to the target. They provide an indicator to the vehicle commander so he can issue another initial fire command for additional targets on the battlefield. In the event that the rounds do not have the desired effect on the target, sensings are used as the alert element for subsequent fire commands.

Engagement technique. The vehicle commander can direct a specific engagement technique to the gunner to facilitate the target’s destruction or effective suppression. For example, the vehicle commander announces “suppress” or “zee” after the gunner fires the coax to continue firing at the target using a specific fire pattern.

Modifier. A description modifier is used to enhance the target description to clearly identify a specific target to engage when operating in a target rich environment. Typical modifiers are “left,” “right,” “near,” or “far.” In urban environments, the vehicle commander can announce a variety of modifiers to narrow the search for the gunner onto the intended target.

Clarification. Clarification is a request by a crewmember to either repeat or correct an element of the fire command.

Driver action. This term is used to move the firing vehicle into a position that best supports the engagement. Driver actions are also used to seek alternate positions, return to defilade position, or move through battlefield obscurants during an engagement.

In the HBCT gunnery manual series, the biggest change is in the development and methodology of the GTs. In coordination with Fort Benning, Fort Lee, Fort Leonard Wood, and Fort Sill, the Fort Knox Doctrine Division developed a standard crawl-walk-run maturing set of GTs for direct-fire weapons systems. These tables are grouped into two classes: stabilized and unstabilized platforms. Stabilized GTs are for the Abrams, Bradley, and Guardian (armored security vehicle future variants);

platforms that provide a means of stabilization, thermal optic, laser range finder, and possibly super elevation for the weapons system are contained in this group. Unstabilized GTs are used for crew serve weapons mounted on tracked or wheeled vehicles.

There are two standard table sets built to challenge crews, train critical tasks, and maintain a common high standard, which are designed with the same characteristics and primary means of evaluation. These table sets will also be used in both the SBCT and sustainment unit gunnery manuals, so when an Abrams crewman moves to a mobile gun system (MGS) platoon, the GTs will be 98 percent similar. The fire commands, evaluation process, minimum proficiency levels (MPL), and task standards remain exactly the same. The common structures for all GTs use MPL, threat matrices, common score sheets, and table-naming conventions.

Gunnery Tables

The GTs are structured in similar fashion to those of the past 40 years; however, the table numbers have changed. Figure 4 provides an overview of each table and its principal function.

The commander's flexibility is key to developing each individual table scenario. On all GTs, the commander may select the target type, range to target, and use MPL for crew gunnery to develop the scenarios that best suit the unit's needs. In the collective GTs, the commander may fire section or platoon pure, but may also cross-attach tanks, Bradleys, or trucks into section and platoon compositions to qualify the element as it would deploy.

MINIMUM PROFICIENCY LEVELS

MPL are the required attributes for every GT (see Figure 5). The commander, staff, and master gunner develop the GT scenarios using MPL to ensure all primary skill sets are trained and tested during GTs. The MPL outline:

- Specific GT requirements that scenarios must contain.
- A common set of requirements for all direct-fire weapons crews to train during gunnery density.
- The "rules" that must be adhered to when developing gunnery scenarios.
- The critical skills that must be trained and evaluated.
- How to facilitate the commander's flexibility.

The list of gunnery MPL provides critical skill sets for the firing crews during each table to reduce possible skill atrophy. It also provides a baseline set of requirements, coupled with resourced ammunition and targetry, which remain constant Armywide. The MPL list may be applied to any engagement the commander selects on any given table. For example,

	Gunnery Table	Title and Purpose
Crew	I	Crew Critical Skills ¹
	II	Crew Proficiency Course ¹
	III	Basic Machine Gun Course
	IV	Basic Main Gun Course
	V	Basic Crew Practice
	VI	Basic Crew Qualification ²
Collective	VII	Section Proficiency
	VIII	Section Practice
	IX	Section Qualification ³
	X	Platoon Proficiency
	XI	Platoon Practice
	XII	Platoon Qualification ⁴

1 - Prerequisite for live fire
 2 - Prerequisite qualification to continue on to intermediate section gunnery
 3 - Prerequisite qualification to continue on to advanced platoon gunnery
 4 - Prerequisite qualification for combined arms live fire exercises (CALFEX)

Figure 4. Gunnery Table Naming Conventions

Minimum Proficiency Level (MPL)	Gunnery Table				
	II	III	IV	V	VI
One Defensive Engagement: Day and Night	Y	Y	Y	Y	Y
One Offensive Engagement: Day and Night	Y	Y	Y	Y	Y
One Short Halt or Traffic Control Point: Day OR Night	Y	Y	Y	Y	Y
One CBRN Engagement: Day and Night	Y	Y	Y	Y	Y
One Short-Range Machine Gun Engagement (<300m): Day OR Night	Y	Y	Y	Y	Y
One Long-Range Main Gun Target: Day OR Night	Y		Y	Y	Y
One Short-Range Main Gun Engagement: Day OR Night	Y		Y	Y	Y

GT III is basic machine gun and does not have any main gun requirements. If GT III and IV are fired together, then the MPLs for GT IV apply.

The term "main gun" refers to 25mm, 40mm, or 120mm systems.

The term "machine gun" refers to coaxially mounted 7.62 or caliber .50 (ASV) weapons, respectively.

Weapon	Short-Range Engagement	Long-Range Engagement
Machine Gun	<300m	N/A
25mm	<800m	>1600m
40mm	<400m	>1200m
120mm	<800m	>2000m

Figure 5. Minimum Proficiency Levels, All Platforms

Description	Task	Offense Day	Offense Night	Defense Day	Defense Night	Short Halt Day	Short Halt Night	Long Range Main Gun	Short Range Main Gun	Short Range Coax
Vehicle Commander	0							Caution		NO GO
Machine Gun Pure	1							NO GO	NO GO	
Machine Gun Pure	2							NO GO	NO GO	
Main Gun Pure	3									NO GO
Main Gun Pure	4									NO GO
Change of Weapon System	5									
Change of Weapon System	6									
Degraded	7	Caution	Caution		Caution		Caution	Caution		Caution
Degraded or Loader	8	NO GO	NO GO		Caution		Caution	Caution		Caution
Simultaneous / Multiple Target	9	NO GO	NO GO		Caution	Caution	Caution	NO GO	NO GO	

Figure 6. Minimum Proficiency Level Application Guide

an Abrams engagement with two targets can have one main gun target >2,000m and one main gun target <800m in a chemical environment, at night, on the offense — all of these attributes are specifically selected by the commander. Figure 6, which shows the MPL best suited for specific engagements, should be used as a tool when designing the scenarios (for stabilized gunnery).

There are certain engagements that cannot be applied to certain MPL, which are indicated in Figure 6 by blocks marked “NO GO.” For example, a commander cannot fire simultaneous engagements on the offense because the Abrams platform does not have a stabilized loader’s station. On such an engagement, there are no main gun rounds fired, so there is no MPL that governs main gun targetry.

The “caution” block in Figure 6 indicates there are certain aspects that must be considered prior to selecting the MPL for a specific engagement type. For example, when selecting degradation type, the commander has three basic options: gunner’s auxiliary sight (GAS) using power controls; GAS using manual controls (vehicle commanders using GAS for Bradley crews); and gunner’s primary sight (GPS)/thermal imaging system (TIS) using manual controls. It is not a good idea to fire through the GAS at night without mortar or field artillery (FA) illumination coordination — *always consider this fact when developing the scenario*. Also, if manual controls are used for degraded engagements, it is not wise to conduct that task on the offense and perhaps the short halt.

The GTs have been redesigned from previous versions of both Abrams and Bradley gunnery. The intent is to provide the commander the ability to cross-attach Abrams and Bradley crews prior to the start of gunnery. This capability also enables the commander to fire Abrams and Bradley crews using the same scenario with little or no modification. A snapshot of the crew tables shows a new task numbering system, six standard engagement types with three alternate types, and a clearer training methodology that follows the crawl-walk-run training management ideal.

ENGAGEMENT AND TASK TYPES

As shown in Figure 7, the following are the six standard engagement types:

- Vehicle commander.
- Machine gun pure.
- Main gun pure.
- Change of weapons system.
- Degraded.
- Simultaneous.

Each of these engagement types has been given a number or series of task numbers. Task “0,” for example, will always be a vehicle commander engagement when the gunner’s power-control handles are inoperative (Abrams and Bradley). To determine the engagement number, the first digit is the GT number,

followed by the task number, such as in Table V, task 0 is engagement 50; Table III, task 9 is engagement 39. This allows the master gunner to easily track crew progression by task, through gunnery density.

LEVELS OF DIFFICULTY

As the tables increase, the level of difficulty for each task increases through Table V, crew practice. During crew qualification, Table VI, the task will be as difficult, or slightly easier, than previously trained, in most cases.

TARGETRY SELECTION

The targetry shown in Figure 7 is *one* method. As discussed earlier, the commander may choose to simultaneously shoot Abrams and Bradley crews on the same table, as a cross-attached company training jointly. Therefore, the targetry he selects for each task on the tables meets the ammunition requirements and capabilities of the Bradley. An Abrams crew can use the same type of ammunition, such as kinetic energy (KE) or chemical energy (CE), listed by target and have the capability to adequately engage and defeat each target. If a table is built for an Abrams, the Bradley *will not have the capability* to destroy the targets in all

scenarios; for example, a Bradley will not engage a T-90 frontal with KE. Figure 7 shows targetry options that meet both tank and Bradley ammunition capabilities, thereby maintaining a common scenario for the combined arms battalion.

THREAT-BASED SCENARIOS

All scenarios are evaluated based on the threat's ability to destroy the *friendly* vehicle. This assumes that the threat target has the ability to engage and destroy with either:

- T-90 main battle tank (MBT).
- BMP (personnel carrier).
- Antitank-guided missile (ATGM) system.
- Rocket-propelled grenade (RPG)-29.

Targets, such as troops or technical trucks, are included to replicate the possibility of an ATGM or RPG threat, and also maintain the ability to kill friendly vehicles. The threat-based scenario is based on four pillars:

- Own/friendly vehicle type. Since these tables are multiplatform capable, the armor protection of the own/friendly vehicle is taken into consideration.

Task Number and Type	II			III			IV			V			VI		
	CPC			Basic Machine Gun			Basic Main Gun			Crew Practice			Crew Qualification		
0 Vehicle Commander	STA Ball (CE) 			STA Cal .50 (Coax) 						MOV KE 			MOV KE 		
1 Machine Gun Pure	STA Coax 	STA Coax 		STA Coax 	STA Coax 					STA Coax 	STA Coax 	MOV Coax 	STA Coax 	STA Coax 	
2 Machine Gun Pure	STA Coax 	STA Coax 	STA Coax 	STA Coax 	STA Coax 					STA Coax 	STA Coax 		STA Coax 	STA Coax 	
3 Main Gun Pure	MOV 						STA KE 	STA KE 		MOV KE 	MOV KE 		MOV KE 		
4 Main Gun Pure (Canister option)	STA 	STA 	MOV 				STA CAN or CE 			STA CAN or CE 			STA CE 	STA CE 	MOV KE
5 Change of Weapon System	STA Coax 	STA Main 	STA Main 				STA Coax 	STA CE 		STA Coax 	STA KE 		STA Coax 	STA KE 	
6 Change of Weapon System	STA Coax 	STA Coax 	STA Main 				STA Coax 	MOV CE 		STA Coax 	STA CE 		STA Coax 	STA CE 	
7 Degraded	STA 	STA 					STA KE 			STA Coax 	STA KE 		STA CE 	STA CE 	
8 Degraded (Loader option on select)	STA M240 			STA M240 						STA Coax 	STA CE 		MOV KE 		
9 Simultaneous (Simo) or Multiple Target (Bradley)	STA M240 	STA Cal .50 	STA Coax 	STA M240 	STA Coax 					STA M240 	STA Cal .50 	STA Coax 	STA M240 	STA Cal .50 	STA Coax

Figure 7. Bradley and Abrams Compatible Gunnery Tables

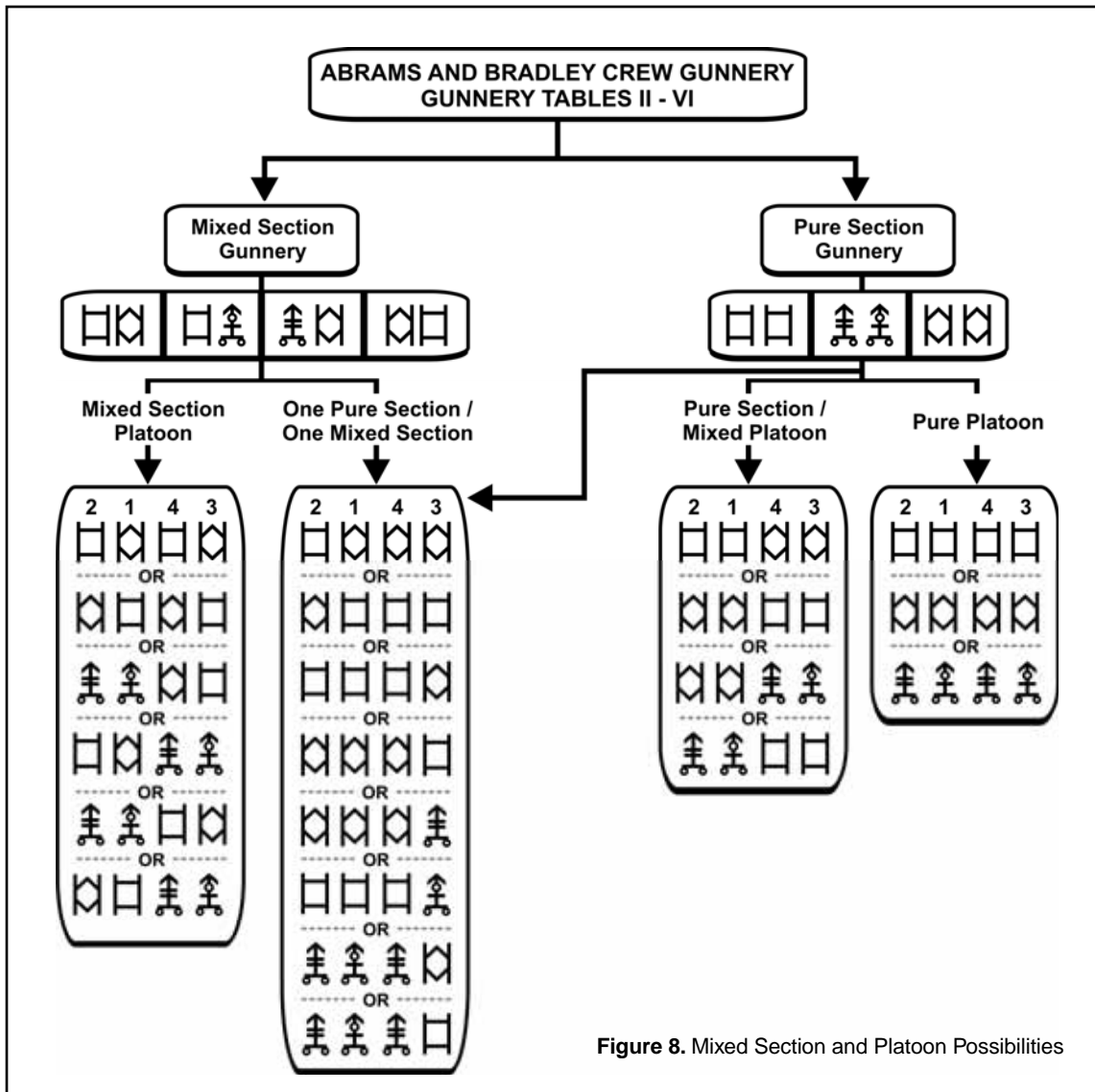


Figure 8. Mixed Section and Platoon Possibilities

- Threat target type. For example, a T-90 can destroy a Bradley faster than a technical truck.
- Threat vehicle range. Each threat target type's level of danger to the crew lessens with range. When a typically dangerous target is at 300m, and a most dangerous target is 1800m and moving, the true most dangerous target is the 300m set.

- Own/friendly vehicle posture. The crew in the defense is protected from hostile direct fires until it is exposed. In the offense, the entire vehicle is exposed to direct fire, although consideration is made for the inability of threat systems to engage moving targets rapidly.

These pillars define how threat matrices are developed and employed in the gunnery training model. The Armor Center has used various methods over the past 50 years, including a variant of this method, as the dynamics of combat and the proliferation of high-tech, shoulder-fired weapons occur.

COMBINED ARMS STARTS BEFORE GUNNERY BEGINS

When the master gunner takes the commander's guidance and formally develops the scenario, he has the ability to fire Abrams and Bradley crews on the same range, on the same day, using the same targetry. Figure 7 shows targetry that is multiplatform capable and facilitates cross-attachment prior to the start of gunnery. Although this is not a requirement, the tables have been developed to provide this capability to commanders, enabling them to train early as a combined arms team and build a cohesive unit prior to entering collective gunnery.

Ammunition Type	Rounds Per Target	Remarks
Small Arms	50 rounds	Caliber .50 no longer receives 75 rounds per target.
25mm	8 rounds	Master gunners must ensure a minimum of 24 rounds AP and HE are used to facilitate loading the M242.
40mm	8 rounds	The range must be 40mm TP capable.
120mm	1.5 rounds	Only .5 canister rounds per crew are authorized for collective gunnery. Only one tank for every two have the opportunity to train with canister during collective gunnery phase.

Figure 9. Targetry Based on Ammunition Availability Rule of Thumb

Once crew gunnery is complete, the commander must:

- Determine his platoon structure prior to the start of section gunnery.
- Ensure his ability (based on adequate range support) to fire tank and Bradley crews during all phases of gunnery on the same range, using the same scenarios, during crew gunnery.
- Understand that once crew gunnery is complete, the section gunnery is *mandatory*.
- Understand all sections may have any composition of tank, Bradley, or truck platforms to support the endstate platoon configuration.

Each section composition limits the final platoon compositions and must be managed accordingly. Figure 8 is an example of the various section and platoon configurations.

To retain the ability to fire mixed sections and platoons with wheeled and tracked vehicles, targetry is developed based on the capabilities of the vehicle composition. A minimum number of rounds and targets are described in collective gunnery for each vehicle type; however, additional targetry may be added based on the section and platoon's specific vehicle and ammunition availability above resourced requirements. The rule of thumb for selecting targetry based on available ammunition resources is shown in Figure 9.

COLLECTIVE GUNNERY

The commander maintains the maximum flexibility during collective tables. Much like crew tables, target selection, range to

target, section and platoon composition, number of targets based on available resourcing (above authorized), the MPL allows commanders to achieve training goals focused on future missions.

The evolution of gunnery has taken another step forward and it will assuredly take some time to completely understand and use these changes and additions to their fullest potential. As with any change in gunnery doctrine, this will require more than just one gunnery to master. It will take time to educate the force, but the learning curve can be greatly reduced via user feedback. Considering the large volume of change encapsulated in this manual, it will have imperfections. Only through use, feedback, and updating will the best gunnery doctrine be written. That said, this is a solid manual series expressly developed for the users, crews, staffs, and commanders.



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Precision-Guided Munitions for BCT Commanders

by Major General (Retired) David C. Ralston and Patrecia Slayden Hollis

At right, a 155mm M777A2 howitzer fires the Excalibur PGM in support of an airborne brigade combat team (ABCT).



The objective of U.S. military kinetic operations always has been to defeat the enemy while minimizing risks to friendly forces, casualties among the innocent population, and undesired collateral damage. Today, more than any era in the past, we have technologies to achieve that objective across the spectrum of conflict. Even successful stability and nation-building operations have brief spikes of intensity, calling for rapid, pinpoint lethality.

Force commanders require, and have asked for, precision indirect-fire capabilities, and the field artillery is committed to providing these capabilities — tactical precision-guided munitions (PGMs), which allow commanders to turn defeat into victory, save lives, and minimize collateral damage.

In his survey of corps, division, and brigade combat team (BCT) commanders, Major General Peter M. Vangjel, chief of field artillery and commanding general of Fort Sill, Oklahoma, reported that maneuver commanders' fire support priority was precision.¹ The field artillery has been working diligently to answer the call.

The commander of ground forces in the highly successful surge in Iraq during 2007, then Lieutenant General Raymond T. Odierno, commander, Multinational Corps-Iraq (MNC-I), endorsed the effectiveness of the relatively new 155mm Excalibur and guided multiple-launch rocket system (GMLRS) unitary PGMs, "...they were *extremely* effective. In fact, GMLRS and Excalibur were my brigade commanders' weapons of choice."²

We have entered a remarkable era of all-weather, all-terrain precision effects, available to maneuver commanders 24/7, with Excalibur, GMLRS unitary, and the near-future nonline-of-sight launch system (NLOS-LS) precision attack missile (PAM), projected to be fielded in FY12.

Six Meters and Closing

Indirect-fire PGMs are proving to be more accurate than the 10 meters required of a PGM. Excalibur and GMLRS test results and combat records of their impacts catalogue their accuracy to within a six-meter radius of intended targets, bringing us closer than ever to the ideal "one-round, one-hit" capability.

As the enemy was being cleared out of Baghdad during the 2007 surge, many ran north to Baqubah in the Multinational Division-North (MND-N) area of operation. Major Jack E. Vantress, S3, 5th Battalion, 20th Infantry (5-20 IN), the lead task force during Operation Arrowhead Ripper in Baqubah, discusses in an e-mail, on 17 December 2007, Excalibur's precision and how the task force achieved its desired effects on a two-story building. "We fired two rounds nearly simultaneously... Excalibur's accuracy was such that the second round entered the building at the same point of impact as the first, thereby achieving the desired penetration to the first floor."

Employed in conjunction with other joint firepower assets, Excalibur gives the enemy no way out. In July 2007, two Excalibur rounds were fired on a house containing top al-Qaeda leader, Abu Jurah, and

14 other insurgents in Arab Jabour, south of Baghdad. An AH-64 Apache helicopter attacked a vehicle, and as insurgents fled from the rubble, an F-16 dropped two 500-pound bombs to destroy a house three of the fleeing insurgents had entered. The enemy never had a chance.

Colonel David B. Haight, commander of the 3d BCT, 10th Mountain Division, recently deployed his brigade to Afghanistan. Before he deployed, he ensured his fires battalion had the capability to fire Excalibur. "In June 2008, I went to the Fires Conference at Fort Sill and received a briefing on Excalibur's global positioning system accuracy. With Excalibur's pinpoint accuracy, I can put one round into the bad guys' exact location and take them out while causing minimum collateral damage and safeguarding the Afghan populace. Excalibur was *exactly* what we needed.

"We had identified an operational need for Excalibur, so we made the case for M777A2s in the brigade to fire the round — M777s are not organic to IBCTs [infantry BCTs]. FORSCOM [Forces Command] approved the request for the capability and resourced us with 12 M777 howitzers, which our 4-25 FAR [4th Battalion, 25th Field Artillery Regiment] quickly trained and certified on. The M777 has the added advantage of being lighter than the M198 and is very mobile; we can move it around the Afghan battlefield, sling-loaded under a helicopter to fire Excalibur."

Excalibur has become a joint and combined effort as both the U.S. Marines and Canadians are using it in theater.

In September 2005, 3d Battalion, 13th Field Artillery (FA), 214th FA Brigade, fired GMLRS in support of MNC-I for the first time in combat during Operation Restoring Rights at Tal Afar and the next day during Operation Sayaid in the Al Anbar Province. In Tal Afar, eight GMLRS destroyed two insurgent strongholds and killed 48 insurgents from 50 kilometers away. In the Al Abnar Province, six rockets destroyed a bridge frequently used by insurgents.

Colonel Kenneth J. Lull, former commander, 169th Fires Brigade, Colorado Army National Guard, and the Force FA Headquarters, MND-N, 25th Infantry Division, Iraq, reported experiences with GMLRS during Operation Arrowhead Ripper. “We shot more than 100 GMLRS in support of 3-2 SBCT [3d Stryker BCT, 2d Infantry Division, attached to the 25th Infantry Division] in a two- to three-week period — a *magnificent* round.”

Aided by unmanned aerial vehicles (UAVs), combat observation lasing teams (COLTs), forward observers (FOs), joint terminal attack controllers (JTACs), and other detection assets, precision strike suite-special operations forces (PSS-SOF) software can be used to locate the target *precisely* enough to fire PGMs quickly. PSS-SOF has been incorporated into forward observer software (FOS) and rapidly determines three-dimensional grid coordinates accurately enough to employ PGMs against time-sensitive targets (TSTs) or targets in support of troops in contact.

Major Vantress commented in an e-mail, dated 17 December 2008, on the impact PGMs and PSS-SOF had on his task force operations during Operation Arrowhead Ripper, “For both PGMs, our biggest combat multiplier was PSS-SOF. Used in combination with UAVs and FOS, we cut down the delivery time immensely. We loaded PSS-SOF in all our fire support Stryker variants to allow the forward fire support teams to quickly gain fidelity from their observers. Simply put, GMLRS and Excalibur were our weapons of choice in the close urban fight. They saved countless lives ...while allowing us to maintain the momentum.”

This speaks not only to precision, but also to responsiveness.

Precision is the “coin of the realm” at the BCT and below. With Excalibur organic to BCTs, PGM allows small unit commanders to gain overmatch and a decisive advantage. In Operation Iraqi Freedom (OIF), MLRS or high-mobility artillery rocket system (HIMARS) “packages” have supported BCTs with GMLRS — also very responsively.

Minimum Collateral Damage

Precision munitions mean more than just accuracy of impact and effects on the intended target; PGMs provide precise effects with minimum collateral damage in the target areas. Commanders can safely employ Excalibur, GMLRS, and, beginning in FY12, PAM, in appropriate circumstances, close to troops in contact for immediate fire missions. These munitions reduce troop standoff distances, giving commanders options such as entering a building to collect time-sensitive intelligence just seconds after the building is engaged.

Colonel Lull, in an e-mail dated 18 November 2008, shares his experiences with employing Excalibur in Iraq, “We fired 17 Excalibur rounds for the 3-2 SBCT when it cleared Baqubah of insurgents in intense combat during Operation Arrowhead Ripper. In one mission, we fired Excalibur on a known enemy safe house. Although it did not level the building, it

killed everyone in the building without harming children who were playing outside in front of the house next door about 30 yards away. Excalibur is an *incredible* round. I called MNC-I and asked for every Excalibur round I could get my hands on.”

In his e-mail dated 16 December 2008, Brigadier General Stephen J. Townsend, commander, 3-2 SBCT, Operation Arrowhead Ripper, discusses employing GMLRS to detonate improvised explosive devices (IEDs) in Baqubah. The alternative was to uncover and destroy the deep-buried IEDs (DBIEDs) or house-borne IEDs (HBIEDs) with successive shots *manually* emplaced by an explosive ordnance disposal (EOD) team: “Our pre-assault intel proved quite accurate — that we faced up to 175 DBIEDs and also booby-trapped houses, or HBIEDs, in Baqubah. By the time we were done, we had recorded more than 200 emplaced IEDs inside the city and about 41 rigged houses.



"With Excalibur's pinpoint accuracy, I can put one round into the bad guys' exact location and take them out while causing minimum collateral damage and safeguarding the Afghan populace. Excalibur was exactly what we needed."



XM982 Excalibur. This is the first GPS-guided, inertial measurement unit (IMU)-aided weapon that can be fired from 155mm platforms, including the M109A6 Paladin, the M777A2 towed howitzer, and the FCS NLOS-C (FY17).

Excalibur is an extended-range (7.5 to 24 kilometers) unitary round that is all-weather, 24/7, and all-terrain that has been fired in testing and combat with an accuracy of within a six-meter radius of the target.

Excalibur has two special force-protection features: the round only arms itself when within 30 meters of its aimpoint — extra safety for rounds in close support of troops; and the round has a built-in test that exercises in flight. If it detects a problem, it goes into fail-safe mode and flies to a preplanned alternate ballistic impact point (BIP), but does not detonate.

Its 50-pound warhead has a highly concentrated and predictable fragmentation pattern, optimizing it for urban operations and minimizing collateral damage, allowing it to be employed within 170 meters of friendly troops in combat. Its nonballistic flight trajectory, which terminates in a near-vertical attack angle, along with its precision, produces concentrated lethality to the equivalent of the M107 high-explosive (HE) round.

By design, the XM982 can penetrate a four-inch reinforced concrete building and destroy the rooms inside without damaging the building's structure.

Its primary target sets are softer targets, artillery and mortar crews, vehicles, and command posts, although Excalibur has been employed successfully against other targets in support of coalition forces. In CENTCOM, Excalibur has been effective against improvised explosive devices, safe houses, mortar crews, footbridges, and other targets.

(At left, a 155mm M777A2 howitzer fires Excalibur PGM in Afghanistan.)

"We were desperate for a solution to the problem of DBIEDs — al-Qaeda had dug in an overlapping network of DBIEDs, the equivalent of a deliberate interlocking minefield in depth. Bottom line: GMLRS worked by neutralizing known and suspected DBIEDs and allowed us to maintain the momentum of our attack with minimum exposure to our force and minimum collateral damage to the Iraqi infrastructure."

Colonel Bruce P. Antonia, former commander, Task Force (TF) 5-20 IN, and his Sykes' Regulars fought in Baqubah three months before the remainder of 3-2 SBCT joined them in June 2008 for the final assault to clear the city. In an e-mail dated 17 December 2008, he describes his ability to shoot GMLRS faster than he could air-drop a bomb on HBIEDs, and the level of comfort they developed with GMLRS' accuracy and effectiveness, "We were in the midst of clearing a neighborhood when one of my companies came upon a confirmed HBIED. I was on the ground with the company commander when he requested GMLRS to attack the HBIED. Because there was direct-fire contact with the enemy, and I was extremely confident in my commanders and all my FSOs [fire support officers], I immediately agreed to the request. After they called in the

fire mission, I asked the company commander exactly where the target was — it was two houses to the west of the one we were standing in. The testament to GMLRS is that we called it in on a target 50 meters from our own location with great confidence."

The United Kingdom (UK) has modified 12 of its M270 MLRS launchers to employ GMLRS unitary in Afghanistan. In the past year, the UK has fired more than 300 GMLRS rockets in Afghanistan with the same 98 percent reliability as U.S. missions enjoy.

Coming Soon: Moving Target Attack

In 2012, PGMs will be organic to BCTs, which will add a long-needed capability, PAM, to attack *moving* targets — a global first.

This U.S. Army-Navy all-terrain, 24/7 missile has an effective range from 500 meters to 40 kilometers. Each of the 15 missiles per PAM container-launch unit (CLU) has an explosive shaped-charge warhead for armored targets with fragmentation for soft targets. PAM is designed to attack armored and lightly armored *moving* and stationary vehicles, small boats, and some bunkers with pinpoint accuracy. Causing minimum col-

lateral damage, it can be employed in urban/complex terrain less than 110 meters from friendly forces.

PAM's dual-mode seeker, the semi-active laser (SAL) and infrared (IR) heat seeker, can be used separately or in unison for precision target engagement after its GPS navigation has guided the missile to the target area.

Networked and platform-independent, PAM is a smart missile. It can acquire specific types of targets in flight and attack them, including moving targets. A missile flies along a nonballistic route to the target to avoid crowded airspace, receiving target location updates while in flight. Each missile transmits a picture of the target back to the control cell just prior to impact.

NLOS-LS completed nine tests in 2008, which have demonstrated its design and performance parameters. During November 2008, at White Sands Missile Range, New Mexico, PAM used its digital SAL seeker to score a direct hit against a T-72 tank from a range of nine kilometers; two days later, PAM demonstrated its SAL and IR seekers for another direct hit on a T-72, this time from 19 kilometers away.

The U.S. Army is considering an air defense application for this munition, which

has tested very well. The variant would fill the requirement to destroy low- and slow-moving UAV and rotary wing threats, protecting the future combat system (FCS) BCT, the future brigade combat team (FBCT), during counterinsurgency operations. No current organic capability protects the brigade from these threats.

The Current Fight

These PGMs are designed to provide commanders the flexibility to manage the precision effects to achieve desired results. Excalibur has a 50-pound warhead and GMLRS unitary has a 200-pound warhead, which can be employed against larger targets, yet both can be employed in close support of friendly troops. Note: PAM will have a 12-pound warhead and will also be employable in close support of troops.

Indirect-fire PGMs allow commanders to attack an enemy mortar crew setting up in downtown Kabul with Excalibur, producing minimum collateral damage, or destroy a two-story duplex with GMLRS unitary, leaving half of the duplex standing. To increase precision strike flexibility, the field artillery is developing “scalable lethality:” a future GMLRS “dial-an-effect” capability.

Commanders have the ability to fire Excalibur from as close as 7.5 kilometers

and GMLRS from as far away as 70-plus kilometers. The U.S. Marines in Iraq first gave GMLRS its now-famous title, “70-kilometer sniper rifle.” With the fielding of PAM, the missile can be fired from as close as 500 meters from its target.

Enhancements to Excalibur due in FY10 extend the round’s range to 35 kilometers on current firing platforms. When PAM comes into the inventory in FY12, commanders will have the ability to precisely attack moving targets from 40 kilometers away.

In the past two years, two operational needs statements from U.S. Central Command (CENTCOM) commanders called for a 120mm mortar PGM in theater, another precision strike option to fill a gap. A mortar PGM would be highly mobile, organic to maneuver battalions (therefore responsive), and reduce the system-to-target range while still maintaining a maximum range that ensures munition versatility.

Recently, an infantry brigade combat team (IBCT) fires battalion was tailored with attached M777A2s to provide a capability to deliver PGMs in Afghanistan. This organization, for the first time, provides the IBCT commander with the ability to deliver precision munitions without waiting on an external asset to deliver long-range precision.

LTC Michael P. Gabel, commander, 4-25 FAR, 10th Mountain Division, deployed to Afghanistan in late 2008. In an e-mail dated 9 December 2008, he wrote about tailoring his field artillery battalion to fire Excalibur, “My third BCT was in OEF [Operation Enduring Freedom] VI and VII. It was the first brigade in Afghanistan to have its rotation extended to 16 months. The good news is we brought back a lot of lessons; for example, the importance of range and firepower in that mountainous terrain.

“During OEF VI and VII, the artillery had to fire its M119 [105mm] howitzers at high angle with maximum charge to get the range required by the terrain. So for our 2009 rotation, we requested and got 12 [155mm] M777A2s — not only to increase our range and firepower, but also to improve our precision and limit collateral damage in urban operations with the Excalibur round.

“We reorganized into a multicable battalion with 12 triple sevens and kept four M119s for air assault operations. (I turned HHB [headquarters, headquarter battery] into an M119 platoon.) We shot 15,000 rounds under this organization in preparation for deployment. I think this multicable FA battalion organization may be the way to go — it gives maneuver commanders options. We’ll know better after we have been in Afghanistan for awhile.”



M31 GMLRS unitary. Fired by the M270A1 MLRS launcher and the M142 HIMARS, GMLRS unitary has been highly successful in Iraq and Afghanistan. It has a 200-pound preformed fragmentation warhead and a range of from 15 to 70 kilometers. To date, more than 1,000 IMU-guided, GPS-aided GMLRS have been fired in Iraq and Afghanistan since its initial limited 2005 fielding in Iraq. Many of these rockets were fired safely with impact within 200 meters of friendly troops.

Its original primary target sets are self-propelled and towed howitzers, logistics sites, command posts, and radars and other non-armored targets. In CENTCOM, it has been employed effectively in congested urban environments against concrete buildings or structures, intersections, DBIEDs, and HBIEDs.

Commanders can fire up to six rockets (five-second intervals) at six different aimpoints in the target area from MLRS or HIMARS. The launcher parks, lays, aims, and fires the rockets in as fast as five-second salvos, automatically programming each rocket to its coordinate.

At left, a MLRS fires a GMLRS unitary PGM rocket in Iraq.

These PGMs are not only all weather, but also all terrain, and effective in urban, complex, mountainous, or open terrain. Because of their near-vertical angle of attack, these weapons optimize lethality and minimize collateral damage. Reduced collateral damage permits their use and ability to deliver the desired effect within the rules of engagement (ROE) in some of the most complex terrain.

With Excalibur's non-ballistic trajectory, it is not limited to clear fields of fire or tied to gun-target lines — it can be fired up to 300 millimeters off the line, and will maneuver to hit whatever target the maneuver commander wants to hit.

U.S. Army and Air Force command systems can be automated to deconflict airspace faster and more accurately than before. The advanced FA tactical data system (AFATDS) now shares information through the battlefield coordination detachment (BCD) to Air Force systems to provide airspace information, enabling rapid coordination to deconflict flight routes in the vicinity of a PGM trajectory.

The lower the level of the tactical PGM's release authority, the faster its fires are cleared. When clearance and control of Excalibur is delegated down to the task force commander, "it is more responsive than CAS [close air support] or attack aviation," states Lieutenant Colonel Stephen J. Maranian, in an e-mail dated 11 November 2008, whose attached M777A2 battery (from 3d Battalion, 321st FA, 18th Fires Brigade) fired Excalibur. Maranian commanded 4th Battalion, 319th Airborne FA Regiment, 173d Airborne BCT (ABCT), Afghanistan, from the summer of 2007 until July 2008.

Colonel Charles A. Preysler, recent commander of the 173d ABCT in Afghanistan, said "[Excalibur] worked as advertised. . . . Once we understood the time required to fire the round, it became clear we needed to get permissions and authorities down to the battalion level."

Because the risk of collateral damage associated with these PGMs is smaller, PGMs, such as Excalibur and GMLRS, allow the commander to delegate release authority for entire categories of targets down the chain of command.

For large-scale precision, U.S. Air Force PGMs are brought to commanders by their FSO. In addition to the FA suite of PGMs, commanders have the option of air-delivered PGMs, such as the small-diameter bomb (SDB), with a 250-pound warhead, and the joint direct attack munition (JDAM), with options for 500-, 1,000-

and 2,000-pound warheads. These weapons are precise in their destruction of larger infrastructure or concentrations of enemy forces. The only aerial-delivered munition that equals the limited collateral damage estimates (CDEs) of Excalibur, GMLRS unitary, or PAM is the Hellfire missile.

Excalibur Lessons Learned

While GMLRS has been in the inventory and well appreciated for several years, Excalibur is relatively new and often unfamiliar to BCT commanders. In his e-mail of 11 November 2008, LTC Maranian further discusses several lessons he learned about Excalibur in Afghanistan, which have been echoed by other FA commanders, "We need to educate our maneuver counterparts that Excalibur is *not* Copperhead. Copperhead has left some 'scar tissue' with maneuver battalion commanders from their days as company commanders as they remember the cumbersome nature of that old PGM. Further, the default is that commanders want to fire two Excalibur rounds in case one fails. Needless to say, the task force FSOs and FSCOORDs [fire support coordinators] need to coach their maneuver commanders that while there are times when more than one Excalibur should be employed to achieve the desired effects, the reliability of this round far exceeds that of Copperhead, and we do not need to default to firing more than one round. Our experience was that Excalibur has an accuracy of within six meters of the target. With the right target selection standards and delegation of release authority to the task force level, Excalibur can provide reliable first-round accuracy for troops in contact when collateral damage must be minimized."

Other critical lessons, such as intelligence and precise target location, are paramount for employing PGMs effectively. Commanders must have the intelligence that the target is high-payoff and locate the target precisely or the PGM will attack a no-value target or the wrong location *precisely*. It is also important to know what Excalibur will and will not do — it will not level most buildings, but can destroy rooms inside a building while causing very little collateral damage. This munition is effective against softer targets.

Today, Excalibur and GMLRS provide BCT commanders all-weather, day and night responsive, precision strike capabilities on planned and unplanned targets in all terrain — PGMs that are organic to a brigade or readily available in the ground

force. In the near-future, PAM will bring an additional precision strike capability — attack moving targets — to the BCT. Together, they provide commanders precision effects and range options and reduce collateral damage and logistics burden.

The field artillery continues to work on future precision indirect fire as voiced by the current Chief of FA, Major General Vangjel, "As your fire supporters, we are totally committed to giving you the precision strike capabilities you need — we *won't* let you down."



Notes

¹Major General Peter Vangjel, "State of the Field Artillery 2007," *Fires*, September-December 2007, available online at sill-www.army.mil/firesbulletin.

²Interview with LTG Odierno, "2007 Surge of Ground Forces in Iraq — Risks, Challenges and Successes," *Fires*, March-April 2008.

Major General (Retired) David C. Ralston served as the chief of field artillery and commanding general of Fort Sill, OK, from August 2005 to September 2007 when he retired. During his tenure as chief of field artillery, he accelerated the fielding of guided multiple-launch rocket system (GMLRS) unitary and Excalibur in CENTCOM after combat commanders issued urgent needs statements for the munitions. He also served as director, Force Management, G3, the Pentagon, Washington, DC; assistant chief of staff for operations in Kosovo; and commander, 1st Cavalry Division Artillery, Fort Hood, TX. He earned an M.A. from Central Michigan University and was an Army senior service fellow at Harvard University. Currently, he is director of government liaison with Stanley Associates, and a partner in TDRS Consulting in Lawton, OK.

Patricia Slayden Hollis, until her retirement in late 2007, served as the editor of *Field Artillery* for 20 years and as the first editor of *Fires*. She has interviewed more than 80 senior U.S. and international military leaders, one of her most recent with (then) Lieutenant General Raymond T. Odierno, commander, Multinational Corps-Iraq, "2007 Surge of Ground Forces in Iraq — Risks, Challenges, and Successes," published in the March-April 2008 *Fires*. In 2006, she won the six-state Katie Award and statue from the Dallas Press Club for her interview with Lieutenant General John F. Sattler, U.S. Marine Corps, commander, U.S. and Coalition Forces during the "Second Battle of Fallujah — Urban Operations in a New Kind of War," published in the March-April 2006 *Field Artillery*, among other writing awards. She holds an M.A. from George Washington University.

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Taking Training to the Warfighter: Heavy Brigade Combat Team Tactical Leaders Course

by Patricia Talbort

Over the years, the U.S. Army Armor School consistently focused on providing individual training for initial entry soldiers, professional military education for leaders, and functional training to augment these programs of instruction. The Armor School recently received a directive from the U.S. Army Training and Doctrine Command (TRADOC) commanding general “to become more responsive to the operational force.” Simultaneous to this directive, the Armor School realized that heavy brigade combat teams (HBCTs) have no systemic mechanism to receive support from the schoolhouse.

As a result, the Training Development Division, Directorate of Training, Doctrine, and Combat Development-Experimentation (TDCD-E) developed a holistic HBCT training strategy to support the operational force. This strategy includes

updates to HBCT combined arms training strategies (CATS) and development of HBCT training support packages (TSPs) to address emerging core mission essential task lists (CMETL), as well as an HBCT gunnery mobile training team (MTT) to align with new gunnery doctrine. One of the cornerstones of this strategy is the design and development of the HBCT tactical leaders course (TLC).

As designed, the HBCT TLC has a flexible methodology of two 1-week MTTs that can be scheduled back-to-back or at different times during a unit’s reset/retrain cycle. The course has a tailorable menu of both a core curriculum and a series of elective topics. The HBCT TLC will include 16 hours of unit-specific core doctrinal updates; however, the remainder of the course is tailorable to the unit’s unique training needs.

The Training Development Division solicited input from U.S. Army Forces Command (FORSCOM) combat training centers (CTCs) and the operational force to identify key training gaps that can be remedied by the course. The HBCT TLC will address core capability and general mission essential tasks (CCMET/GMET), as well as garrison topics and crew evaluator/leader certification options. Courseware topics currently under development include training management, perform intelligence preparation of the battlefield (IPB), plan sustainment operations, and establish command post operations. The topics are geared to meet the training needs of various subsets and echelons of the HBCT, from brigade to squad level.

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The Name of the Game is Training: Leveraging Army Gaming to Improve Training

by Major David P. Shines

Computer games and game technology evolved at an incredible rate; in fact, gaming technology quickly grew into a \$9.5B industry in the United States alone. The popularity of technology primarily centers on entertainment; however, the U.S. Army has determined the advantages of leveraging the capabilities of computer games to educate and train its workforce. One of the most significant aspects of computer games is their ability to engage participants and maintain high levels of interest and attention. Studies show that computer games support an increase in a player's perceptual motor skills, such as hand-eye coordination, for quite some time.¹ Recent educational research concludes that specifically focused computer games can improve a player's overall problemsolving ability.²

History

Although the history of using games to train and educate the military is quite expansive, this article illustrates their use with a few highlights.

The history of using games for military training dates back to approximately 1000 BC, as the influential military commander and author Sun Tzu created a board game called *Wei Hai* and used it to train his subordinate commanders. This specifically designed playing board allowed players to maneuver armies (colored



"The first 'video game,' credited to William Higginbotham in 1958, used an oscilloscope for a display and was called 'Tennis for Two.' Created to impress other oscilloscope users (geeks), the significance of the game was not readily apparent."

stones) with the objective of outflanking their enemy.³ The first "video game," credited to William Higginbotham in 1958, used an oscilloscope for a display and was called *Tennis for Two*. Created to impress other oscilloscope users (geeks), the significance of the game was not readily apparent. Since most video games created during that time were hardware intensive and only understood by those in the computer field, the first commercial video games were not introduced until 1972 in the Magnavox Odyssey Console.⁴

Over the past 10 years, the Army has used several computer games with limited success. Games, such as *Battle Command 2010* and *Spearhead II*, were developed or modified and had a limited use in Army training; however, they did not endure, primarily because there was no central agency to manage games for the Army.⁵

Current TRADOC Strategy

In an effort to reduce the significant amount of resources put into independent

“...Virtual Battlespace 2 (VBS2) was selected as an Army gaming program of record with an enterprise license for use throughout the Army. This game, along with supporting hardware, is scheduled for fielding in the summer/fall 2009 time-frame. Fielding VBS2 will provide Army installations and schools the capability of providing game-based training venues for commanders and instructors to train units and individuals locally.”

game acquisition and redundant game integration work by different units at several locations across the Army, the U.S. Army Training and Doctrine Command (TRADOC) established TRADOC Capability Manager (TCM) Gaming in April 2008. “Gaming” is the term designated for the application of computer games to support military training and education. TCM Gaming is responsible for combat development activities, to include planning, managing, fielding, and integrating gaming technology into Armywide training.

TCM Gaming focuses on ensuring that gaming technologies used by soldiers and leaders adhere to Army standards for training environments and eliminates any duplication of effort for gaming initiatives and programs. They also manage the Army’s gaming requirements, and acquire games and required hardware resources for use Armywide.

On 19 December 2008, Program Executive Office for Simulation, Training, and Instrumentation (PEO-STRI) announced that *Virtual Battlespace 2 (VBS2)* was selected as an Army gaming program of record with an enterprise license for use throughout the Army. This game, along with supporting hardware, is scheduled for fielding in the summer/fall 2009 time-frame. Fielding *VBS2* will provide Army installations and schools the capability of providing game-based training venues for commanders and instructors to train units and individuals locally. *VBS2* enables users to load terrain data for expected areas of operation and tailor training scenarios to meet desired training objectives for the unit.

Game Integration at the Armor School

The Armor School considered a slightly different perspective on game integration and began with two questions: what types of skills or tasks are best supported by games; and what skill level will benefit the most from game integration? The answers to these two questions were revealed through analysis: cognitive tasks are best supported by game-based scenarios; and leaders, such as vehicle commanders, platoon leaders, and company commanders, gain the most benefit from game integration.



Cognitive tasks require leaders to think, analyze, process, make decisions, and/or issue orders, and are usually collective tasks. During the game integration process, we targeted leader cognitive tasks by immersing students in a tactical situation with visual and auditory stimulus, which created stress, while instructors monitored, coached, mentored, and facilitated discussion among the small group in the classroom.

The ability of games to engage the user appears to have many advantages over traditional training methods, such as ter-

rain board and written vignettes for practical exercises, in the small group classroom. By all means, do not replace the terrain board; rather augment traditional terrain board training with games. The terrain board is essential for individual understanding early in the learning process; game-based scenarios allow the learner to put several previously learned tasks together in a dynamic environment.

One major advantage of game-based scenarios over terrain board for practical exercise, under our concept, is that it engages the entire small group and not just



“The ability of games to engage the user appears to have many advantages over traditional training methods, such as terrain board and written vignettes for practical exercises, in the small group classroom. By all means, do not replace the terrain board; rather augment traditional terrain board training with games. The terrain board is essential for individual understanding early in the learning process; game-based scenarios allow the learner to put several previously learned tasks together in a dynamic environment.”

HBCT Tactical Leaders Course from Page 21

those at the terrain board. Current practical exercises on a terrain board in small group institutional instruction involves two students, out of a 16-student small group, standing at the terrain board taking prompts from an instructor, who describes the situation and then asks students for their action/decision. The 14 students not directly involved in the practical exercise are meant to observe and learn from the experience.

Compare this to a game-based scenario environment in which students not in positions to lead platoons, sections, or vehicles are gunners and drivers immersed in the situation and supporting the actions of leaders. Game-based scenarios for practical exercises are conducted like any other mission with the issuance of an operations order (OPORD), followed by troop leading procedures, rehearsals, and pre-combat checks. During a typical 2-hour exercise, only about one-third of the time is spent in the game environment.

The Armor School is currently using *DARWARS Ambush!*, a variation of a commercial off-the-shelf (COTS) game called "*Operation Flashpoint*," to support institutional training. *DARWARS Ambush!* was developed shortly after Operation Iraqi Freedom initially began and is a lessons-learned, game-based training environment developed under the Defense Advanced Research Projects Agency (DARPA) Training Superiority Program (DARWARS) and managed by the Office of Naval Research. *DARWARS Ambush!* is a computer-based training environment that enables squads to experience and respond to ambush situations.⁶ It has the capability to enable users to modify and create mission scenarios, to include adding systems, such as Abrams, Strykers, and Bradleys, or organizations up to company-sized units. These scenarios can support the practical exercise/training event.

The Armor School created 19 scenarios that support practical exercises for its programs of instruction, to include the 19D and 19K Advanced Leader Course (ALC) for recon/tank commanders, Maneuver-Senior Leader Course (M-SLC) for platoon sergeants, Armor Basic Officer Leaders Course III (BOLC III) for platoon leaders, Maneuver Captain Career Course (MCCC) for company/troop commanders, and the Army Reconnaissance Course (ARC). These scenarios are already incorporated into the 19D and 19K ALC, as well as the M-SLC. Beta testing is currently underway in the MCCC and ARC, as we discover new and innovative ways to use technology.

This course will evolve over time to retain its relevancy and several additional elective topics have been identified for future development. Based on the Armor School's work with this tailorable menu, the Infantry School has begun comparable work on similar courses for the Stryker brigade combat team (SBCT) and infantry brigade combat team (IBCT).

The HBCT TLC program of instruction has been approved by TRADOC for resourcing and implementation in FY10. Under this methodology, the commander will schedule the course through the Army Training Requirements and Resources System (ATRRS), with support from the Army training assistance team, approximately 6 months prior to training windows, although outside Continental United States (OCONUS) units may require longer lead time. The commander will tailor his training and identify his electives 90 days prior to course date. Using its MTT capability, the Armor School will send instructors to the unit; the unit will provide access to equipment and facilities.

The Training Development Division is seeking to identify a unit to volunteer for a pilot course during 3d or 4th Quarter FY09 prior to full implementation in FY10. If your unit is interested in volunteering to participate in a full 2-week pilot in FY09, please contact Patti Talbort at patricia.talbort@us.army.mil or Dr. Bob Bauer at robert.k.bauer@us.army.mil.



Patricia Talbort is currently serving as chief, Training Development Division, Directorate of Training, Doctrine, and Combat Development-Experimentation, U.S. Army Armor Center, Fort Knox, KY. She received a B.B.A. from the University of Kentucky, a M.E. from the University of Louisville, and has completed Ph.D. coursework from the University of Louisville. She has served in various positions, to include training analyst, Collective Training Directorate, Combined Arms Center-Training, Fort Leavenworth, KS; team chief, Quality Assurance Office, Fort Knox; instructional systems specialist, 1st Armored Training Brigade, Fort Knox; and training specialist, 16th Cavalry Regiment, Fort Knox.

Way Ahead

The Armor School continues to work on leveraging games for training and education and conduct analysis on current efforts underway to refine those efforts and develop new and better ways to use games. We are poised to fully use *VBS2* with its improved mission editor and much improved after-action review capability to enhance Armor School training for our leaders. The Armor School will receive the Army gaming tool kit as part of the TRADOC fielding, which consists of a 52-computer suite and enterprise license to use and develop *VBS2*. The Armor School is also programmed to participate in an empirical study of the effectiveness of our gaming efforts under the TRADOC Game Effectiveness Study. These findings will support analysis, design, and decisions for integrating gaming into other courses and methods of instruction such as distributed learning.



Notes

¹Robyn White, "Can Video Games Improve Learning, Motor Skills?," *Soundbyte*, Newsletter of the Department of Computer Science and Engineering, University of Minnesota, Fall-Winter 2007-2008.

²Susanne Jaeggi and Martin Buskuehl, "Improving Fluid Intelligence with Training on Working Memory," *Procedural Pa-*

per, Proceedings of the National Academy of Science of the United States of America, April 2008.

³Peter P. Perla, *The Art of Wargaming: A Guide for Professionals and Hobbyists*, United States Naval Institute, Annapolis, MD, March 1990.

⁴R. Blunt, "History of Game Project Management: from Engineer to Producer," ADL Webinar Series on Game Design, accessed online at http://www.dodgames.org/nuke/html/downloads/GPM_Week_1_History_of_Game_Project_Management.pdf#404.3, The First Video Games, 28 October 2008.

⁵Sandra I. Erwin, "Video Games Gaining Clout as Military Training Tools," *National Defense Magazine*, 1 November 2000; and D. Oliver, "Battle Command 2010," *Equipment, Training, and Simulation News*, 2003.

⁶*DARWARS Ambush* Website, Description of *DARWARS Ambush!*, accessed online at <http://ambush.darwars.net>, 28 October 2008.

Major David Shines is currently serving as deputy chief, Training Development Division, Directorate of Training, Doctrine, and Combat Development-Experimentation, U.S. Army Armor Center, Fort Knox, KY. He received a B.S. from the University of Louisville and a M.S. from Baker College. His military education includes the U.S. Army Command and General Staff College, Combined Arms and Services Staff School, Armor Captain Career Course, and Armor Officer Basic Course. He has served in various command and staff positions, to include policy analyst, J5, U.S. Central Command; S3, 2d Squadron, 16th Cavalry, Fort Knox; assistant S4, 3d Brigade, 3d Infantry Division, Vilseck, Germany; S3, 1st Battalion, 81st Armor, 1st Armored Training Brigade, Fort Knox; and tank platoon leader, A Troop, 2d Squadron, 10th Cavalry, Fort Knox.

LETTERS

continued from Page 4

instead of an exploding warhead. This is silly. So you toss a "bullet" 250 nautical miles, to what effect? You can't hit anything but an area target, and without an explosive warhead, there's no target effect.

During the Yom Kippur War in 1973, I watched on TV and read in newspapers stories of Israeli M60A1 tanks running up onto a berm for super elevation, lobbing 105mm APDS "sabot" rounds at Damascus. The media blared, "IDF Shells Damascus," but it was strictly hype.

The problem is rather straightforward. No fuse can reliably survive the high firing impulse, and the bullet's mass must be kept to a minimum to achieve velocity (and reduce recoil). Hence, only a light solid slug can be fired. What the authors claim to be a "benefit" is actually a liability, reminiscent of British tanks in 1940. Their primary "2-pounder" 40mm cannon was strictly an antitank weapon, as it had no high-explosive (HE) capability, making it ineffective against infantry and other "soft-skinned" targets. Hence, British tank formations had accompanying "close support" tanks with low-velocity HE guns, which, in turn, were ineffective against tanks.

As far as "lethality setting" capability goes, the authors lost me. A "low-velocity" solid projectile is essentially a "thrown rock." If it is launched slowly, it simply falls to the ground. If you want to hit a target, but do not want to pass through it and beyond, you had better lob it high like a softball. But remember that this is a tiny slug to begin with; you'd be better off using a mortar.

Finally, the idea of using electric power generation capability for logistics and civil support is nothing but "bait and switch." Hawking a technology concept that has, after a full century, failed to produce a workable weapon, the authors now wish to sell a "mobile electric power generator."

In their conclusion, the authors patronize the reader, "Throughout military history, there have been revolutionary designs in the machines of warfare." I appreciate the authors' enthusiasm, but the railgun is not such a "machine." The technology is simply not ready; not even close.

Personally, I contend that the focus on hypervelocity is misguided. I suggest something more akin to Heinlein's, but on a small scale. Develop an electromagnetic "mortar" to lob conventional explosive projectiles at conventional velocities and ranges. This has the benefit of eliminating propellant and, as a "first step," might achieve a functional concept demonstrator with immediate tactical application.

Forge the Thunderbolt!

CHESTER A. KOJRO
LTC, U.S. Army (Retired)

Writing for *ARMOR*

We appreciate your interest in writing for *ARMOR*, the oldest of the Army's professional journals, with a history that began with the frontier horse cavalry in 1888. Today, *ARMOR* is the professional journal of the Armor and Cavalry force, published bimonthly by the Chief of Armor at Fort Knox, Ky.

The journal's focus is the Armor and Cavalry soldier up to the battalion and brigade levels. Our articles discuss the training, equipping, employment, and leadership of mounted soldiers, and the historical background of mounted warfare.

ARMOR articles seldom reflect the Army's official position, nor is the journal's purpose dissemination of doctrine or command information. As the chief proponent for Armor and Cavalry units in the Army, the Chief of Armor is charged with sensing feedback from the soldiers under his proponenty, and *ARMOR* is a forum that meets this requirement.

Your Submission: Articles can be submitted in a number of ways:

- Most articles are sent as e-mail attachments to:

knox.armormag@conus.army.mil

- Articles can also be submitted on CD or floppy disk with a double-spaced hard copy to ensure that the complete file is included. Mail to *ARMOR* Magazine, ATTN: ATZK-DAS-A, Building 1109A, 201 6th Avenue, Suite 373, Fort Knox, KY 40121-5721.

If you have additional submission questions, please send them to the e-mail address above or phone Christy Bourgeois at DSN 464-4582 or COM (502) 624-4582.

Artwork: Photos and useful graphics greatly increase the number of readers attracted to an article. Even simple snapshots are adequate to help readers understand a situation, and can also be used as a basis for drawings by *ARMOR*'s artist.

When using PowerPoint to produce maps or illustrations, please try to minimize shading. (We seldom use the illustrations full size and shading becomes blotchy when reduced. Keep graphics as simple as possible. It is easier for us to add any shading desired during the publication process than to modify your efforts.) We can accept electronic photo files in most formats, but prefer 300 dpi TIF or JPG files.

If you have any questions concerning electronic art submissions, call Vivian Oertle at DSN 464-2610 or COM (502) 624-2610.

Article Length: We do not set an upper limit on length; however, an ideal length is 13 manuscript (double-spaced) pages or less. We have made exceptions; we will probably make others. But that's a good rule of thumb. We try to avoid multipart articles because of the two-month interval between issues.

Electronic Formats: Our standard word processing format is Microsoft Word, but conversion programs allow us to accommodate most popular formats. Please indicate word processing format on CD, disk, or cover letter.

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ARMOR is due at the printer about three weeks before it is mailed to units, and work on each issue usually begins about seven weeks prior to mailing.

Please refer to the table below for submissions:

<u>Issue Date</u>	<u>Submission Deadline</u>
January-February	1 November
March-April	1 January
May-June	1 March
July-August	1 May
September-October	1 July
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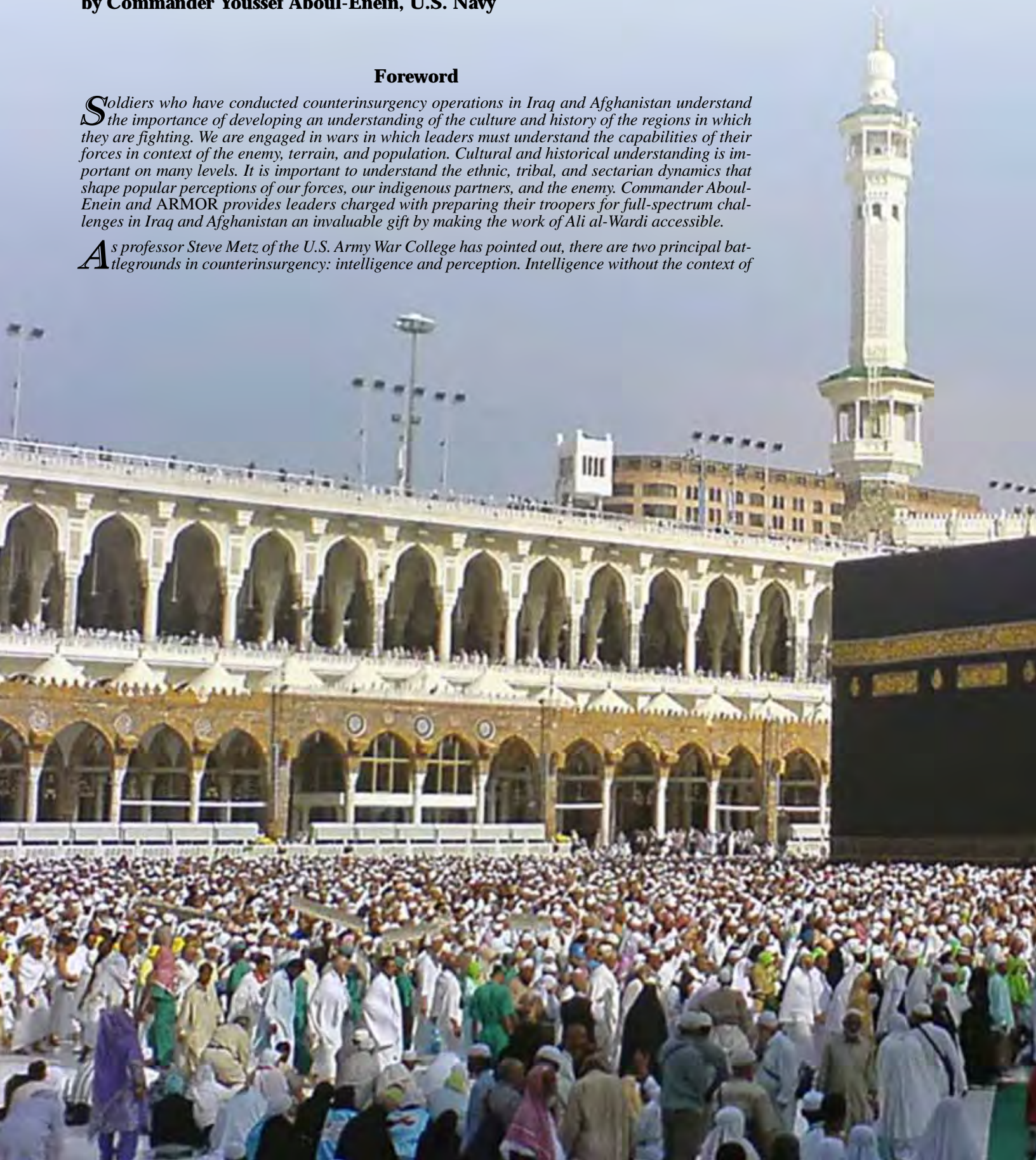
Highlighting the Most Significant Work of

by **Commander Youssef Aboul-Enein, U.S. Navy**

Foreword

Soldiers who have conducted counterinsurgency operations in Iraq and Afghanistan understand the importance of developing an understanding of the culture and history of the regions in which they are fighting. We are engaged in wars in which leaders must understand the capabilities of their forces in context of the enemy, terrain, and population. Cultural and historical understanding is important on many levels. It is important to understand the ethnic, tribal, and sectarian dynamics that shape popular perceptions of our forces, our indigenous partners, and the enemy. Commander Aboul-Enein and ARMOR provides leaders charged with preparing their troopers for full-spectrum challenges in Iraq and Afghanistan an invaluable gift by making the work of Ali al-Wardi accessible.

As professor Steve Metz of the U.S. Army War College has pointed out, there are two principal battlegrounds in counterinsurgency: intelligence and perception. Intelligence without the context of

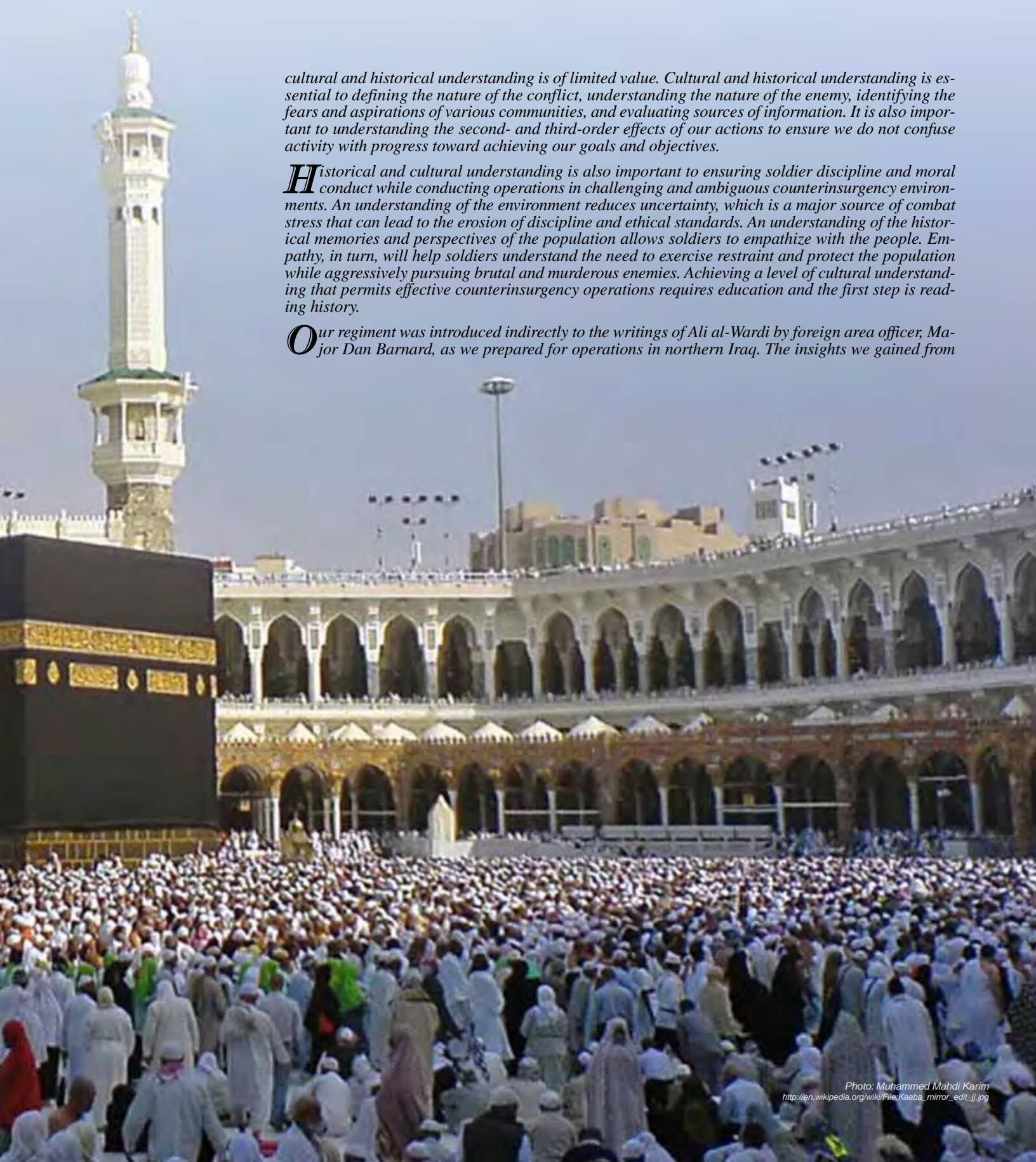


Iraq's Social, Political, and Military History

cultural and historical understanding is of limited value. Cultural and historical understanding is essential to defining the nature of the conflict, understanding the nature of the enemy, identifying the fears and aspirations of various communities, and evaluating sources of information. It is also important to understanding the second- and third-order effects of our actions to ensure we do not confuse activity with progress toward achieving our goals and objectives.

***H**istorical and cultural understanding is also important to ensuring soldier discipline and moral conduct while conducting operations in challenging and ambiguous counterinsurgency environments. An understanding of the environment reduces uncertainty, which is a major source of combat stress that can lead to the erosion of discipline and ethical standards. An understanding of the historical memories and perspectives of the population allows soldiers to empathize with the people. Empathy, in turn, will help soldiers understand the need to exercise restraint and protect the population while aggressively pursuing brutal and murderous enemies. Achieving a level of cultural understanding that permits effective counterinsurgency operations requires education and the first step is reading history.*

***O**ur regiment was introduced indirectly to the writings of Ali al-Wardi by foreign area officer, Major Dan Barnard, as we prepared for operations in northern Iraq. The insights we gained from*



Major Barnard's summaries of the work's themes, further informed and qualified by his research on Iraq, helped lay a foundation for understanding the enemy and the various cultural and historical dynamics with which our troops and Iraqi partners would interact. This series of high-quality articles in one of our Nation's premier professional military journals will be of urgent interest to any soldier serving in Iraq and will also prove invaluable to foreign area officers and others serving in the Middle East.

On the surface, al-Wardi's 1969 work, "Social Aspects of Iraqi Modern History," appears to offer a comprehensive and detailed Iraqi history through the early 20th century, culminating with the 1920 insurrection against British occupation and the formation of the Iraqi monarchy.¹ This history is, in itself, relevant to our troops and leaders. Perhaps most importantly, al-Wardi's writings shed light on how groups within Iraq have used historical narratives to construct their contemporary identities.

A basic understanding of how modern Iraqis perceive themselves is critical to understanding the operational and tactical environments in which we are operating. Al-Wardi provides a window into the stories and legends that shaped the fragmented identities of modern Iraq; stories and legends that expose a broad array of jealousies, mistrust, and revenge for ancient grievances. Al-Wardi attempts to distill the social psychology of these various groups through sweeping discussions of the Iraqi character, especially the dichotomy between tribe and town, as well as the roles and reputations of the Sunni and Shia communities and their influential ulama (Islamic scholars). These characterizations illuminate the contested identity of the Iraqi population. Millennia of urban culture is in constant interaction and tension with the tribes of the desert. Smaller rivalries between tribes operate within grand clashes between two empires: the Sunni Ottoman Empire and the Shia and Persian Safavid Empire. Al-Wardi's history is not dry and antiquarian; modern readers with experience in Iraq will find deeply relevant the

social fissures created by wars that left behind an inheritance of sectarian, ethnic, and tribal divisions. The suspicions, prejudices, and doubts of today, al-Wardi shows, are rooted in perceived sins of the past.

The narratives within al-Wardi's multivolume opus include stereotypic profiles of a cast of Iraqi characters, ranging from the Sunni Bedouin tribesman of the western desert, to the agrarian and commercial riverine townsmen, to the Shia Mujtahids of the holy shrine cities. These narratives and profiles help educate Americans on the iconic and legendary past of Iraq. Although historians might argue the details of his accounts and sociologists might challenge his portrayals of the various communities, al-Wardi remains valuable in understanding a commonly held sense of Iraq's historical memory today.

Soldiers and leaders should keep in mind that Iraqi historical symbolism can be used for good or ill. Images of a shared Iraqi past can help bind together a fragile nation as the post-Saddam state develops. However, that same history can also be abused to stir up dormant hatreds and promote division. Ancient Shia grievances against Sunni Ottoman massacres and misgovernment can fan a sense of revenge and exclusion of Sunnis today. Historical Sunni anger over Safavid Iran's influence or fears of Shia theocratic abuses can help motivate Sunni rejection of the Shia majority Iraqi government. Narrower grievances against Kurds, Turkmen, or any of the other smaller Iraqi minority communities, can also be extracted from al-Wardi's history, and further aggravate modern-day conflicts. Even micro-conflicts based in tribal vendetta or town suspicion of the Bedouin can find ample historical basis. By comprehensively educating soldiers about the full context of Iraqi history, reading al-Wardi helps leaders, alongside their Iraqi partners, begin to understand and counter specious claims of various extremist leaders and organizations.

Reading al-Wardi might also help combat common fallacies, including broad generalizations about "Arabs" or "Iraqi

Part 1 of the *ARMOR* Series:

The Multivolume Collection of Dr. Ali

ARMOR is pleased to offer a unique collection of essays highlighting Iraq's social, political, and military history. Dr. Ali al-Wardi (1913-1995, hereafter referred to as Wardi) attended the American University of Beirut in 1943. Following graduation from American University, he traveled to the United States to attain his master's and doctorate degrees in Sociology at the University of Texas in 1948 and 1950, respectively. He would return to Iraq and spend a career teaching; however, his main legacy is a multivolume work in Arabic that he began in the late 1950s and completed in 1969. It highlights the history of Iraq from the arrival of the Ottomans to the monarchy of King Faisal I in 1925. The series is entitled, "Social Aspects of Iraqi Modern History," and was initially published by Baghdad publishers, and Alwarrak Publishing of London released a new edition of the volume in 2007.

This is an extraordinary work, which I was first drawn to by a Special Operations Forces unit serving in Mosul. The unit detained a major religious figure leader for al-Qaeda in Iraq in western Mosul who used the Wardi volumes of Iraqi history to incite the population against coalition forces. The detainee mentioned these volumes as a required source to prey upon the imagery of Iraq's history with the Shiites, Sunnis, Kurds, Wahabis,

and Persians. Upon getting this tip and a few pages of the volume, I acquired a set from the Library of Congress Middle East Reading Room and set about reading the materials. I uncovered a treasure trove of historical information vital to the understanding of Iraq and its relationship with Arabia, Syria, Egypt, and Iran, as well as the internal relationship between the tribes and the great regional powers; in particular, the Ottomans and Persians.

This is the first in a series of review essays featured in *ARMOR* highlighting the most important aspects of Wardi's work. Volume one, the subject of this essay, takes readers from the start of the Ottoman period to the mid-19th century. Pages reveal the history of Iraq, Persia, Shiite Islam, Sunni Islam, Ottoman Turkey, and much more. Readers may recognize some of the stories in this work as being recounted by local nationals in Iraq; probably from their points of view or passed down between tribal generations. If so, add your voice by writing your recollections and experiences and sending them to *ARMOR* for potential publication.

Early Shiism in Persia

We cannot understand Iraq without delving into the early history of Shiism in Persia. After the death of Prophet Mu-

is,” particularly those fueled by the recent fascination with T.E. Lawrence’s pithy axioms for dealing with “Arabs.” Al-Wardi is a useful antidote to these broad racial assumptions with his more nuanced description of the social cleavages between regions, towns, tribes, and ethnicities. Counterinsurgency in Iraq has proven to its many veterans to be a very local mission that demands a nuanced understanding of unique and shifting conditions. Understanding the seams of resentments and accusations of the factions within a town, or even within a neighborhood, is a key to effective operations. Al-Wardi is an excellent resource for soldiers to begin to gain an understanding necessary for success in the complex tactical environments of Iraq.

Another valuable perspective that al-Wardi provides Western readers is an understanding of popular perceptions of foreign invaders in mainstream Iraqi culture. Depictions of foreign rule, be it Ottoman, Safavid, or British, accompanied by lurid tales of humiliation and oppression at the hands of the armies of occupation, are recurring themes in al-Wardi’s histories and in the popular consciousness of Iraq. Al-Wardi devotes hundreds of pages, in particular, to the violent tribal uprising in 1920 against British occupation forces (under the League of Nations Mandate) that irrevocably altered the British project in Mesopotamia. Al-Wardi’s narrative highlights the importance of clarifying our intentions and building relationships with the population based on a clear communication of intentions and respect.

Regardless of disagreements among historians regarding the actual facts of the revolt, the heroic narrative related by al-Wardi is significant to American soldiers. In this popular portrayal of the revolt, tribal leaders rebel against the arrogant and insulting British occupation, asserting their sovereignty through a tribal call to arms strengthened by jihad. Despite the actual military failure of the rebellion, this legendary version of the revolt, as taught in Baathist schoolbooks, depicts the British being thrown out through the brave and bold action of valiant Iraqi

tribesmen. The symbolism of this revolt remained so lasting and powerful that Saddam Hussein showed a film depicting the 1920 revolt on the eve of the American invasion in 2003.

Since the beginning of the American occupation, the revolt has remained an open symbol of nationalism and a violent rejection of “foreign rule” among current insurgents, ranging from Shia clerics, invoking the “sons of the 1920 revolt,” to Sunni insurgent groups naming themselves “the 1920 revolution brigades.” The value to the soldier is an understanding of how some insurgent and militia organizations today cloak themselves in this patriotic symbolism and see themselves as nationalists. The silver lining to the dark cloud of insurgent violence is that appeals to patriotism, no matter how misguided, imply a loyalty to the Iraqi nation. Hence, as with many members of the current Sunni “awakening,” former insurgents who see themselves as nationalists can be persuaded to cooperate with a sovereign Iraqi government, and with our forces, if they understand our desire to help them build a strong Iraqi state. In sharp opposition are the nihilists: the apocalyptic takfiri extremists (of either Sunni or Shia variety) who cannot countenance cooperation with any representative government.

Iraq today is not a mirror of the past. It is not composed of the same Bedouin tribes as the time of the Islamic conquests. Nor is Iran reprising a role from the ancient Ottoman-Safavid conflict. Nor are American soldiers and coalition partners walking in the imperial footsteps of the British mandate. Iraq is not even the revolutionary country of the 1950s and 1960s, awash in Arab nationalism and Baathist ideology, during which al-Wardi was writing. However, modern Iraqis do have powerful, if fragmentary, memories and cultural associations of all of that history, and al-Wardi is an excellent place for students of Iraq to begin their studies. I am indebted to Major Dan Barnard for his assistance with this Foreword.

— Colonel H. R. McMaster, U.S. Army

al-Wardi

hammad in 632 CE, a schism developed between Muslims over succession. This dispute digressed into two major civil wars and a religious schism between Shiat Ali (the Party of Ali), the Shiites, and the majority of Muslims, who believed that succession was not based solely on the hereditary rule of Prophet Muhammad. Shiites have held that Ali and the Prophet’s family have been denied their rightful place as leaders of Muslims. Another name for Shiites, is “*ahl al-bayt*” (followers of Muhammad’s house) while Sunnis are commonly referred to as the “*ahl al-sunna*” (followers of Muhammad’s path).

Persia (modern-day Iran) was primarily Sunni and remained so until 16th century CE. Muslims did not enter in mass into Shiism until the arrival of the Safavid Dynasty in 1501. Before the Safavids, Shiites lived in Nishapur and

“We cannot understand Iraq without delving into the early history of Shiism in Persia. After the death of Prophet Muhammad in 632 CE, a schism developed between Muslims over succession. This dispute digressed into two major civil wars and a religious schism between Shiat Ali (the Party of Ali), the Shiites, and the majority of Muslims, who believed that succession was not based solely on the hereditary rule of Prophet Muhammad.”

“Muhammad Preaching,” by Grigory Gagarin.



Qom, with a few minority Shiite clusters in Isfahan, Shiraz, Tabriz, and Khorasan. The gradual transition of Iran into a Shiite nation had a profound impact on Iraq, since most of the Shiite holy sites resided in Iraq. Over the course of hundreds of years, Iraq would evolve into a Shiite Arab majority dependent on Persian Shiite clergy. This dynamic may change in the wake of Operation Iraqi Freedom as more Arab Shiites take control of their own affairs — a scenario that is being watched and managed by Iran.

One of the main schisms between Sunnis and Shiites is over the concept of *shafaa* (intercession), which is a general belief on the use of the *sahaba* (the Prophet Muhammad's companions) as intercessors between themselves and God. The practice is frowned on by Sunni Muslim purists, who believe there are no intercessors between humankind and God. Over the course of early Islamic history, some clerics began to rank order intercessors based on their closeness to the Prophet Muhammad. Some Muslims began to view the caliphate based on a person's lineage (to intercede in the hereafter) rather than on competent or consensus governance. This formed an essential element of what would evolve into the Shiite view of Ali's absolute requirement to succeed Muhammad, and the evolution of the twelve imams from the *ahl al-bayt* as intercessors. Sunnis reject these



"The earliest forms of marching to the beat of drums, the integration of cannon and infantry would be realized by the Janissary corps. Established in 1326, Orkhan (Orhan), one of the founders of the Ottoman dynasty, who succeeded the founder Osman I, founded an army made up of non-Muslim, mainly Christian slaves, captured from youth and educated in Islam arts and warfare. Their loyalty was to the sultan only."

notions as blasphemous innovations that detract from the worship of God.

The Janissaries

Wardi devotes several sections of the book on the evolution of the Janissary corps, which led to a revolution in military affairs that did much to expand the Ottoman Empire in its early stages. The earliest forms of marching to the beat of drums, the integration of cannon and infantry would be realized by the Janissary corps. Established in 1326, Orkhan (Orhan), one of the founders of the Ottoman dynasty, who succeeded the founder Osman I, founded an army made up of non-Muslim, mainly Christian slaves, captured from youth and educated in Islam arts and warfare. Their loyalty was to the sultan only.

Sheikh Bektash, a cleric from Khorasan (modern-day Tajikistan and Afghanistan), with a reputation for piety, was invited by the sultan to minister to this innovative military formation. Sheikh Bektash named the formation "*Yeni Char*" (meaning new army), *Inkishari* in Arabic, and Janissary in English. He served as a figurehead for the Janissaries and was called "father" by those the public coined the "boys of Hajj Bektash." Sheikh Bektash assigned a cleric to each battalion. Over time, ranks were assigned based on the kitchen mess, as Janissaries believed they were eating from the dining table of the sultan. Today in Iraq, these ranks remain in last names such as the Jarbashi family, which comes from the *Jarbashi* (kettle holder) Pasha, a senior rank in the early Janissaries. The Bektashi order of Sufism is a Shiite order and initially the concept of rejecting and even insulting the first three caliphs, Abu Bakr, Umar, and Uthman. The Bektashi order was eventually compelled to alter its Shiite views. Today, the order is a Sunni Sufi order. The Janissaries' appetite for the conscription of Christian children drove some of the expansion of the early Ottoman period into the Balkans. Major victories of the Ottomans were the defeat of Tamerlane in 1402 and the capture in 1453 of Constantinople with 250,000 troops, 180 warships, and cannon for the first time in written record.

Safavids began as an obscure Sufi order in what is now Iranian Azerbaijan, the order was known as "Qizilbashi," which meant "redheads," termed for the headdresses they wore with twelve red cockades in memory of the twelve imams. Ismail began his own movement of Qizilbash warriors that conquered the Caucasus, Persia, and portions of Iraq. In 1508, Ismail crowned himself shah, and brought order in the eyes of Baghdad residents. After visiting the tombs of Hussein and Ali, he refurbished Shiite holy sites and ordered the demolition of the tomb of Abu Hanifa, the founder of the Hanafi School of Sunni Islam and considered a holy site by Sunnis. Ismail I would be the first of several Safavid Kings of Persia, a dynasty that lasted until 1760, and would propagate Shiism in Persia, north Afghanistan, India, and Iraq. Ismail would retain Baghdad until 1512, at which time he was attacked by Ottoman forces under Sultan Selim I (the Grim). Selim elicited a fatwa (religious opinion) from Ottoman clerics sanctioning the killing of Shiites as apostates, which began a round of Shiite purges. Selim I tasked a special security apparatus to eliminate 70,000 Shiites, of which 30,000 were jailed and 40,000 were killed.

In 1514, the Ottomans defeated the Safavids in the Battle of Chaldiran. The Janissaries refused to press the route of Safavid forces for lack of supplies and appropriate clothing for the winter. Selim was livid and had Janissary leaders executed for not pressing the attack. Baghdad, Karbala, and what is now modern-day Iraq fell, along with Tabriz, in what is now Iran.

In 1516, Ottoman cannons swept away the Mamelukes in Syria. Next, the Ottomans crossed the Sinai, taking Egypt in 1517, and defeating the remaining Mamelukes in Cairo. Touman Bey,

leader of the Mamelukes, was hung from Bab Zuweila, one of Cairo's gates. Muhammad al-Mutawakkil, whose lineage traces back to the Abbasid Caliphs, was located in Cairo. The Ottomans, and Selim, in particular, sought al-Mutawakkil to recover the mantle of Prophet Muhammad and his sword, along with the keys to the Kaaba, the house built to God by Prophet Abraham in Mecca. Mutawakkil then transferred power to Selim and made him caliph and commander of the faithful in 1517, a title the Ottomans would keep until 1924. However, when Selim took the mantle of caliph, some clerics argued that the caliph must come from Prophet Muhammad's lineage.

In 1524, Ismail I, the Safavid founder died, and his son, Tahmasap I, reigned from 1524 to 1576. He was 10 years old, and his Ottoman counterpart was Suleiman the Magnificent, who sent the young shah a congratulatory note, while simultaneously preparing for war. Alarmed by the Ottoman preparations, the Safavids wrote to the Hungarian monarch seeking a common alliance against the Ottomans. Word of this secret correspondence between the Shiite Safavids and Christian Hungarians leaked, and Suleiman responded by condemning all Persians currently held captive. The Ottoman armies drove toward Tabriz despite the cold weather that caused them to drift south toward Baghdad. Aside from Ottoman infantry and cavalry, they integrated cannons for the first time in combat. This was the Persian's first experience with cannons; fortunately for them, this experience proved successful. Safavid forces retreated and left Baghdad exposed and open for the taking. The Ottoman conquest of Baghdad occurred in December 1534, and Suleiman forbade looting and pillaging since the city surrendered without a fight.

Suleiman visited Shiite holy sites, ordering the renovations started by Shah Ismail I, his foe, to be completed. He continued the stipends for clerics who serviced these tombs and improved on the Husseinayah Canal to bring fresh water from the Euphrates into Karbala, the site of Hussein's massacre in 670 CE. He also rebuilt the Sunni shrine of the tomb of Abu Hanifa, which was demolished by Shah Ismail in his conquest of Baghdad in 1512. Suleiman established baths and markets and built the Baghdad citadel, garrisoning it with 150 troops and one of his large cannons. The cannon would assume a mythological status among Baghdad's residents.

Shah Ismail I made it a point to publicly disavow and insult the first three caliphs (Abu Bakr, Omar, and Uthman), which was uncomfortable for many Muslims of the period as it is today among Sunnis and a few Shiites. The three were Prophet Muhammad's closest companions and intermarriage preserved and expanded the infant Islamic society after Muhammad's death; they were also a source of many of Muhammad's sayings, and among Sunnis, were one of the ten blessed to go immediately to paradise.

Shah Ismail began the campaign to impose Shiism on Persia, changing the character of Iran and impacting the region with an increase in Shiite converts, both forced and through actual belief. The significance of Iraq as the spiritual epicenter of Shiism continued to grow due primarily to the majority of the twelve imams buried there, which include perhaps the two most important, Ali and his son, Hussein. Hurling insults at the three caliphs (whom Shiites believe usurped the caliphate from Ali) became a test of loyalty for Shah Ismail when dealing with the Persians. If he detected hesitation, the "infidel" would be killed. He then ordered the public reading of insults of the three caliphs in markets, mosques, and streets, as a means not only of affirming this new state doctrine, but more importantly to detect dissenters for liquidation. Wardi uses the example of Galileo's repudiation of his celestial theories before the inquisition, where Galileo repudiated his lifetime work in astronomy to save him-



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self from the inquisition. The author compares this to famous Sunni cleric, Shams al-Deen al-Jafari, who was compelled to repudiate the three caliphs to save himself from persecution.

Shah Ismail was the first to organize the public morning rituals commemorating the martyrdom of Hussein, which is now known as "Ashoura," and falls on the tenth day of Muharram. The first Ashoura rituals were conducted among the Buyyids around 1055 CE without much fanfare and were subsequently neglected. The rituals were not considered a normal practice in Baghdad at that time. Shah Ismail revived the practice after 500 years of neglect and added the *taziyyah* (passion plays) rituals to give it both a somber and carnival-like atmosphere to affect the emotions of his subjects, encouraging them to convert more Sunnis, Zoroastrians, and Sufis to Shiism. Another innovation of Islamic practice ordered by Shah Ismail was adding the phrase, "Ali is the friend of God," at the end of the prayer call, which continues to stir debate among Shiites today.

Shiism Takes a Formalized Structure in Persia

Shah Ismail died in 1524 at the age of 38. The new shah, Tahmasap I, only 10 years old, was of the belief that he could not combine the functions of leader of the faith and the Safavid state, so he delegated this responsibility to the *fuqaha* (clergy). The new shah and his ministers enticed a known cleric from Baalbek (in modern day Lebanon), Sheikh Ali al-Karkhi, to manage the Safavid Empire's religious affairs. The cleric would travel from Baalbek to Qazwain, the first capital of the Safavid Empire, to meet the shah and his advisors. The shah then issued a *firman* (decree) to be distributed throughout the empire that Sheikh Ali was the deputy to the Hidden Imam, and that he is to be obeyed.

Some Arab and Persian historians, including Wardi, consider Sheikh Ali not only the first state-sponsored spiritual leader in Shiism, but, in effect, the actual ruler of the Safavid Empire. Sheikh Ali would affirm and make the Twelver Shiism and the Shiite Jafari School of Islam the official religion of the empire. He began to enforce morality, organize the clergy, and appoint every cleric in every town and village to teach his approved doctrine. There would be dissent on Sheikh Ali's power, not only

from Sunnis and non-Islamic faiths present in Persia, but from Shiites. Sheikh Ibrahim Qutaifi, a senior Shiite cleric, argued that any government that does not have the missing Imam (Muhammad al-Mahdi), who went into occultation in 939 CE, as its head is an oppressive and imperfect regime. Clergy have no place in any government.

The shah attempted to entice Qutaifi with gifts, and when he rejected the gifts, Sheikh Ali chastised him. The reply from Qutaifi was scathing, comparing Sheikh Ali to the third Imam Hassan, who accepted bribes from Muawiyah in return for Hassan, the older son of Ali, renouncing the caliphate. Sheikh Ali would marginalize this lone voice among the Shiite clergy, but this argument gained momentum and split the Shiite clergy, a split that has endured into present day. Sheikh Ali reinstated the Friday prayers, which were long considered by Shiites as optional or not observed because they were conducted by an oppressive state without the missing imam as its head. He issued propaganda that the shah's government was just and communal prayers are now mandatory. One of the Safavid Shiite clerics, Sheikh Hussein Abdel-Samad, settled in Bahrain and introduced the twelve version of Shiism on the island.

Shah Abbas I (The Great)

In 1588, Shah Abbas I assumed the Safavid throne. He was 17, and during his reign, he would face threats from the west, the Ottomans, the east, and the Uzbek tribes. The Uzbeks had taken over Heart following a 9-month siege. They captured the Imam Rida Mosque, looting its treasures, and eventually occupied most of Khorasan (modern day Tajikistan, Uzbekistan, and northern Afghanistan). Shah Abbas made a truce with the Ottomans in 1590 and turned his attention to the Uzbeks. Agreements with the Turks included relinquishing Azerbaijan, Georgia, and halting the public damnations of the three caliphs. This was not an auspicious start, but a smart move, as Abbas could not conduct a two-front war, and he would finally defeat the Uzbeks in 1597. The defeat of the Uzbeks thus began the golden age of Abbas. He moved his capital from Qazwain to Isfahan, where he built the famous blue-tiled domed mosque and made the new city the envy of the region.

In 1602, Abbas began raids on Ottoman territories, retaking Tabriz, and for the first time, equipping the Safavid armies with cannons. By 1623, he had retaken Baghdad following a 3-month siege, and like his predecessor Ismail I, destroyed the Sunni tomb of Abu Hanifa. Abbas inaugurated his arrival in Baghdad with a Sunni genocide. Rolls were distributed with the names of Sunni families. A Shiite cleric, Sheikh Hussein, was so disgusted by these events that he saved thousands of lives by switching Sunni names into Shi-



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"Murad IV had laid siege to Baghdad in 1624, 1630, and 1637; all three attempts to capture the city failed. The sultan's patience ran out and he reached for his personal standard, a flag known as al-Tugh al-Hamayuni. The sultan issued a firman (imperial decree) for the fall of Baghdad. He once again rode at the head of his army, but was reputed to be in Arab battledress to look like Prophet Muhammad's companions."

ite rolls, vouching for the conversion of Sunnis. This was, however, an anomaly. Abbas then set about a renovation project of the Shiite holy sites of Najaf, Karbala, Samarra, and Kazimiyah.

Ottomans React: Murad IV (the last Ottoman Sultan to Command in the Field): 1612-1640

Murad IV had laid siege to Baghdad in 1624, 1630, and 1637; all three attempts to capture the city failed. The sultan's patience ran out and he reached for his personal standard, a flag known as al-Tugh al-Hamayuni. The sultan issued a *firman* (imperial decree) for the fall of Baghdad. He once again rode at the head of his army, but was reputed to be in Arab battledress to look like Prophet Muhammad's companions. With him were five cannons that ranged in size from 18 to 20 pounds. He planted the flag on the outskirts of Azamiyah within sight of the demolished tomb of Abu Hanifa and nearby mosque declaring, "I refuse to enter except as conqueror of Baghdad!" He would inspect, drill, and train his Janissaries and troops, encouraging and inspiring them.

On 22 December 1638, cannons opened up. Murad's Grand Vizier (senior minister), Muhammad Pasha, lost his nerve and Murad chastised to the point that the Grand Vizier took his sword and led Janissaries to Baghdad. The Grand Vizier was killed by a bomb while engaged in hand-to-hand combat. Baghdad was taken before the end of 1638. A massacre of Shiites ensued, and it is reputed that those who screamed "Al-Dar, and Aman!" were "saved" by Murad, who ordered they not be molested and threatened execution for those who violated this open declaration of sanctuary. Murad visited the Abu Hanifa Mosque at Azamiyah, remarking, "I have now achieved the purpose of my visit."

Murad left Baghdad on 17 January 1639 and left one of his heavy cannons at the Baghdad citadel. The cannon quickly took on the nickname "*Toob Abu Khuzama*," and over the years, became an object of veneration, as residents brought infants to place inside the mouth of the cannon three times as a form of blessing. There are many stories as to the origin of the name, but mostly the lore is that Angel Gabriel aided Murad IV in re-liberating Baghdad. Most Iraqis under Saddam Hussein forgot the significance of the cannon and it is unclear if such an item survived the looting that occurred in 2003. The cannon, reputed to be located in a downtown square, would undoubtedly be prized for its copper. During this period (1666-1694), the Safavids suffered a series of weak shahs, leading up to Shah Suleiman.

Under the Safavid Shahs Suleiman and Hussein, the Safavids found a new charismatic Sheikh-ul-Islam, a senior cleric who would direct the empire's religious affairs. This man, Sheikh Mohammad Baqir al-Majlisi, led a zealous inquisition in 1699 and forced conversion of Sunnis, Zoroastrians, Sufi Muslims,

Christians, and those “Hellenized” Muslims, influenced by Greek classical philosophy. He added much to Shiite orthopraxis, dictating or writing 50,000 words per day; he collected Shiite *hadiths* (sayings and actions) of the Imams, and left a written record on everything from sermons and personal law to conducting morning ceremonies for Hussein, and much more. His *Bi-haar al-Anwar* is still used today and is considered the largest multivolume commentary on Shiism. When the printing press was introduced to Persia during the reign of the Qajar dynasty, this work was among the first to be published.

Tribal Ebbs and Flows in Iraq

When central imperial authority broke down, be it Safavid or Ottoman, skirmishes between these two powers, or outright wars, the Bedouin (hereafter referred to as the tribal) trend emerged. These tribal challenges were more prevalent in southern Iraq and some tribal confederacies evolved into autonomous emirates that only paid tribute to the Ottomans or Safavids. Each *ashirah* (clan) could not exist alone and was forced to ally with other clans and tribes. Urban areas of Iraq and villages guaranteed security by allying with tribes. Aside from protection, the tribes agreed to exact vengeance if there was a wrongful death or murder. A large city, such as Baghdad, Wardi reveals, had districts and city sections allied with different tribes in a delicate balance of influence and protection.

In 1640, the Shammar Tribal Confederation migrated from middle Arabia northward toward the Levant, waging a 20-year war with the tribe occupying the Levant, the Mawali Confederacy. The Mawalis fled southern Iraq and migrated further north to Syria after ending up on the losing side of a conflict against the Shammar. In the 1660s, the Anayzah Tribal Confederacy emerged from Arabia and clashed with the Mawali and Shammar, causing the Shammar to penetrate deeper into Iraq along the Euphrates River.

Hassan Pasha: Ottoman Governor of Baghdad

From 1638 to 1738, the Ottomans would have thirty *valis* (governors) of Baghdad. Wardi’s volumes cover most of the Ottoman valis, but only a few are dedicated an entire chapter. In volume one, the first vali mentioned, Hassan Pasha, took charge of Iraq in 1704, and would use roving cannons, cavalry, and infantry at the decisive point to pacify the tribes of Iraq. His first test came with tribes that sacked Mosul. Hassan Pasha declared the tribes responsible, particularly the Shahwan and Aziz tribes’ hypocritical factions. The Ottoman vali led these two tribes into a pass north of Mosul called, “*al-Khanuq*” (the chokepoints), where he concentrated cannon, musket, and bomb fire on both tribes. Hassan Pasha did prevent assaults on the women of these tribes. With this victory, he issued a proclamation declaring that the Prophet Muhammad had renewed social order and that tribes engaged in sacking Ottoman cities are disloyal to the Ottoman Sultan, the only commander of the faithful and caliph. “*As brigands, you will be dealt with Islamically as brigands, and we will reach you even in the ends of the earth; your beheading is nothing new to us,*” were the words Hassan Pasha used to open his rule of Iraq and tribal pacification campaign.

In 1708, Hassan Pasha’s subjugation of tribes, such as the Bani Saad, would lead to coalescing tribes into one of the largest confederations in Iraq’s history. The confederacy was led by Mughamis al-Manaa of the Murtafiq tribe and included the Ghazia, Miah, Shammar, Khazaal, Zubaid, al-Asarra, and Bani Khalid tribes. This confederation numbered more than 100,000 tribal warriors. Hassan Pasha would entice this confederacy to battle him on the outskirts of Basra, an open desert plain. The Ottomans opened up with cannon, muskets, and grenades, which led to 10,000 casualties at the onset and demoralized the tenuous trib-

al alliance. Hassan Pasha understood the fragility of the tribal confederation and used gold, silver, and promises of protection to undermine the fabric of the alliance just prior to the battle. Hassan Pasha paid in gold for every head provided him from the renegade tribes.

Social Aspects of Iraqi Modern History offers no explanation as to why the tribes opposing Hassan Pasha did not capitalize on guerrilla warfare and instead chose to directly confront the Ottoman forces. The Ottomans also capitalized on the tribal elders refusing to subjugate themselves to a single leader. With any invader to the Middle East, there will always be tribes with the invaders and tribes against the invaders; others will switch sides based on the highest bidder and offers of protection. According to the book, the natural state of tribal interest is self-preservation.

Fall of the Safavids

As Hassan Pasha pacified Iraq’s tribes, the Safavids were descending toward their fall, which came not at the hands of the Ottomans, but instead at the hands of the Afghans. The Safavids had occupied a good portion of Afghanistan and experienced heavy resistance from the Afghan Sunni tribes toward their imposition of Shiism. Unlike in Persia, the Afghans refused to convert in mass and revenge seethed under the surface of Safavid control of Afghan dominions.

In 1707, while on his way to the Hajj (pilgrimage to Mecca), Sunni cleric, Mir Wais, encountered Sunni Hanafi clerics and Hanbali Sunni clerics. Mir Wais derived a fatwa, endorsed by several Sunni clerics, sanctioning the killing of Persian Shiites as heretics, which drew objections from Sunni clerics led by Abdel-Kareem al-Sindi in Mecca. In Medina, Mir Wais spent the night inside the mosque under the Prophet Muhammad’s tomb. While he slept, he dreamed the Prophet handed him a sword and took the dream as a sign that his mission to demonize Persian Shiites was a holy mission.

In 1709, Mir Wais was back in Afghanistan and energized a movement that captured Kandahar. Mir Wais died in 1715, and in 1722, his son, Mir Mahmoud, led his father’s Afghan army into Persia, capturing the Safavid capital of Isfahan. Mir Mahmoud invited 300 Safavid notables to a feast where he massacred all of them along with 200 of their children. The bloodshed continued when Mir Mahmoud ordered the deaths of 3,000 Persian soldiers for regicide. These soldiers had defected to Mir Mahmoud during the siege of Isfahan. Fifteen days of killing followed and mainly targeted functionaries of the Safavid bureaucracy. In 1725, Mir Mahmoud killed the remaining member of the Safavid dynasty. Mir Mahmoud was considered mad and was killed by Afghan tribesmen who elevated Mahmoud’s cousin, Ashraf Khan, to the position of leadership.

Hassan Pasha watched these developments from Baghdad and worked with the sultan to shore up Baghdad’s defenses by reinforcing walls and trenches and renovating wells. Hassan Pasha corresponded with Mir Mahmoud, who responded using a hand-delivered note from an ambassador, Mohammad Sadek Khan, who stated his religious duty to purify Islam from Shiism. Hassan Pasha and the Afghan emissary conspired to shore up the Afghans in undermining the Safavid Persians. Hassan Pasha lamented the collapse of the Safavids at the hands of the Afghans, so he lobbied clerics in Constantinople (now Istanbul) for a fatwa against the *Rawafid* (another epithet used to describe Shiites; still in use today by al-Qaeda).

In 1723, Hassan Pasha’s lobbying efforts were successful and he garnered not only a regular army of Janissaries armed with cannon, but elicited Iraqi tribal adversaries to join him on a campaign against the dying Safavid Empire and partake in the

spoils of war. The first major Persian city to fall was Karman-shah. Hassan Pasha never lived to see the expedition's end state; he died of natural causes in the autumn of 1723 and was buried in Azamiyah, a suburb of Baghdad, at the Abu Hanifa mosque.

Ahmed Pasha, son of Hassan Pasha: The New Vali of Baghdad, 1724

Ahmed Pasha was on campaign in Persia, leading parts of his father's expedition when word reached him of his father's death, and the Ottoman Sultan's firman appointing him vali of Baghdad. A popular ruler, Hassan Pasha's death led to tribal rebellion within Iraq, and by 1725, a massive confederacy of the Bani Lem, Shammar, and Al'a Shibl was formed. Ahmed Pasha's first order of business was to restore order in Iraq and deal with these challenges to Ottoman authority, which he successfully suppressed in time to face another challenge from Afghan tribal leader, Ashraf Khan.

Ashraf Khan sent an emissary to Istanbul with a religious opinion endorsed by nineteen Sunni Afghan clerics, indicating there can be only one commander of the faithful and caliph, since both the Ottomans and Afghans are carving Safavid Persia. The Afghan leader claimed lineage from Prophet Muhammad's companion, Khalid ibn al-Waleed, and believed that he was more of a legitimate heir to the caliphate than the Ottoman Sultan, who was unrelated to Muhammad or any of his companions. The Ottoman clergy countered with a saying attributed to Prophet Muhammad, "If there are two caliphs, turn against one." War was declared.

Ahmed Pasha met the forces of Ashraf Khan between Hamdan and Isfahan on the 20th of October 1726. Ashraf Khan understood he was no match for Ottoman forces and sent clerics to negotiate. This was a ruse to undermine Ottoman morale by arguing that Sunni should not fight Sunni and fighters would be answerable to God for this sin. This tactic was first employed by Muawiyah ibn Abu Sufyan, founder of the Umayyad dynasty, against Ali (Prophet Muhammad's cousin and fourth caliph) in 658 CE at the Battle of Siffin.

In the case of Ahmed Pasha, 12,000 Kurds allied to Ottoman forces refused to fight and fled the field; Ashraf Khan dealt a tactical defeat to the Ottomans, but understood he had to negotiate, as he could not hold out strategically in Persia and northern Afghanistan if the Ottomans brought their forces to bear in significant numbers. In 1727, the Afghans and Ottomans declared a truce. Among the gifts given to the sultan was an elephant, which came from Baghdad on its way to Istanbul. Baghdad residents of the time called that year, "the year of the elephant," which was the first time in memory that any resident had ever seen the large creature. The Ottoman sultan conceded Ashraf Khan as king of Persia, and Ashraf Khan conceded

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Battle of Siffin, from an illustration in a 19th century manuscript by Muhammad Rafi Bazil.



ed his claim to the caliphate and accepted being a vassal of the Ottoman sultan.

Nadir Qali, the Re-Emergence of the Safavids

Safavid Persian Emperor, Tahmasap II, faced crumbling frontiers in 1731, following battles with the Afghans and Ottomans. He faced Ottoman forces and suffered a crushing military defeat that allowed the Ottomans to gain Armenia and Georgia. Since 1729, Nadir Qali had succeeded in routing the Afghans from eastern Persian frontiers and was livid about the shah's losses. In 1731, at the head of a battle-hardened army, Nadir Qali replaced Tahmasap II with his infant son, who was called "regent." Nadir Qali effectively ruled the Safavid Empire until his assassination in 1747. Nadir Qali's first order of business was to throw down a gauntlet at the feet of Ahmed Pasha, the Ottoman vali of Baghdad, demanding the return of Persian prisoners and the right to visit the tombs of the Shiite imams. In January 1733, Nadir Qali took the offensive, crossing the Diyala River and marching for Baghdad. European engineers were with his army and helped construct crossing bridges; however, Nadir Qali's first siege of Baghdad failed due to the inadequacy of Persian cannons. Nonetheless, this 7-month siege of Baghdad led to the deaths of 100,000 people.

The Ottoman commander was Uthman (the lame) Pasha. He was a hero to the Ottomans and the arch-nemesis of Nadir Qali. This was a war between two charismatic commanders, who both led from the saddle. Nadir Qali lost Baghdad, but not before losing his flag bearer and having his horse killed from beneath him. The Persian's lost 30,000 men to death and 3,000 became prisoners. Nadir Qali fled back into Persia, but returned to face Uthman Pasha 3 months later at the head of a larger force and with a firm belief that the only way to conquer Baghdad was to beat Uthman Pasha.

Nadir Qali understood this one charismatic Ottoman field commander was the enemy's center of gravity, whose death or capture would most certainly vanquish any Ottoman ambitions in Baghdad. These two warriors engaged in battle near Kirkuk in late 1733. Nadir Qali's hopes were realized as Uthman Pasha was killed during the course of the battle. News of this spread inside Baghdad and caused a precipitous decline in morale in

Ahmed Pasha's camp behind the walls of Baghdad. Despite Nadir Qali's initial success, rampant rumors of a revolt within the Safavid royal family to replace the infant regent he installed in 1731 prevented him from taking Baghdad as planned.

Ahmed Pasha Turns against Iraqi Tribes

Once Nadir Qali and his army re-deployed to Persia, Ahmed Pasha used his forces to violently repress the Iraqi tribes who had allied with the Safavid Persians. The Shammar confederation received the worst of it for spying on behalf of the Persians. Ahmed Pasha, aside from sending Ottoman forces to deal with the Shammar, allied with the Shammar's rival tribes, the Qashim and Zubaid. Ahmed Pasha also dealt with mutinous Janissaries who lost their nerve during Baghdad's siege. Of note, the Ottoman vali of Baghdad, subjugated the Shammar, but allowed them

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to repledge their fealty to the Ottoman Empire, which is when Ahmed Pasha ceased hostilities. Pasha understood the significance of tribal alliances; he could not implement a policy of total elimination due to intermarriage and intermingling of clans and tribes with the Shammar.

In 1738, Ahmed Pasha faced a serious tribal rebellion, popularly known as the "Saadoun Revolt," whereby the Muntafiq confederacy declared its own sultanate in Najaf and Kufa, taking those cities with 10,000 warriors and surrounding Hila. Ahmed Pasha would suppress the confederacy in 1741 by a mixture of bribes, warfare, and changing alliances. Sheikh Saadoun's head was embalmed and sent to the Ottoman Sultan as tribute.

Nadir Qali Gains Ottoman Acceptance of the Shiite Jafari School

Nadir Qali and his Shiite clerics reasoned that Jafar al-Sadiq lived in the same era of Malik and Abu Hanifa, and could bridge the gap between Sunni and Shiite schools. There were four recognized Sunni schools: Maliki, Hanafi, Hanbali, and Shafei. The Persians argued that Jafar al-Sadiq was not only a scholar of the period, but also a descendant from both Ali, Muhammad's cousin, and Abu Bakr, the Prophet's closest companion. Nadir Qali retook Qandahar and captured Kabul, and stood poised for his greatest conquest, Mogul India, under Muhammad Shah. In 1738, he marched into Delhi, having vanquished the Mogul armies, married his son to the Mogul line and set his sights on bridging the Ottoman Sunni and Persian Shiite divide. He deposed the seating Safavid Shah and Nadir Qali and became Nadir Shah from 1743 to 1747.

In 1743, Nadir Shah sent a message to the Ottoman Sultan demanding recognition of the Jafari Shiite School as the fifth *madhhab* (school) of Islam. The Ottoman clergy rejected his request, and for the third time, Nadir Shah entered Iraq with his army. His attempted siege of Mosul ended in failure and his frustrated forces headed toward Baghdad, but stopped at Kazimiyah, where Nadir Shah sent a note to Ahmed Pasha requesting a truce. This led the Najaf clerical congress to bring together Sunni and Shiite clerics from the Ottoman and Safavid Empires. The clerics agreed to: recognize the Jafari school as the fifth school of Islam; cease Shiite public insults of the Prophet's companions, the three caliphs, and Muhammad's wife, Aisha; allow Shiites access to Mecca and Medina; and exchange Wakils (ambassadors).

During 1745 in Armenia, major war broke out between the Ottomans and the Persians. The Ottoman Sultan and Nadir Shah managed to avert further escalation of hostilities over Armenia. However, a plot was uncovered by Nadir Shah's military commanders to kill all Persians, except Uzbeks and Turkomen, in his army. In 1747, Nadir Shah was assassinated and declared a Safavid pretender. A member of the Safavid royal family was reinstated and the Ottomans lost a Persian ruler with whom they had reached an understanding.

The Safavids experienced a decline and only lasted two more decades, ending with the reign of Ismail III. Chaos ensued in Persian domains. In 1796, the Qajar dynasty was established and lasted until 1925. The Qajars never posed a serious threat to Iraq or the Ottomans. New threats to Iraq and the Ottomans came from the Mamelukes of Egypt, who pushed from Gaza into the Levant.



The Wahabi movement in central Arabia emerged from the desert armed with a fanatic zeal that threatened southern Iraq starting as early as 1802 with raids and desecrations of Karbala.

Volume 2 of al-Wardi's multivolume set covers the history of Iraq from 1831 to 1872. It includes the influence of Egyptian commander Viceroy Muhammad Ali Pasha, and his son Ismail, further Wahabi raids, and ends with the Ottoman attempts at imposing conscription on Iraqis in their attempts to modernize. The tensions between Sunnis and Shiites and the details of their discussions are also an invaluable part of Wardi's work.

American military planners cannot afford to deploy without first getting oriented to this history. It provides a social-political-religious and military look at terrain that American military units are now traversing. ARMOR will be working to publish several installments highlighting all eight volumes over the course of the next several editions.



Note

¹Ali al-Wardi, *Social Aspects of Iraqi Modern History*, Baghdad Publishers, 1969, and Alwarrak Publishing of London, new edition, 2007.

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Remote Areas of Afghanistan: “Getting a Foot in the Door”

by Captain Tim Kelly

“The tasks to be done require logistical support in the form of funds, equipment, and qualified personnel. These should be made readily available and given with a minimum of red tape. Moreover, the manipulation of this logistical support is a political act and it must be allocated with a priority in favor of villages or districts where the population is most active on the side of the counterinsurgent.”¹

The preceding quote from David Galula’s book, *Counterinsurgency Warfare:*

Theory and Practice, summarizes what appears to be an obvious method of distributing support; creates the idea that resources should be given only to local nationals who support the efforts of multinational forces and the Islamic Republic of Afghanistan (IROA); and establishes that support should obviously be withheld from villages or people who would simply turn over the supplies to insurgents. Under most circumstances, this approach would be effective; however, what approach would be effective when a unit

deploys to an isolated area not knowing what side its local citizens support or if they support any side at all?

There still exist citizens in remote areas of Afghanistan who have not experienced firsthand the effects of unlawful insurgency, and the few who have do not connect these operations with a larger framework. Most of these places are located across from the Tribal Areas in Pakistan, which is convenient for anti-coalition militia (ACM) fighters, who use these villag-



es as way stations and safe havens. The villagers, who identify with these fighters based on tribal alliances or shared Muslim faith, provide aid to the fighters without realizing they are supporting any cause.

Withholding logistics support from such places as a way to “punish” villagers for aiding the insurgency will have absolutely no effect. These people have lived for generations without aid from the IROA, so denying them aid now will not impact their daily lives in the least. Supplying a neighboring area with support as an example of benefits associated with cooperating with the government does not always seem to work in these outer-lying areas.

Many villages are geographically located in close proximity, but have nothing to do with each other socially; even two villages composed of the same tribesmen might have severed relationships due to a feud that happened 250 years ago. Choosing one village to serve as an example of “benefits for government cooperation” and neglecting its neighbors will likely cause jealousy in the “have-not” village and push its citizens into the enemy’s camp. As far as the have-not villagers are concerned, they did not do anything against the government and are unfairly being discriminated against (Afghanistan’s people can think of many things that mark their clan as distinct from every other), so they are forced to join the opposition to that government.

Bringing gifts and distributing them widely, without attached strings, seems to work best when entering a new area in a remote location. In February 2008, in Support of Operation Winter Stand V, Anvil Troop traveled to the area around Nakumkheyl Village in the Torah Wrey Valley. Task Force Eagle’s intent for Winter Stand was to conduct air assault missions into traditional AMC safe havens when these insurgents were wintering in Pakistan, which would demonstrate to the residents the benefits of supporting the government.

Anvil Troop was met with a hostile reception; shura elders refused Anvil Troop *pashtunwali* (hospitality) and informed them they were not welcome. For 2 days, Anvil leaders attempted to explain to the elders that they would bring civil affairs projects, new clothes, and food for their people, but the shura members insisted that coalition presence would only bring trouble. It was obvious that two of the elders were influencing the rest, but removing these two influential elders was not an attractive option. Our chances of being accepted by the elders was further



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damaged by the same two elders when they told the elders that coalition forces were just in the area to arrest innocent individuals who the government unjustly did not like. So, for 2 days Anvil leaders tried in vain to isolate these two elders in an attempt to reason with the rest of the elders, who served as representatives from five different villages in the area.

During the afternoon on the second day, after repeated unsuccessful meetings with shura elders, Anvil Troop and Afghan National Security Forces (ANSF) decided to call some curious boys over to the mission support site and give them some shoes. They instructed the boys to tell their parents that the IROA had sent more supplies, but they must come to the pick-up area to get the supplies. The next day, as an element traveled to an area outside the immediate influence of the hostile shura members, the Afghan National Army (ANA) gave out humanitarian civil assistance (HCA) to everyone who wanted it, telling them that more would be distributed at a shura the next day. The villagers were also told that neighboring villages would be invited to the same shura. If the villagers from the Nakumkheyl Shura did not want their free supplies, then their neighbors were welcome to the unclaimed goods.

There were a large number of attendees at the shura the following day. ANSF and Anvil leaders simply explained that the IROA had sent HCA and coalition forces as its duty to the people to ensure they survived the winter. There were no accusations of ACM activity and no one was asked to swear any oaths of allegiance. The two truckloads of HCA were then distributed evenly to everyone in attendance, which supported the position that the government in Kabul was real and its job was to serve the people. Suddenly, the shura elders who had spread negative stories about the coalition did not seem so credible.

Many of the villagers began to view the troublemakers as a hindrance to their rights, depriving them of necessities. Another shura was held by the sub-governor of Bermel a few days later and attendance was doubled. When the troublemakers tried to impede the process, the sub-governor had them arrested for not agreeing to attend the Bermel Shura at least once a month. The villagers did not protest the arrest because it now appeared justified; it was a government official removing individuals who were irrationally interfering with events that would benefit the average person.



"The free distribution of HCA is just the first step; it simply allows the company a "foot in the door." To have a lasting effect, the coalition must quickly escalate civil affairs involvement to begin building projects, which will develop the area by providing infrastructure, employment, and closer ties to the government in Kabul. If a company limits itself to distributing HCA as a nonlethal offensive, it will simply be creating a welfare economy in an area, which will not bring the population into the IRoA's orbit."

By simply giving away supplies at the beginning of the week, Anvil Troop showed the villagers that they were being denied something they did not even know they wanted or needed. Also, by distributing HCA with no initial strings attached, Anvil Troop created the impression that goods distribution was normal in a country run by the IRoA.

The villagers saw the goods as items they wanted, needed, and later deserved, and accepted them without realizing what HCA represents in a political context. The IRoA's free distribution of the HCA, as opposed to using the goods as a bribe to compel villagers to support the government, made the villagers de facto supporters of the government. It created a situation where villagers began to rely on simple gifts that made their lives better, and realize that these benefits were provided by the IRoA. The ACM, however, viewed the acceptance of anything from the IRoA as a political act, but could not do anything about it without negatively affecting its information management campaign.

As seen in many villages in Afghanistan, the ACM's only counter-tactic to free distribution of HCA is to force villagers to destroy the goods given to them. In the eyes of the villagers, they were asked to destroy mosque rugs, cooking oils, children's clothing, and food rightfully belonging to them — for a cause with which they never agreed. This forced the ACM into an outsider role, attempting to dictate the villagers' behavior, and as a result, coalition forces became the agents of maintaining the status quo.

The system currently in place by Task Force Eagle serves as an effective meth-

od to enable company commanders to use the valuable tool of HCA. Basically, a company can stockpile as much HCA as it needs to have goods available when visiting a village. Commanders should ensure they have plenty of HCA on hand at all times in the event a local leader engagement develops during a mission. During revisits to villages the company should redistribute HCA, which will remind villagers that such visits are beneficial and will reduce the probability of the coalition being attacked on its way to the villages. If the ACM does attack the coalition, the villagers will resent these attacks and the ACM because it is preventing the delivery of goods.

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Villagers will continue to accept HCA, which means they are passively supporting the government, but will never be forced to actively support it. If the coalition places caveats on HCA distribution, the Afghans will then resent the government and become suspicious of coalition efforts. However, if there is evidence of a village actively supporting the ACM, the HCA will be withheld as punishment, but the villagers understand the concrete cause

and effect. Afghans do not like to be manipulated and to arbitrarily change the rules of the game results in their distrust of coalition motives, causing them to refuse contact with the coalition and return to the way of life they have lived for thousands of years. On the other hand, withholding HCA without a concrete reason will create a vacuum that the ACM can quickly fill. If a village disassociates from the coalition and refuses to accept HCA, the ACM can simply move in and provide the same items, or cash, to the villagers so they can continue to enjoy the benefits to which they have become accustomed.

Although HCA distribution introduces villagers to a better way of living, it does not intertwine their well-being with the success of the IRoA. Infrastructure development projects, on the other hand, can do just that if they are awarded judiciously. These projects also have the benefit of offering a means of long-term quality of life improvements that the ACM does not have the resources to replicate.

Infrastructure development projects are powerful weapons in a counterinsurgency environment. For example, building a school in a village demonstrates that the government is working for the people and it has the capability to accomplish big projects. Once the project is completed, however, it does nothing more to bring the villagers into the sphere of the IRoA. In effect, the project becomes just an elaborate HCA distribution: the village gets something it did not have and is grateful, but once the project is complete the villagers can choose to ignore the IRoA and coalition. Of course, the government does not have the option of taking back the new school. If the ACM does something foolish, such as destroy the school, the villagers might turn against them; on the other hand, it may plant the idea that the government cannot protect the village.

If local leaders are involved from the beginning of the project, they are obligated to support the government. By having elders nominate projects and recommend contractors, they are publicly viewed as working for the government. The elders can ensure their villagers are hired to work on the project, giving them a vested interest. At this point, if the ACM destroys the project, the villagers will see it as a direct attack on their village and not on the government. Eventually, however, the ACM will destroy the projects because the building of infrastructure means the government is acting as a legitimate entity, which makes the ACM illegitimate. Another added benefit for the government is the elders will become targets for the ACM, based on their involvement with a project, requiring them to get even closer to the IROA for protection.

Initially, this scenario was difficult to create in Afghanistan because the system was not set up for a company to move into an area and employ locals to build projects. Typically, the company would move into an area and request projects, which the battalion civil affairs team would oversee, but they could not select the contractor. The contracting office, interested in ensuring the government's money was spent on quality work, chose contractors with whom they were familiar. These contractors were not from the company's operational area, which caused some problems with the locals, and diminished the positive effects that using local contractors to complete the work would have.

As stated before, a civil affairs project built without the input and participation of local elders is nothing more than an expensive HCA distribution. All contracts require contractors to hire local

workers; however, the village shura realizes the real money is made by the contractor so they may not allow their villagers to work for outside contractors. The Afghans feel they do not need to prove themselves to get contracts; if they get a contract and fail to complete it correctly, then outsiders can be brought in without hard feelings, but the villagers feel they should be given the first chance when building anything on their lands. The villagers in our operational area did not accept the new projects built by outsiders as an improvement to their lives; they viewed it as the government giving their money to someone else. They would reluctantly accept the project, but the practice of higher headquarters letting contracts did not maximize the effects civil affairs projects would have. To facilitate maximum effects, Task Force Eagle's civil affairs team participated in creating a new policy that opened up contract bidding to local villagers.

Only time will tell if the villagers can actually do a good job with the projects, but the new policy had an immediate positive effect on how local villagers participated with the government process. The villagers began visiting the shuras to ask about upcoming projects and suggesting their own projects to increase their chances of getting contracts.

Once local villagers realize the benefits associated with working with coalition forces, stipulations can be placed on the aid they are provided. For example, the company can negotiate in areas such

as forcing two sub-tribes to cooperate on planning and executing projects; tying the number of awarded projects to a decrease in improvised explosive device (IED) activity; or asking the villagers to prove their support by providing soldiers and police to the government.

The first step, however, is to ensure they are given a free taste of HCA benefits at first contact so they know what they have been missing.



Notes

¹David Galula, *Counterinsurgency Warfare: Theory and Practice*, Praeger Security International, 30 August 2006.

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SEE/OBSERVE WITHOUT BEING SEEN

by Lieutenant Colonel Dirk Schubert, German Army

“Far ahead of the leading elements, scouts are the commander’s eye. Whatever an aircraft observes from the air will not remain hidden to the crew of an armored reconnaissance vehicle.”



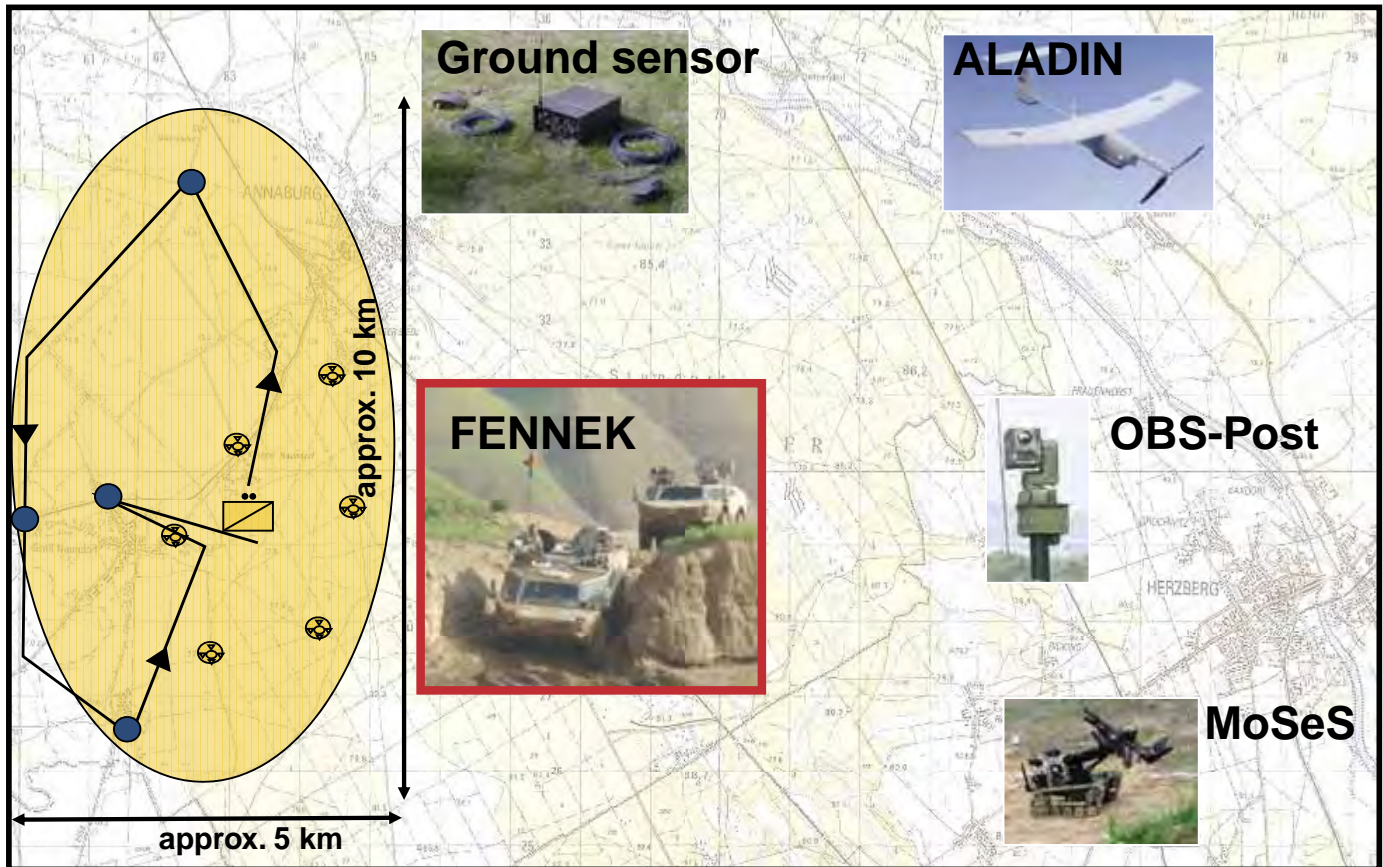


Figure 1. Fennek reconnaissance patrol.

The opening quote describes the German Army's Armored Reconnaissance Corps when it was established in 1956. Today, the current operating environment (COE) presents a host of unpredictable factors that have an immediate and considerable impact on the course of operations. Essentially nothing has changed about the interest in gathering information about the enemy; but what about ongoing operations challenges?

International Security Assistance Force (ISAF)

The ISAF in Afghanistan showcases some aspects that characterize the employment of the German Army's intelligence, surveillance, and reconnaissance (ISR) corps and the demands it can meet. The ISAF operation is without any doubt the most difficult challenge the Bundeswehr has faced to date.

The German government's Afghanistan concept is the political capstone document; the ISAF operations plan (OPLAN) provides the military framework. The forces have a support mission, which is based on the knowledge that reconstruction is impossible without security, and long-term security can only be achieved through progress in economic and social developments.

Bundeswehr missions revolve around the issue of security. Task performance is determined by three essential factors:

Environmental conditions. The theater of operations is a challenge in itself. Long distances and difficult road conditions have to be covered. In addition, difficult climate conditions can push soldiers and their equipment to the limits.

Battlefield conditions. Afghan National Security Forces (ANSF) and ISAF units are exposed to permanent threats of attacks from small arms, mortars, missiles, or improvised explosive devices (IEDs). The quality of IEDs is improving steadily. Unlike traditional conflict with regular forces, it is difficult to identify, neu-

tralize, or eliminate opposing militant forces in this asymmetric type of conflict.

Threat conditions. The threat situation and mission require a specific method of conducting operations. On one hand, self-protection must not be neglected; on the other hand, visible presence must be ensured throughout the area of operations. Short-range defense of friendly objects relies on patrols to scan the civilian situation and joint operations with ANSF targeting opposing force groups, which cover virtually the entire spectrum of a stabilization operation. These operations share the common thread of military elements directly involved in confidence building and reconstruction measures.

Single Source Reconnaissance

The broad spectrum of reconnaissance results from issues of military relevance and the civilian situational picture which must be provided to the tactical/operational commander as soon as possible and correspond with mission and associated requirements. Apart from appropriate command and control assets, this method always calls for employing a composite force under a unified command. Therefore, the German Army decided to amalgamate its ISR assets within a newly created ISR corps. The new ISR corps, its role and composition based on lessons learned in recent operations, including Bosnia, Kosovo, Congo, and Afghanistan, is intended to provide eyes at the ground level and an aerial view coupled with a substantive human intelligence (HUMINT) capability. This is not to say that ISR troops can only be employed at the tactical level under an ISR force command. This would prompt an autonomy drive among branches, on top of what has already been observed among certain functional chains, which would be counterproductive to the objective of conducting operations without friction.

By moving ISR assets under a unified command, while still allowing interaction with other arms, the ISR corps has provided commanders with faster, more reliable, and more precise information on potential and actual enemy force composition, layout, operations, and plans. Within the German Army, the ISR corps has seen the creation of four companies, which provide brigade ISR, and five battalions, one of which is a division-level asset, and the other four operate as brigade ISR formations.¹

The whole restructuring process of the German Army's ISR capabilities is accompanied by a concept development and experimentation project. The new ISR corps concept is being assessed within this project, and by mid-2009, draft ISR branch manuals will be published. Sometime during 2009 or 2010, the new ISR doctrine will be validated during a final exercise, which will be the culmination of this project.

Modern and Mission-Oriented Equipment

The ISR corps already has a broad range of autonomous, powerful, and complementary technical systems. The Fennek reconnaissance vehicle, with BOSA ground sensor equipment, and the Aladin minidrone enable ground-based scout reconnaissance units to embody their slogan "videre sine videri" (see/observe without being seen). In the future, an unmanned mobile sensor system, called MoSeS, will be employed as well. One reconnaissance patrol (Fennek 2) will be capable of covering an area of some 50 square kilometers.

The Fennek command and control (C2) component already enables us to summarize data from different sensors and transmit, in target data quality, nearly simultaneously. Introducing the integrated C2 system enhances this component. The Mikado and LUNA (Luftgestützte Unbemannte Nahaufklärungs Ausstattung) systems for airborne unmanned imaging reconnaissance increase

the flexibility and quality for reconnaissance operations in sensitive areas.

Technical means and sensor systems, such as the ground surveillance radar (BÜR) or the LEGAR 2 battlefield reconnaissance radar, will strengthen the approach of scout reconnaissance from a distance, as well as available identification methods. The radar range is up to 40km with the capability to track multiple targets on the ground in very low airspace. However, technology-assisted reconnaissance cannot replace humans as reconnaissance mediums on the ground. This is particularly true during urban operations, which are becoming more and more important. The powerful technical reconnaissance systems are therefore effectively complemented by the special qualities of the long-range reconnaissance troops and field intelligence forces — the assets that round off the performance spectrum of the ISR corps.

The ISR Center

The German Army's new ISR Center is located at Munster, Germany. Major General Campbell, commanding general, U.S. Army Armor Center and Fort Knox, attended the activation ceremony on 6 March 2008. All course-based ISR training is concentrated at this location to ensure a common understanding of ISR and promote the development of a specific and corporate ISR identity. The training center currently conducts 64 different training courses for officers and noncommissioned officers. Colonel Graf Strachwitz, who visited the Armor Center in October 2008, is the chief of Army ISR. He also serves as the commander of the training center and is tasked with developing ISR doctrine, training products, and ISR systems and organizations to enhance the combat effectiveness of the current and future ISR corps.

Lessons Identified from Operational Deployments

Human intelligence. There is a permanent demand for additional human intelligence (HUMINT) capabilities from all theaters. To meet this demand, the ISR branch constantly reviews HUMINT structures and capabilities regarding their efficiency and the quantification of additional HUMINT personnel required. Based on these reviews, a "basic HUMINT" course for non-HUMINT personnel was established.

Skills/career paths. The quantity and variety of sensors, complex operational environment, and sheer amount of data and information require highly qualified personnel through all ranks. A wide range of specialized skills and correlated career paths was developed to build up human resources required to meet future challeng-

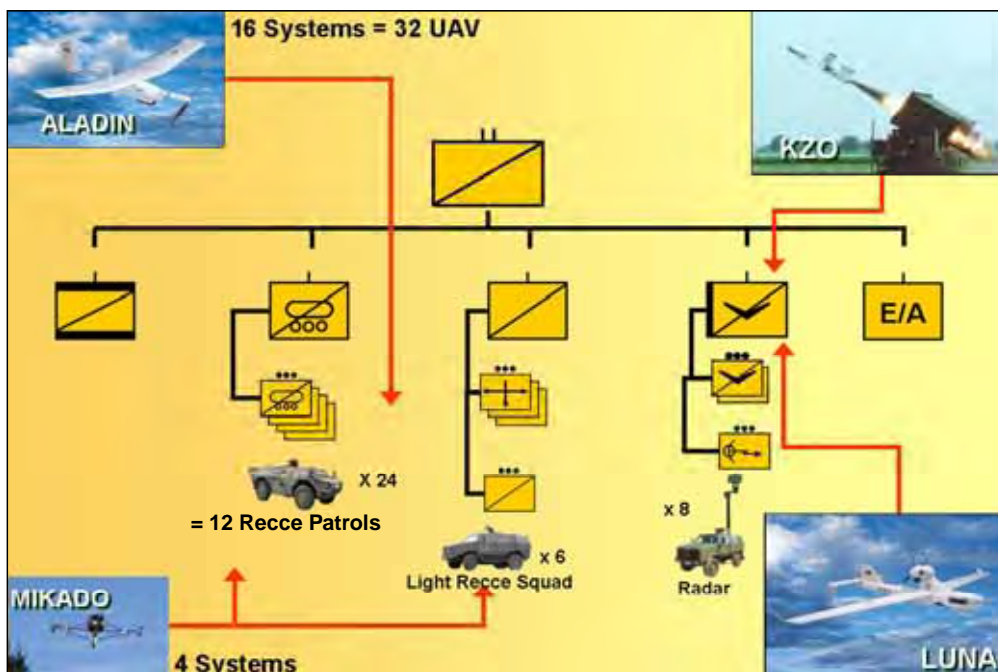


Figure 2. ISR battalion stabilization forces.

es. One recent example is the development of combat-tracking capabilities.

Airspace management. Particularly during stabilization operations and asymmetric conflicts, civilian and military manned and unmanned aircraft are using the same airspace. The deconfliction of unmanned aerial vehicle (UAV)/aircraft employment is essential. On the other hand, ISR-UAV employment has to be as flexible as possible to respond to short-notice operational needs.

UAV terrain. Our current ISR-UAV requires line-of-sight data links. The Balkans and Afghanistan consist mainly of mountainous terrain, making it nearly impossible to use UAV assets at maximum range. Therefore, we developed the LUNA UAV, which provides relay functions for up and down data links, which extends the UAV range beyond 40km under all terrain conditions.

Dismounted reconnaissance. Low-intensity conflicts and urban operations require dismounted reconnaissance; therefore, unit structures are permanently reviewed to increase the number of dismounted reconnaissance personnel.

Sensor detection. Sensors, especially unattended sensors, provide sensible intelligence as long as they go undetected by the enemy or population. The German Regional Command (North) area of operations in Afghanistan consists mainly of open terrain without much vegetation. Avoiding sensor detection in this kind of environment is an issue we are diligently working.

Battalion/company C2 capability. The main effort is to develop urgently required analysis capabilities at battalion and company level to process data into information as closely as possible to the sensor and collector. Analysis sections have been established in the ISR battalion headquarters. We continue to work the tactics, techniques, and procedures to certify these sections as fully operational.

Amounts of data. Operations and experiments have proven that ISR units produce amounts of data and information that cannot be handled using conventional staff procedures. During a high-intensity operations experiment, an ISR battalion gathered more than 10,000 data and reports in a 24-hour period. Therefore, headquarters requires information technology tools and adjusted procedures to avoid information overflow.

Targeting. During missions, ISR units acquire targets by opportunity or according to tasking. Normally, target information is time critical and must be inserted into the joint fires network as soon as possible. The near real-time integration of ISR sensors into the joint fires sensor effectors network is an urgent requirement. Targeting at tactical and operational levels requires special information. Some of this information has to be gathered by ISR units; procedures, timeframes, and formats have to be developed and integrated into ISR units' tactics, techniques, and procedures.

It is fair to say that the German Army's ISR corps has come a long way, both conceptually and structurally, from employing patrol leaders in armored task forces during stabilization operations to employing the mixed reconnaissance company as a single force within the ISAF's German-led Regional Command



Figure 3. German Army ISR footprint.

(North) Operation "Harakate Yolo II," in a 30km x 40km area of operations in Northern Afghanistan in 2007.

Full attention must be paid to the mission-oriented training of deployment forces. Soldiers must be able to master their weapons systems and ensure their survivability. This explicitly includes self-protection at the squad and/or platoon level. Although reconnaissance forces are meant to avoid combat, they must be able to act adequately, appropriately, and effectively. They also must be able to approach people with openness; target-oriented communications and contact with key sources are essential and require a high level of cultural awareness. *Communication is the ideal way of getting to people!*

Success heavily relies on having the necessary equipment and weapons, as well as the prerequisites for logistics and medical support. The need to conduct reconnaissance in overextended areas and extreme environmental conditions calls for special efforts in this field. Reconnaissance forces provide an outstanding "force multiplier" function to today's most likely scenarios. The objective is to have a network of complementary reconnaissance capabilities under an essentially unified command.



Notes

¹ Intervention forces: one ISR battalion as a division ISR and one ISR commander for each brigade. Stabilization forces: one ISR battalion for each brigade due to extended areas of operations during peace support operations.

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NCOES Transformation

by Command Sergeant Major Ray Edgar

The U.S. Army Noncommissioned Officer Academy (NCOA) at Fort Knox, Kentucky, continues its diligent work to remain at the tip of the spear in transforming the Noncommissioned Officer Education System (NCOES). By applying provisions from the U.S. Army Training and Doctrine Command's (TRADOC's) annual command training guidance, the cadre and staff at the NCOA, and its training developers at the Directorate of Training, Doctrine, and Combat Development-Experimentation (TDCD-E), went to work on an unprecedented NCOES transformation.

The Academy's mission was to create an advanced leader course from Phase 2 of the Basic Noncommissioned Officer Course (BNCOC), and a maneuver senior leader course (M-SLC) from the Maneuver Advanced Noncommissioned Officer Course (ANCOC). This transformation introduced a major shift in the way we train noncommissioned officers (NCOs).

As the Army continues in an era of persistent conflict, its NCOs require a different way of thinking and a different way of bringing to bear multiple skill sets simultaneously. Today's NCOs need to be adaptive leaders, capable of changing with their environment and adapting to the enemy's ever-changing tactics. These requirements necessitate a change in NCO training — a focus on “how to think.” An NCO who knows how to think effectively processes information that induces adaptability and stimulates a faster reaction to his or her environment.

As the operational tempo (OPTEMPO) of our Army at war has been one of constant deployment and short resets, we have incurred an increase in the experience level of NCOs attending NCOES. For example, staff sergeants attending BNCOC are, for the most part, thoroughly experienced at their level of leadership and already have the bulk of required skill

sets, and the same is true for Maneuver ANCOC.

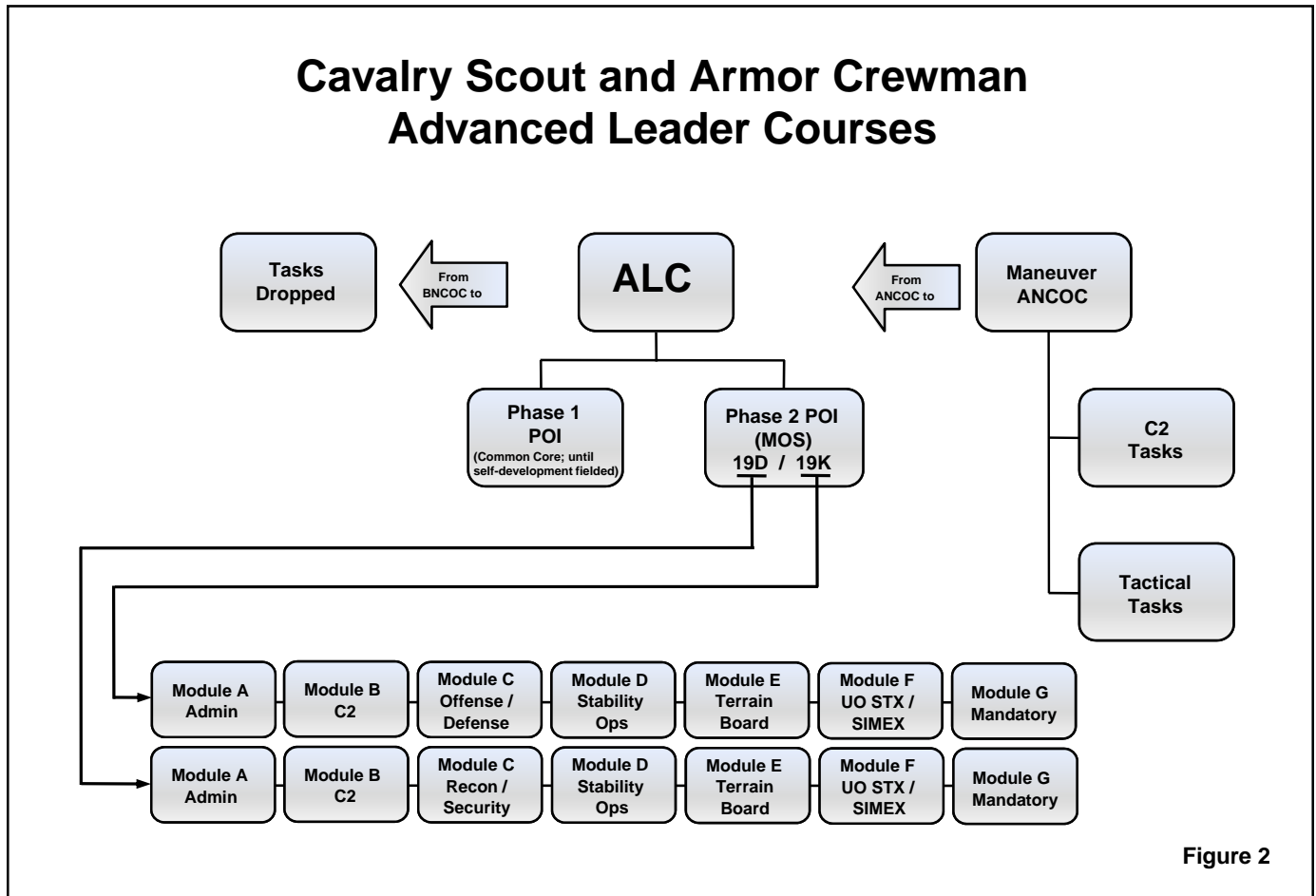
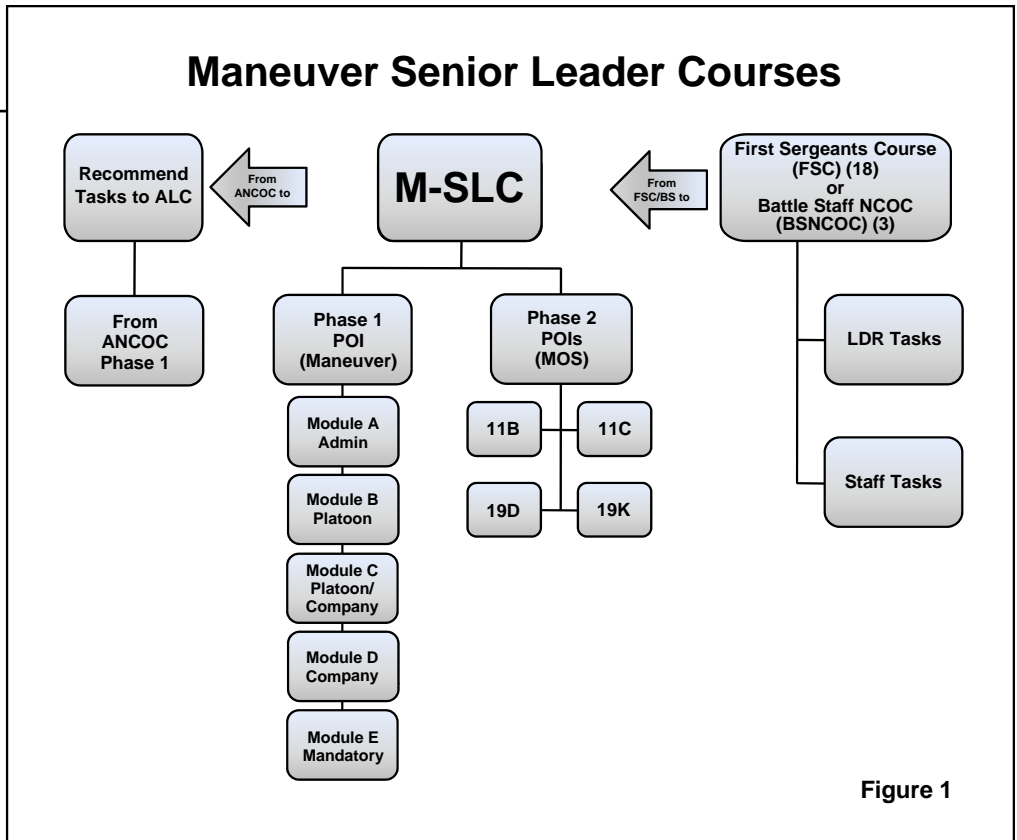
As a result of this latest NCOES transformation, skill migration has begun. First sergeant tasks have moved from the First Sergeant Course to the new Maneuver Senior Leader Course. Critical first sergeant skills are a primary focus as identified by career management field (CMF) 19 task selection boards, as well as student and cadre feedback. Figure 1 illustrates the transformation and task migration for M-SLC (the numbers in parenthesis are the number of tasks migrated from one course to the next).

Task migration continues to the Advanced Leader Course (ALC) with specific skill level 40 (SL40) tasks moving down to give staff sergeants higher-level skills while simultaneously increasing SL30 proficiency. Again, the “how to think” focus is prevalent at this level. Figure 2 il-



illustrates the transformation and task migration for ALC.

Armor NCOs should realize that the level of proficiency for these new courses is far greater than those of past courses. NCOs who have been working outside their military occupational specialties (MOS) will find it difficult to pass the new courses. While constructing these courses, the required adaptability and increasing responsibilities of today's NCO was kept in focus and the level of difficulty parallels these aspects. Students cannot simply memorize steps to a task or a criterion scoring checklist; the "how to think" is a requirement. Although still seated in doctrinal knowledge, these courses require situational awareness and the NCO's ability to make adaptive decisions based on a changing environment.



Armor School Learning Management System Reaches Milestone

by Roy M. Elam Jr. and Dave Nilsen

The ALC courses maintain their MOS-specific focus; however, the SLC incorporates two phases, a MOS-specific training and a combined-arms phase that sees CMF 11 and CMF 19 NCOs training together. These courses conclude with a simulated exercise that incorporates several virtual systems, including close combat tactical trainer (CCTT), *Virtual Battlefield System (VBS)*, *Virtual Convoy Operations Trainer (VCOT)*, and *DARWARS Ambush!*.

The Fort Knox NCO Academy continues to lead the way with ALC mobile training teams (MTT), which allow soldiers to stay at home station with their units and families. The ALC MTT course lengths will increase due to the magnitude of the courseware and the migration of SL40 tasks. These MTTs are available to units during reset windows and require resource support from the unit. Units should request MTT support through their major command to U.S. Forces Command (FORSCOM). Once approved by FORSCOM, the request is sent to TRADOC and the NCO Academy to determine eligibility and availability of support. The Academy has yet to deny a request; however, keep in mind that the unit has a significant responsibility to make the mission successful.

Last, but not least, the BNCOC Phase I common core course will transform to a distributed learning format after FY09. The proponent for this course is the U.S. Army Sergeants Major Academy.

For further information on the U.S. Army NCO Academy or its curriculum, contact the chief of Training, Sergeant First Class Ryan A. Tozier, at commercial (502) 624-3166 or DSN 464-3166, or by e-mail at ryan.tozier@conus.army.mil.



Command Sergeant Major Ray Edgar is currently serving as the commandant, U.S. Army Noncommissioned Officer Academy, Fort Knox, KY. He received a B.S. from the University of Louisville. His military education includes all training levels of the Noncommissioned Officer Education System, the Instructor Training Course, Small Group Instructor Course, Systems Approach to Training Workshop, Basic Airborne Course, Jumpmaster Course, Pathfinder Course, Air Assault Course, Scout Reconnaissance and Surveillance Course, and Recruiting Station Course. He has served in various staff and leader positions, to include command sergeant major, 5th Squadron, 73d Cavalry (Airborne Recon), Fort Bragg, NC; operations sergeant major, Task Force 3d Squadron, 17th Cavalry, Mosul, Iraq; first sergeant, Headquarters and Headquarters Company, Division Special Troops Battalion, 10th Mountain Division, Fort Drum, NY; and first sergeant, C Troop, 1st Squadron, 16th Cavalry, Fort Knox.

On 1 December 2008, the Armor School Learning Management System (Core LS) enrolled its 10,000th soldier. Private First Class James T. Bolin logged in and registered for self-development courses from his National Guard Armory in East Saint Louis, Illinois, where he is a member of the 445th Chemical Company, 44th Chemical Battalion.

Since launching the current version of Core LS on 22 July 2004, the site has logged 2,724,952 student page visits, 8,959 students have accessed courseware, 123,693 lessons have been completed, and 213,757 exams have been taken. Although Core LS has been used to deliver distributed learning for the Armor School since 1998, the numbers above capture the past 4½ years since the most recent version was installed.

Core LS provides the capability for soldiers to develop technical and tactical skills by providing both self- and professional-development courses. Self-development courses, such as M1A1 tank advanced gunnery and maintenance, M1A2 SEP tank operator, map reading, land navigation, scout leader, and battle staff common core courses, are popular and have provided training to more than 9,000 soldiers. In addition to self-development courses, Core LS also provides the means for managing total Army training courses for National Guard soldiers, which include Maneuver Captain Career Course, Maneuver Noncommissioned Officer Course, Armor Crewman Basic Noncommissioned Officer Course, and the Cavalry Scout Basic Noncommissioned Officer Course.

Core LS also provides paperless exams to the Noncommissioned Officer Academy, which produces

instant feedback for students, automates grading, and allows content and classroom analysis. To correlate with the paperless exams, contractors, who provide support for the learning management systems, have also developed an automated sequential validation tool that enables instructional systems specialists to validate exams and courseware to meet U.S. Army Training and Doctrine Command (TRADOC) requirements, and conduct detailed item analysis validation and reliability studies. The Armor School's learning management system is the only one in the Army with automated validation capability; therefore, it will serve as the baseline for new validation requirements being added to the Army Learning Management System (ALMS).

Core LS has been a vital fixture in educating armor, cavalry, and maneuver soldiers for more than a decade and is a proven asset for training developers at the Directorate of Training, Doctrine, and Combat Development-Experimentation, Fort Knox. The Armor School's distributed learning initiatives are recognized throughout TRADOC as leading the way in distributed learning innovation and development. It has pioneered and formed the basis for many Army standards and will continue to do so into the future.



Roy M. Elam Jr. is an instructional systems specialist, New Systems Training Branch, Training Development Division, Directorate of Training, Doctrine, and Combat Development-Experimentation, Fort Knox, KY.

Dave Nilsen is a distributed learning program manager, Alion Science and Technology, Fort Knox, KY.



Shaping Future Armor and Cavalry Leaders

by Major Ryan Seagreaves

During this era of persistent conflict, it is important to highlight that our focus has not shifted from the enduring lessons of troop leading procedures, mission execution, and leadership. We recognize that today's operating environment requires a small-unit leader who is capable of conducting full-spectrum operations in an extremely dynamic environment. Essentially, our task and standards have not changed, but the conditions certainly have. Our goal is to produce armor and cavalry leaders who are not only relevant to today's immediate needs, but also possess a solid foundation of learning that will serve the mounted force in the future. Recent changes to the Basic Officer Leader Course are due largely to feedback received from the operational force. The intent of the following article is to present the course as it stands today and encourage a dialogue that will continue to be a driving factor in shaping the future of our junior armor and cavalry leaders.

— LTC Jim Brown, Commander,
2d Squadron, 16th Cavalry Regiment

Training Platoon Leaders

The implementation of the Basic Officer Leader Course (BOLC) concept for training lieutenants has led to some remarkable changes in how we develop fu-

ture armor platoon leaders. Long gone are the days of the Armor Officer Basic Course and training armor officers only in platoon-level armor tactics, primarily in the classroom. Today's Armor BOLC III trains lieutenants to be capable of leading either armor or reconnaissance platoons in the context of company-level operations in a full-spectrum environment. The course focus is on developing lieutenants into platoon leaders in three primary areas: troop leading procedures (TLP), mission execution, and leadership.

Armor BOLC III is divided into four primary phases: weapons, tactics, contemporary operating environment (COE), and field training exercises (FTX).

Weapons phase. The weapons team provides students the training necessary to achieve a level of technical proficiency required to lead platoons. During 26 days of training, students in weapons phase initially receive 2 days of training on maintenance and supply, as well as 2 days of training on operating Force XXI battle command-brigade and below (FBCB2) and single-channel ground and airborne radio system (SINCGARS) radios.

During the next 22 training days, each lieutenant will spend 11 days on the tank track and 11 days on the Bradley track. On

the armor track, each student must successfully complete the tank crew gunnery skills test (TCGST) and conduct gunnery, which includes firing a total of eight engagements (four day and four night) from a combination of gunner and tank commander positions.

On the Bradley track, each student must successfully complete the Bradley crew gunnery skills test (BCGST) and conduct gunnery, which includes firing six engagements as a Bradley commander (three day and three night). Students will also become familiar with light cavalry gunnery by engaging targets with the M240B and M2 .50-caliber machine guns from an M1025 HMMWV gunner's position.

Tactics phase. The tactics phase of Armor BOLC III is divided into three tracks: fundamentals, armor tactics, and reconnaissance tactics. Each class is assigned 10 instructors: two captains serve as senior tactics instructors (one armor and one recon) and eight sergeants first class (four 19K and four 19D) serve as platoon trainers, commonly referred to as the "Black 6." All instructors have recent combat experience and at least 12 months platoon sergeant experience. Each instructor is interviewed before assignment and required to complete 3 months of training and right-seat rides to certify their abil-

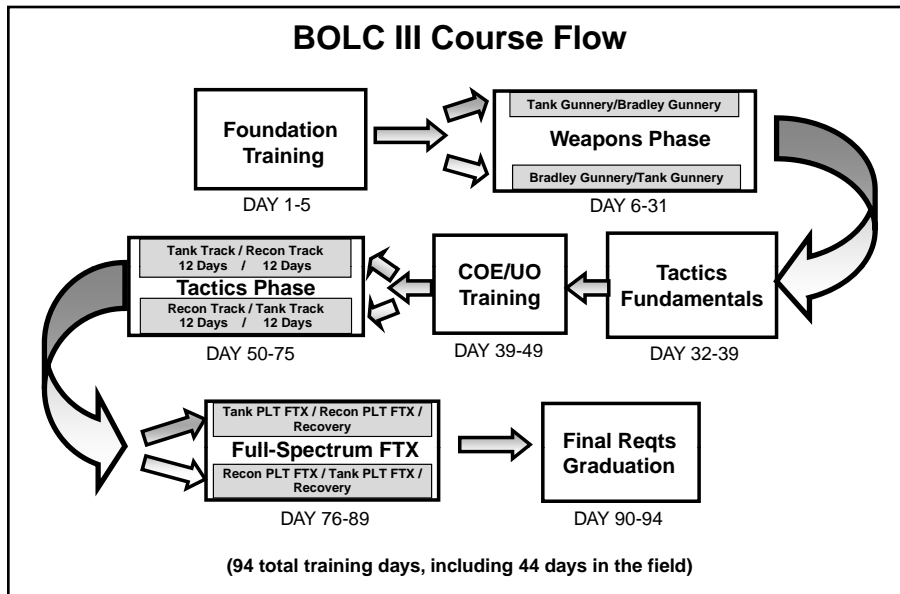


Figure 1

ity to teach, coach, and mentor future platoon leaders.

Using the tank platoon as a training platform, the fundamentals track of the tactics phase focuses on TLP and occurs primarily in the classroom. Over the course of 8 training days, students initially receive large-group classes from a senior tactics instructor, or the team chief, on fundamentals of maneuver, call for fire, direct fire planning, and reporting. The group is then split into platoons for small-group instruction and terrain board exercises and to conduct practical exercises during the first 2 days. Extensive instruction follows over the next 3 days on threat tactics, intelligence preparation of the battlefield (IPB), and operations order (OPORD) development. On day 5, the students brief their first operations order in a small group setting; and building a terrain board, conducting a rehearsal, and fragmentary orders complete day 6.

The final 2 days of the fundamentals track are conducted in the close combat tactical trainer (CCTT) where the lieutenants continue to develop basic skills in multiple simulation scenarios.

COE phase. Following completion of tactics fundamentals, the class transitions to the COE Phase. The COE team executes a rigorous 10-day training event that focuses on full-spectrum operations in an urban environment, ranging from interacting with the local populace to an urban high-intensity assault on a village. Day 1 consists of classroom instruction on traffic control points, improvised explosive device (IED) identification, Islamic cultural awareness, urban IPB, and patrolling. Four days of field training follow, where students receive classes, immediately followed by practical exercises on traffic con-

trol points, IED identification, detainee handling, urban patrolling, information engagement, infrastructure assessments, integration of host nation forces into U.S. operations, building seizures, and cordon and search. During these events, three platoons will continue to use the infantry brigade combat team (IBCT) reconnaissance platoon as a training platform, and one platoon will be organized into a Stryker reconnaissance platoon.

The next 6 days are devoted to a challenging urban operations FTX, which is conducted at Fort Knox's great urban training facilities — Redwing, Anaconda, and Zussman. Contracted foreign language speakers, role playing as policemen, mayors, religious figures, tribal leaders, and shop owners, add to a realistic environment.

The urban operations FTX places lieutenants in a rural area of approximately 50 square kilometers in which three working villages operate. The scenario simulates an operating environment where missions transition from offensive operations to stability operations. Students run on a 24-hour mission cycle where each day is divided into four 6-hour mission blocks. This allows adequate time for TLP, as well as restarting missions to validate learning points covered during the after-action review (AAR) process. The platoon leaders' actions directly affect follow-on missions with a free-flowing script that professional foreign language speakers enable the instructors to employ. For example, if a sheik or imam is harassed at a traffic control point on the night of day 1, then the area reconnaissance mission the following morning will meet with hostility from that particular tribe, potentially escalating into open violence, requiring

consequence management in subsequent missions. This fluidity teaches the lieutenants the importance of the second- and third-order effects of their actions in an area of operations.

The urban operations FTX integrates several combat multipliers, to include aviation support, indirect fires, and engineering support. These combat multipliers provide lieutenants firsthand experience with calling for fire under specific urban terrain rules of engagement (ROE) restrictions, the integration of close combat attack aviation, and the use of engineer assets for common operating picture (COP) improvement and survivability. Additionally, when events permit, the lieutenants from BOLC III may operate jointly with rotational units, such as U.S. Navy Special Operations Command (SOCOM), U.S. Army SOCOM, U.S. Army Rangers, and international units, visiting the Fort Knox military operations in urban terrain (MOUT) facilities as part of their annual training objectives.

Armor and Reconnaissance Tactics

Following the COE phase, students move back to the tactics phase where they are divided into two groups; half to armor track and half to reconnaissance track. The armor track of BOLC III is conducted over 12 days; 2 days of classroom and terrain board instruction focus on offensive and defensive operations, followed by 4 days of TLP and execution of platoon-level operations in CCTT. Students are required to pass a challenging, comprehensive armor tactics exam on day 7, after which they deploy to the field for platoon situational training exercises (STX).

The STX phase. The platoon STX trains students gradually, beginning with crew-level operations on day 1, section-level operations on day 2, and platoon-level operations on days 3 and 4. Missions are kept relatively simple in nature at this point during the course, which allows the cadre to teach, coach, and mentor students in the execution of IPB; TLP; OPORD production and briefing; formation and movement techniques; battle drills; direct-fire planning; fire distribution; and control, reporting, and execution of actions on contact. On each tank, a staff sergeant mans the loader's station, known as the "crew station trainer" (CST); a branch-qualified tank commander ensures the safety of both the crew and tank, and teaches students how to employ the tank effectively. Each platoon executes three missions per day, with an AAR facilitated by Black 6 following every mission. A day of recovery completes the armor tactics training, at which point students transition to the reconnaissance track.

The reconnaissance track is conducted over 12 days and uses the IBCT reconnaissance platoon (6 HMMWVs) as a training platform. The first 3 days of classroom instruction focus on zone and area reconnaissance, route reconnaissance, and screen missions. On each day, students receive large-group instruction in the morning, and then are divided into platoons for small-group instruction and terrain board practical exercises. Day 4 requires students to plan and brief a platoon OPORD, from the terrain board, for a zone reconnaissance mission. The students then participate in a 2-day dismounted reconnaissance STX, during which they conduct area recon, route recon, and screen missions; the first day is cadre led, followed by student-led missions on day 2. After completing the reconnaissance tactics exam, students redeploy for a 6-day reconnaissance platoon STX. Reception, staging, onward movement, and integration (RSOI) and section-level training occur on days 1 and 2, followed by platoon-level missions on days 2 through 4.

FTX phase. The FTX team executes the culminating full-spectrum FTX, during which student platoons are organized into troops of armor and reconnaissance platoons and conduct company-level operations. Students from the Maneuver Captain Career Course fill the roles of company commander, executive officer, and fire support officer. The operational timeline for the exercise is designed to test students both mentally and physically. Each mission set, from receipt of the company OPORD to completion of the company AAR, lasts 9 hours. Over the first 4 days, students execute seven company-level missions: three high-intensity conflict and four stability.

In addition to the wooded training area at Fort Knox, the 16th Cavalry Regiment built an urban training area, over the past 2 years, specifically designed for tanks and new tankers. "Al Talahasi," built exclusively with unit funds and by soldiers and Department of the Army civilians, provides an urban training site for armor at low cost, but with great complexity. Many of our stability missions are conducted at Al Talahasi.

On day 5, students execute transition day, where students in armor platoons turn in equipment for a recon platoon set; and recon platoons turn in equipment for an armor platoon set. The equipment turn-in process is followed by an extensive mid-mission AAR to evaluate student performance and conduct peer evaluations. The next 4 days consist of seven additional company-level missions; again, three high-intensity conflict and four stability. Each student serves as a platoon



"In addition to the wooded training area at Fort Knox, the 16th Cavalry Regiment built an urban training area, over the past 2 years, specifically designed for tanks and new tankers. 'Al Talahasi,' built exclusively with unit funds and by soldiers and Department of the Army civilians, provides an urban training site for armor at low cost, but with great complexity. Many of our stability missions are conducted at Al Talahasi."

leader during this exercise and must successfully lead the platoon through TLP and mission execution. Key areas of emphasis are the platoon OPORD and delivery process, and the ability to employ the platoon effectively during actions on contact as part of a company team. Following the final mission, students conduct a full 5-day recovery operation to complete their maintenance training and prepare equipment for turn in and use by a future class.

The evaluation at FTX serves as the final requirement to demonstrate that the lieutenant is prepared to assume leadership of the platoon in combat. Those who fail receive another evaluation and, if unsuccessful, are placed into a retraining program with the tactics team before being recycled into a subsequent class, rebranched, or eliminated from the service. Over the past 2 years, an average of 10 percent of each class has been recycled for failing to meet course standards; however, following dedicated individual retraining, those students have a graduation rate greater than 80 percent.

We evaluate each student's performance across the entire course, asking ourselves three questions that relate back to our focus on troop leading procedures, mission execution, and leadership:

- **Troop leading procedures** — can the student plan and brief an operations order that is tactically sound, doctrinally correct, and briefed in a

manner which inspires confidence in subordinates?

- **Mission execution** — does the student have the technical and tactical competence to successfully lead his platoon during actions on contact in any organization or environment?
- **Leadership** — is the student capable of leading troops in combat; would I want to serve with this student in combat?

If the answer to all of these questions is yes, we feel confident in sending the lieutenant to the operational force, ready to lead a platoon.



Major Ryan Seagreaves is currently serving as the tactics team chief, Armor Basic Officer Leader Course III, 2d Squadron, 16th Cavalry Regiment, Fort Knox, KY. He received a B.S. from the U.S. Military Academy. His military education includes Combined Arms and Services Staff School, Armor Captain Career Course, Armor Officer Basic Course, Ranger School, Cavalry Leader Course, and Air Assault School. He has served in various command and staff positions, to include small group instructor, Maneuver Captain Career Course, Fort Knox; commander, Bravo Company, 2d Battalion, 70th Armor, Fort Riley, KS, and Baghdad, Iraq; assistant brigade S4, 3d Brigade Combat Team, 1st Armor Division, Fort Riley and Baghdad; and tank company XO, battalion scout platoon leader, and tank platoon leader, 3d Squadron, 8th Cavalry, 3d Brigade Combat Team, 1st Cavalry Division, Fort Hood, TX.



BRAC: Relocating Armor History, Honor, and Lineage



by Daniel Nelson



The Base Realignment and Closure (BRAC)-directed move of the U.S. Army Armor School to Fort Benning, Georgia, involves a lot more than just movement of equipment and personnel; it is the movement of generations of history, honor, and lineage. The rightful pride felt by armor soldiers stems from a history of innovation, accomplishment, and battlefield prowess. Any tour of Fort Knox reveals armor's proud lineage, from vehicle displays scattered throughout the installation to the heroes' names associated with every prominent building. Moving this lineage is a task that is being addressed by the Armor Center's Strategic Plans Cell in concert with commanders at the U.S. Army Armor Center and School.

In 2011, the Armor School will complete occupation of its new home at Harmony Church. The face of Fort Benning will be forever changed with the arrival of the Armor School, transforming from the Home of Infantry into the Maneuver Center of Excellence.

Recognizing the need to put armor's stamp on Fort Benning "branding," plans were drawn up and briefed to the commanding generals of both posts. These plans initially focused on Harmony Church, but later expanded to include the entire installation. These plans were further developed into memorialization and branding plans. The branding plan includes physical representations such as armored vehicle displays, installation gate displays and signage, and water tower markings. The memorialization plan focuses on naming facilities, ranges, streets, training areas, and parade/athletic fields.

In support of the effort to transform Fort Benning, a memorialization board was stood up this past January and meets monthly to address the dedication of the large number of facilities be-

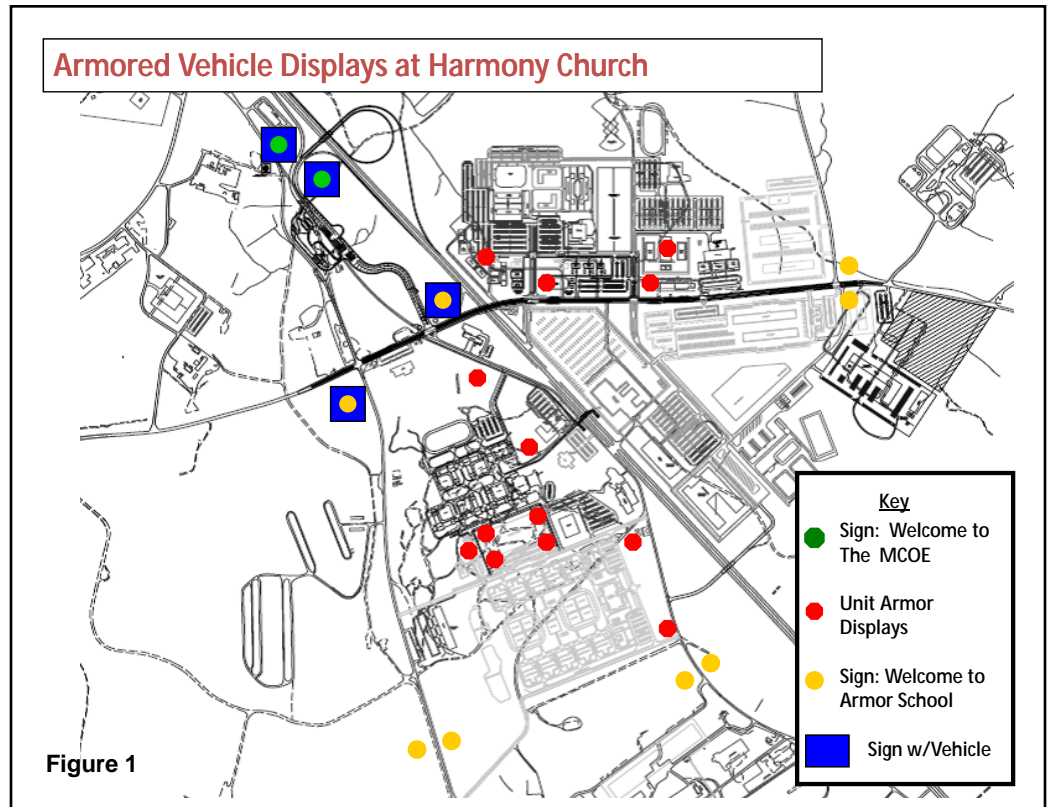
ing built on Fort Benning in support of the Armor School BRAC move, Grow the Army program, and other new facility projects. The memorialization program assigns O6-level commanders as area champions to facilitate memorialization of facilities within their footprint. For Harmony Church, the director of the Armor School and the commanders of 16th Cavalry Regiment and 194th Armored Brigade will serve as champions for the school facilities under construction.

Working within the Fort Benning process, the Armor Center decided on a systematic approach to naming various entities within the memorialization program. Buildings will be named after heroes of armor and cavalry and other branches reflective of the activities contained within the buildings and individuals who made significant contributions to the development of the armor branch or armor technology. Fortunately, multiple buildings can be named after the same individual, so individuals already honored at Fort Knox can be further honored with facility dedication at Fort Benning.

The Harmony Church construction project will extend over several years for the numerous facilities that will house the Armor School. Figure 2 shows the facility types and the year in which buildings will be dedicated. Sand Hill is included because the 1st and 2d Battalions of the 46th Infantry will relocate there.

Dedicating these new facilities will allow the armor community to honor heroes from all eras, including those from the current War on Terror.

New roads and streets (there are currently twelve) will be named using unit designations. The first four streets have already been designated as: 1st Armored Division Road, 2d Cavalry Street, 15th Cavalry Street, and 194th Armored Brigade Loop.



There are eight new parade and athletic fields to be named, six at Harmony Church and two at the new basic training facilities located at Sand Hill. Unit nicknames will be used to dedicate these fields, so there may be a future “Phantom Field” (9th Armored Division) at Fort Benning.

Seventeen new ranges are currently under construction, or are scheduled to be constructed, to support the move of the Armor School. These facilities range from small-arms qualification to tank-gunnery ranges. These ranges will be dedicated to honor Medal of Honor or Distinguished Service Cross recipients from all eras.

The last phase of the memorialization process will name maneuver training areas. While nearly all of Fort Benning’s areas have been memorialized, the new training areas developed to support armor training represent new groupings of previously named terrain features and areas. These new training areas will be dedicated to honor significant armor and cavalry victories.

While change can bring about certain unexpected emotion, we are reminded of armor’s strong and enduring relationship with infantry. It is a friendship that has in decades past seen our men and women stand side-by-side on faraway battlefields in defense of a free world. Today, in another time of war, this relationship is sustained by shared values and a willingness to defend, at all cost, that which we hold most dear: our liberties, our loved ones, and our homelands. The bond between armor and infantry will be on full display in this new, integrated Maneuver Center of Excellence, which will embody a shared commitment to protect our Nation from any and all threats — past, present, and future. The Maneuver Center of Excellence will further enhance the collaboration between the two branches, thus allowing the “one force, one fight” to respond more quickly to any threat.



Facility Type	Year->	Harmony Church					Sand Hill	
		09	10	11	12	13	09	10
Arms Vault	1							
AAFES Store					1			
Brigade Headquarters	2	1						
Battalion Headquarters	4	3				2		
Company Operations & Barracks	10	5				10		
Company Operations	4							
Chapel					1			
Dining Facilities	2	1				1		
Fire Station		1						
General Instructional Building		2	1					
Medical/Dental Facility		1						
Physical Fitness Facility				1				
Readiness Module	2	1						
Recreation Center			1					
Simulations Facility		2					1	
Unaccompanied Barracks	2	3						
Vehicle Maintenance Facility								
Wash Rack		1						

Figure 2

Lieutenant Colonel (Retired) Daniel C. Nelson is currently serving as a strategic planner, Strategic Planning Cell, U.S. Army Armor Center and School, Fort Knox, KY. He received a B.S. from Penn State and a M.S. from Shippensburg University. His military education includes the U.S. Army Command and General Staff College. During his career, he served in various command and staff positions, to include brigade XO and battalion commander, Unit of Action Experimental Element, Fort Knox; brigade XO, 2d Infantry Division Engineer Brigade, Camp Howze, Korea; commander, 3d Battalion, 410th Engineer Battalion (AC/RC), Fort Knox; engineer plans officer, 8th U.S. Army, Yong-san, Korea; and terrain intelligence officer, Allied Rapid Reaction Corps, Bosnia and Germany.

Battle Command Staff Trainer

The Army's Premier Battle Command Systems Collective Task Trainer

by Major Michael Spears

It is day 3 of the mission rehearsal exercise (MRX) in the 1st Brigade Combat Team's tactical operations center. The battle captain remains focused on the command post of the future (CPOF) as battalion events continue to populate his "BCT events" effort from simulated, subordinate battalions. The fire support cell shouts out, "acquisition! AO Mustangs!" based on the AFATDS [advanced field artillery tactical data system] display, which immediately causes the brigade staff to execute its indirect fire battle drill. In the white cell room, a "puckster" continues to provide event injects (events and reports) from his battle command staff trainer (BCST) computer into the brigade Army battle command systems (ABCS) network...

The introduction of various complex digital ABCS networks across the Army over the past several years has been accompanied by creating complicated, and often costly, simulations programs and specialized applications to stimulate the ABCS boxes. Units required a training capability to exercise and sustain ABCS skills to ensure user proficiency and employment of the entire ABCS network. Current simulation programs, such as the corps battle simulation (CBS) and the joint combat and tactical simulation (JCATS) serve very useful purposes for major training exercises, but require high overhead for small unit training purposes. Some of this overhead includes external support and extensive lead time for coordination.

History

As a result of unit requests for ABCS stimulation assistance, the National Simulation Center (NSC) initially developed a low-overhead software application, known as BCST. Since its creation, the NSC has worked with numerous agencies and program managers to transition BCST and ensure mutual capability refinement. The Product Director, Common Services (PD CS), under direction of Program Manager Battle Command (PM BC), now has responsibility to continue development of BCST. U.S. Army Training and Doctrine Command (TRADOC) Capability Manager-Battle Command (TCM-BC) is responsible for requirements generation and oversight.

Training Opportunities

BCST is a training program that operates on standard personal computer systems with Microsoft Windows XP and is applicable to both Active and Reserve Component units, as well as battle command training centers (BCTCs). This software application, however, is *not* hardware or computer, a substitute for ABCS, or a replacement for CBS, JCATS, or other constructive training simulations. These systems, like BCST, were born of necessity and serve a very useful purpose for larger-scale training exercises.

BCST enables units to conduct battle staff training on ABCS command and control systems via internal resources with minimal setup, time, and effort; and facilitates collective and individual staff training (sustainment and refresher) for specific sections or entire staffs from battalion through ASCC (Army service component command) levels. Significant training opportunities afforded by BCST include maintaining and improving highly perishable ABCS skills, training new battle staff personnel, applying staff coordination drills, battle rhythm development, and train-up for exercises/events. This software also provides an ability to stimulate the battle staff reactions to friendly and enemy events, as well as planned master scenario events

list (MSEL) injects to initiate staff reactions. *BCST should only be used on training networks, never on real-world operational networks — the risk of mixed BCST simulated and real-world operational events is too great!*

How Units Receive BCST

Currently, BCST is provided to Army units via unit set fielding (USF) or the BCST Army Knowledge Online (AKO) download site. Based on the approved USF schedule for Active and Reserve/National Guard units, the software fielding and new equipment training (NET) dates are synchronized with the unit's input. The computer disks issued during NET include the actual BCST program, as well as a reference disk that includes training support packages (TSPs) with specific scenarios. Units that have recently completed USF and ABCS NET may download the BCST program and TSPs from AKO at <https://www.us.army.mil/suite/kc/10244567>. AKO users can request access to this site from the BCST points of contact.

New Equipment Training

Prior to BCST NET, units should receive all ABCS equipment and complete NET for those systems. During BCST NET, select personnel from the S3/G3 and S6/G6 will receive instruction on how to connect the BCST to the ABCS network, BCST operator training, and exercise scenario skills. Additionally BCTCs and centers of excellence will receive the BCST program and NET based on delivery coordination. A tiered support apparatus will provide support to units for assistance with the BCST program to resolve identified issues.

BCST has tremendous potential for any Army battle staff, especially at brigade and battalion levels. BCST provides a flexible training medium to maintain operator proficiency on its respective systems, flexible training employment, and great resources for quality collective training, at no cost. Additionally, this capability enhances and complements battle command training center-supported events and exercises. The application and references provide a low-overhead training capability package for commanders, staff sections, or institutions to use to train ABCS system-of-systems, with organic resources, when they choose.

Questions and comments may be directed to: TRADOC Capability Manager, ATTN: C2 Branch (BCST), 806 Harrison Drive, Fort Leavenworth, KS 66027-2326; Major Michael Spears, via e-mail at michael.r.spears@us.army.mil or commercial telephone at (913) 684-4505; or Mr. Gregory Eddy, via e-mail at gregory.j.eddy@conus.army.mil or commercial telephone at (913) 684-4597. Once units receive the software and soldiers become familiar with it, please send suggested improvements and recommendations for new features to Major Spears and/or Mr. Eddy.

Meanwhile, back at the white cell room, the BCST operator checks his MSEL and initiates an event that stimulates the distributed common ground station-Army (DCGS-A) box, as the brigade staff continues to execute its staff coordination and battle drills...



Major Michael Spears is currently serving as the TRADOC Capability Manager-Battle Command, Command and Control Branch, Fort Leavenworth, KS.

Lessons Learned Integration

by Norman English



“What do I know and who else needs to know?” When it comes to lessons learned, this is the question every warfighter must ask; however, lessons learned integration is more than just sharing experiences with others, it begins with understanding the Army’s lessons learned integration processes and fostering an environment where soldiers and leaders see the value of knowledge sharing.

So how are observations, insights, and lessons (OIL) and tactics, techniques, and procedures (TTP) shared and integrated within the Army? It starts with the soldier and leader. Every soldier and leader must have the initiative to offer lessons and TTP to their peers, subordinates, and assigned organizations.

Knowledge management continues to evolve and the U.S. Army Center for Army Lessons Learned (CALL) and the Combined Arms Center (CAC) do not underestimate its value. As technology changes, harnessing an individual’s willingness to share information and understanding is critical. Tomorrow’s soldier and leaders should want to participate in lesson sharing, which is critically important to future battlefield success. We find that, in many cases, soldiers feel they have nothing to share or their experiences have no value in the realm of lessons learned — do not underestimate the potential value of your contributions!

“A lesson learned is not learned until behavior is changed.” While CALL cannot mandate soldiers and leaders change their behavior, the OIL CALL shares with individuals, the operating force, and the institutional Army enhances and contextualizes doctrinal discussions and professional military education (PME).

CALL assists the lessons learned process by providing critical warfighter support via military analysts, liaison officers, websites, written products, and personal networking. Currently, CALL provides this rapid information sharing via the lessons learned integrated (L2I) network and the doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) issue resolution process (IRP).

CALL’s L2I network has more than 50 military analysts supporting the operating force and the institutional Army. These analysts anticipate the needs of their supported staffs and units, conduct research, and share the most current and relevant OIL and material for inclusion in PME, programs of instruction, and local training.

The L2I network, working simultaneously with CALL battle command training program (BCTP) liaison officers and theater observation detachment (TOD) liaison officers, provides the initial analysis and rapid sharing of countless OIL and TTP to supported units and schools. For example, over the past 3 years, CALL has provided thousands of data points to the schools and centers for potential integration into discussions and instruction.

CALL’s second rapid OIL-sharing process is the DOTMLPF IRP. Much like L2I network analysts, DOTMLPF analysts work with each school and center to further develop identified trends and gaps in doctrine and training. They provide recent and relevant OIL and reports (regardless of source) to assist lead and support agencies in achieving unique solutions to identified issues.

OIL and TTP from Operation Iraq Freedom and Operation Enduring Freedom have grown over the past 6 years. What have you learned? Who else needs to know? If you do not share, CALL cannot share. If you want to participate in making the Army a better fighting force and supporting your peers preparing for or in combat operations, contact your local CALL L2I analyst or visit our website at <http://usacac.army.mil/cac2/call/index.asp> to submit TTP or after-action reviews. The website also offers peer submissions and the latest products from CALL and the Combined Arms Center.



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