

ARMOR

Mounted Maneuver Journal
Winter 2020



ARMOR

The Professional Bulletin of the Armor Branch, Headquarters, Department of the Army, PB 17-20-1

EDITOR IN CHIEF
LISA ALLEY
COMMANDANT
BG KEVIN D. ADMIRAL

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

Disclaimers: The information contained in **ARMOR** represents the professional opinions of the authors and does not necessarily reflect the official Army, U.S. Army Training and Doctrine Command or U.S. Army Armor School position, nor does it change or supersede any information presented in other official Army publications.

Manuscripts and their accompanying figures become government property and public domain upon receipt in **ARMOR** editorial offices. (The ideas within the manuscript remain the author's intellectual property and may be reused by the author, but the work itself — the particular expression of the ideas — passes to public domain upon receipt of the manuscript.) **ARMOR** staff will make necessary grammar, syntax and style corrections on the text to meet publication standards and will redesign illustrations and charts for clarity and to standards as necessary. **ARMOR** staff may coordinate changes with authors in the interest of ensuring that content remains accurate and professionally developmental. As a non-copyrighted government publication, no copyright is granted if a work is published in **ARMOR**, and in general, no copyrighted works should be submitted for consideration to publish. On occasion, however, **ARMOR** may wish to publish copyrighted material, and in that instance, individual authors' copyrights will be protected by special arrangement.

As the primary purpose of **ARMOR** content is the professional development of Armor Branch soldiers, **ARMOR** focuses on materials for which the Armor School has proponentcy: armored, direct-fire ground combat systems not serving primarily as infantry carriers; weapons used exclusively in these systems or by CMF 19-series enlisted Soldiers; miscellaneous items of equipment which armored and armored cavalry organizations use exclusively; training for all 19-series officers and CMF 19-series enlisted Soldiers; and information concerning the training, logistics, history and leadership of armor and armored cavalry units at a brigade/regiment level and below, to include threat units at those levels.

Distribution: Approved for public release. Distribution is unlimited. Official distribution is made as one copy for each armored brigade headquarters; armored cavalry regiment headquarters; armor battalion headquarters; armored cavalry squadron headquarters; reconnaissance squadron headquarters; or armored cavalry troop, armor company and motorized brigade headquarters of the U.S. Army. In addition, Army libraries, Army and DoD schools, HQDA and Army Command staff agencies with responsibility for armored, direct fire, ground combat systems, organizations and training of the personnel for such organizations may request two copies by sending a request to the editor in chief.

Reprints: **ARMOR** is published by the authority of the Chief of Staff, U.S. Army, and is in the public domain except where copyright is indicated. **ARMOR** requests that reprinted material carry credit given to **ARMOR** and the author. Direct inquiries to Editor in Chief, **ARMOR**, McGinnis-Wickam Hall (Bldg. 4), Suite W142, 1 Karker Street, Fort Benning, GA 31905.

Features

- 5 **Regionally Aligned Forces Europe Produce Long-Term Readiness**
LTC Dan Hodermarsky, MAJ Brennan Speakes and MAJ Oliver Davis
- 9 **Achieving Platform Proficiency within a Heavy Cavalry Squadron**
SFC Larry D. Finefield Jr.
- 12 **Cavalry Operations in the Republic of Korea: Phase 0 Reconnaissance**
CPT Colton C. Parr and CPT Andrew Robichaud
- 16 **The Combined-Arms Breach in the Korean Theater of Operations: A Summary of Lessons-Learned**
LTC Mark R. McClellan, CPT Christopher D. Mathews, CPT Sean T. Rabbitt, 1LT Lynn M. McCrum and 1LT Roman L. Burke
- 22 **Sustaining the Counterfire Task Force-Korea**
CPT Patrick O'Brien
- 24 **Dakota First Responder**
CPT Raymond Oberle
- 27 **Generating Incentive and Motivation in the Cavalry and Armor Community**
CPT Kyle D. Woods and CPT William C. Forrest
- 33 **On the Employment of Cavalry**
MAJ Amos C. Fox
- 40 **Work the Problems: Tanker Thought**
CPT Adriano Santiago Garcia
- 44 **When Cavalry Attacks: The Battle of Palmetto Ranch, 1865**
MAJ Nathan Jennings
- 48 **It Is, So What, Therefore and Who Else Needs to Know! A Paradigm for Operations Centers**
COL Harry "Zan" Hornbuckle
- 51 **Improper CAS Integration During Planning at Battalion Level: A Threat to Future Operations?**
SFC Morgan S. Wallace

Departments

- 1 **Contacts**
- 2 **Chief of Armor's Hatch**
- 4 **Gunner's Seat**
- 54 **From the Screen**
- 56 **Battle Analysis**
- 64 **Book Reviews**
- 68 **Index of 2019 Articles and Authors**
- 72 **Featured Unit: 71st Cavalry Regiment**



By Order of the Secretary of the Army:

JAMES C. MCCONVILLE
General, United States Army
Chief of Staff

Official:

KATHLEEN S. MILLER
Administrative Assistant
to the Secretary of the Army
2005611

Armor School Points of Contact

ARTICLE SUBMISSIONS: Articles can be submitted as email attachments to usarmy.benning.tradoc.mbx.armor-magazine@mail.mil. For all submissions, please include a complete mailing address and daytime phone number.

SUBMISSION POLICY NOTE: We ordinarily do not print articles that have been submitted to, and accepted for publication by, other Army professional bulletins. Please submit your article to only one Army professional bulletin at a time.

GRAPHICS AND PHOTOS: We will accept conventional photo prints or electronic graphic and photo files in no less than 300 dpi PNG or JPG format. (Please do not send photos embedded in PowerPoint and Word.) If you use PowerPoint for illustrations, please try to avoid the use of excessive color and shading. If you have any questions concerning electronic art or photo submissions, contact the Editor in Chief.

UNIT DISTRIBUTION: To report unit free distribution delivery problems or changes of unit address, email usarmy.benning.tradoc.mbx.armor-magazine@mail.mil; phone DSN 835-2698 or commercial (706) 545-2698. Requests to be added to the official distribution list should be in the form of a letter or email to the Editor in Chief.

EDITORIAL MAILING ADDRESS: U.S. Army Armor School, ATTN: *ARMOR*, McGinnis-Wickam Hall (Bldg.4), Suite W142, 1 Karker Street, Fort Benning, GA 31905.

REPRINTS: *ARMOR* is published by authority of the Chief of Staff, U.S. Army. Material may be reprinted, provided credit is given to *ARMOR* and to the author, except where copyright is indicated. Request all organizations not affiliated with the Department of the Army contact *ARMOR* for reproduction/reprinting permission. Inquiries may be directed to Editor in Chief, ATTN: *ARMOR*, McGinnis-Wickam Hall (Bldg. 4), Suite W142, 1 Karker Street, Fort Benning, GA 31905.

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

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

ARMOR Editorial Office

Editor in Chief

Lisa Alley (706) 545-9503
Email: lisa.a.alley8.civ@mail.mil DSN 835

Deputy Editor

Gary A. Jones (706) 545-8701
Email: gary.a.jones33.civ@mail.mil DSN 835

Covers, Art Support, Tanks of the World Feature

Jody Harmon (706) 545-5754
Email: jody.a.harmon.civ@mail.mil DSN 835

U.S. Army Armor School

Commandant

BG Kevin D. Admiral (ATZK-DF)
(706) 545-2029
Email: kevin.d.admiral.mil@mail.mil DSN 835

Deputy Commandant

COL Sean W. Barnes (ATZK-DF)
(706) 545-2029
Email: sean.w.barnes3.mil@mail.mil DSN 835

Armor School Command Sergeant Major

CSM Kevin J. Muhlenbeck (ATZK-CSM)
(706) 545-3815
Email: kevin.j.muhlenbeck.mil@mail.mil DSN 835

194th Armored Brigade

COL Dawson A. Plummer (ATZK-BAZ)
(706) 626-5969
Email: dawson.a.plummer.mil@mail.mil DSN 620

316th Cavalry Brigade

COL J. Frederick Dente (ATZK-SBZ)
(706) 626-8670
Email: jerome.f.dente.mil@mail.mil DSN 620

Office, Chief of Armor

George DeSario (ATZK-AR)
(706) 545-1352
Email: george.desario.civ@mail.mil DSN 835

CHIEF OF ARMOR'S HATCH

BG Kevin D. Admiral
Chief of Armor/Commandant
U.S. Army Armor School



Train to Maintain, Train to Sustain

“When we send the Army somewhere, we don’t go to participate, we don’t go to try hard, we go to win. Winning matters! We win by doing the right things the right way.” -GEN James C. McConville, Army Chief of Staff, initial message to the Army team

Today’s Armored Force needs to be ready to deploy at any time, to any location, and to perform multiple missions. Once the unit arrives at its location to perform combat operations, advising missions, or partnered training, it’s imperative that readiness does not decline. “Train to maintain” and

“train to sustain” are two of the 10 principles of training outlined in Army Doctrine Reference Publication 7-0 (https://usacac.army.mil/sites/default/files/misc/doctrine/CDG/cdg_resources/manuals/adrp/ADRP_7-0.pdf). Deployed formations have the potential to dramatically increase their readiness by maximizing available training time and resources with limited training distractions.

With more training time and resources, how are you going to increase lethality in your formation on deployment? Prior to departing home

station, there are many training opportunities available that will improve individual proficiency in our craft. Step 2 of the eight-step training model is “train and certify leaders.” One of the best opportunities to train leaders is to enroll in a functional course at the U.S. Army Armor School (USAARMS). For more information on Armor and Cavalry programs of instruction, check the 316th Cavalry Brigade course book (<https://www.benning.army.mil/Armor/316thCav/Content/PDF/316th%20BDE%20CATALOG%20FY20.pdf?24SEP2019/>).

The Noncommissioned Officer (NCO) Corps has a fundamental role in unit training. NCOs are responsible for the individual training of Soldiers, crews and small teams. NCOs conduct standards-based, performance-oriented, battle-focused training, and there are several USAARMS functional courses that all Armor NCOs should take, including M1 Abrams Master Gunner and the Maneuver Leader’s Maintenance Course. Cavalry NCOs should graduate Bradley Master Gunner School, Scout Leader’s Course, Cavalry Leader’s Course and Bradley Commander and Gunner Certification Course (BCGCC). USAARMS is already working with Human Resources Command to identify Soldiers on assignment who have limited armored brigade combat team experience and

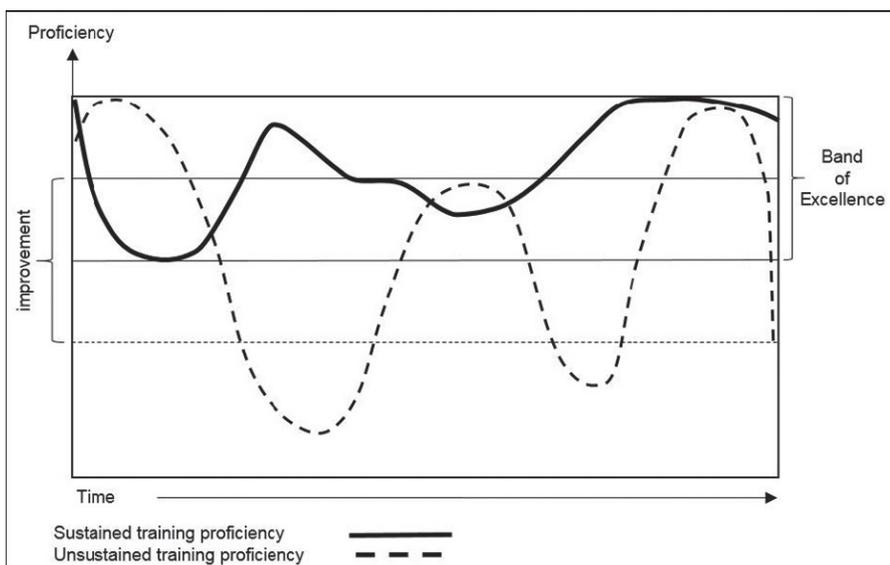


Figure 1. Sustaining proficiency within a band of excellence.

send them temporary-duty to BCGCC to ensure our NCOs are ready to lead on Day 1 of their assignment.

Master gunners continue to be the cornerstone of our gunnery training progressions and represent platform expertise. NCOs should strive to become master gunners to increase individual knowledge and help the formation sharpen lethal Leaders and Soldiers. An important first step in growing master gunners is to establish a sabot academy. The course requirements are minor, and the course provides the master-gunner candidate with the best opportunity to mentally prepare for the Master Gunner Course. Check <https://www.milsuite.>

[mil/book/docs/DOC-350788](https://www.milsuite.mil/book/docs/DOC-350788) for Abrams Sabot Academy course material; <https://login.milsuite.mil/?goto=https%3A%2F%2Fwww.milsuite.mil%3A443%2Fbook%2Fdocs%2FDOC-486004> for Bradley Sabot Academy course material; and <https://login.milsuite.mil/?goto=https%3A%2F%2Fwww.milsuite.mil%3A443%2Fbook%2Fgroups%2Fstryker-master-gunner-course> for Stryker Master Gunner. Check the Army Training Requirements and Resources System Website (<https://www.atrrs.army.mil/atrrsc/search.aspx>) for information about course date and waiver information.

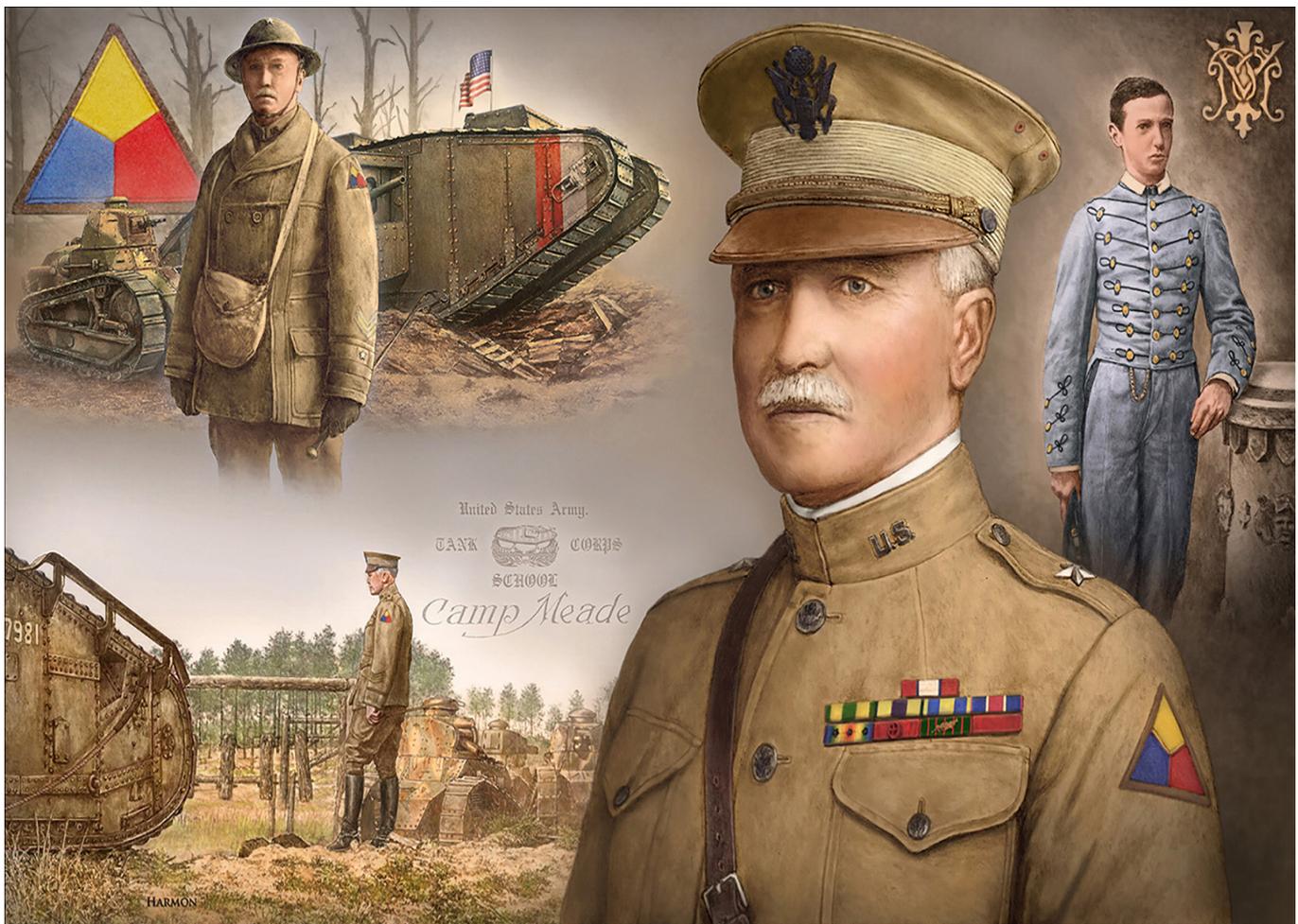
Lastly, the 2020 Sullivan Cup has been postponed and will be rescheduled once global health concerns have been mitigated. Check <https://www.benning.army.mil/armor/sullivan/> for updates on the 2020 Sullivan Cup.

Treat 'Em Rough!

ACRONYM QUICK-SCAN

BCGCC – Bradley Commander and Gunner Certification Course
NCO – noncommissioned officer
USAARMS – U.S. Army Armor School

LEGENDS OF ARMOR



TREAT 'EM
ROUGH!

BRIGADIER GENERAL SAMUEL D. ROCKENBACH



GUNNER'S SEAT

CSM Kevin J. Muhlenbeck
Command Sergeant Major
U.S. Army Armor School



No 'Easy' Button

During my tenure as the Armor School command sergeant major, I have geared my quarterly "Gunner's Seat" article toward reinforcing our critical role as noncommissioned officers (NCOs) within the Army's sustained-readiness model. With the constant churn of both U.S. Army Central Command-oriented and regionally aligned forces deployments, fulfilling our duties takes on a greater, immeasurable level of importance. I like to title this role as "setting the conditions for victory" because of the following responsibilities we bear in building the foundation for collective training and combat success:

- We ensure our Soldiers are both administratively and medically ready, and proficient in their warrior tasks and battle drills, as well as in their Skill Level 10 tank-crewmember or cavalry-scout tasks.
- We identify and develop the potential for Soldiers to become the next generation of NCOs who will carry the Army into its next chapter, all while coaching and mentoring the young officers who will be future commanders long after many of us have moved on to the next chapter of our lives.

These responsibilities do not fade just because the unit deployed on a rotational deployment or in support of a contingency operation. In fact, it is more critical that we take ownership of them. NCOs at echelon must not only apply their energies to the current operation or task they are on, but must look to the series of follow-on

missions to ensure the unit is just as combat ready on the 20th mission as it was on the first. This can only happen if we continue to do the following, even when deployed:

- Continue to take "ownership" over the readiness of our Soldiers and the resiliency of their families at home station;
- Give our current and future leaders the skills they need to accomplish their duties by sending them to their respective professional military education (PME) courses and to functional courses either at home station or at Fort Benning;
- Identify young Soldiers who have the potential to be your replacement and get them to the board if they are meeting the Army standard (not a unit one);
- Continue being positive role models, even in times of adversity, to encourage the top performers to stay with the team; and
- Support those who don't want to or shouldn't stay with the team with adequate time to prepare for transition.

Granted, these "tasks" are not as easy as they sound, and conditions on the ground will always have an impact on our ability to accomplish some of them – for example, conducting combat operations will trump sending a Soldier to PME – but it should be a constraint of that magnitude before we hit the "easy" button and withhold a Soldier from attending a school or for a unit to not conduct a promotion board. As an Army, we've done a great

job in reducing the backlog for PME, but as a branch we have more work to do in getting healthy at the sergeant and staff-sergeant grade plate, and that can only be done by sending eligible specialists and sergeants who are within Army standard to the board.

For those who don't demonstrate the potential, do the counseling, impose the bar if applicable, and either change the behavior or support them on the transition from Soldier to civilian.

To be transparent, I could have done this better as a platoon sergeant, first sergeant and command sergeant major, so know that I have scar tissue on this topic as well; we must collectively do better for the health of our branch.

Finally, with the turn of the year, the 2020 Sullivan Cup and Armor Ball are coming upon us. Put your crews through the paces and pick the best crew to represent your unit at a world-class tank competition, which will include tankers from the National Guard, Marine Corps and a number of our allies and partners. Competition builds excellence, excellence builds pride and **PRIDE IS CONTAGIOUS!!!!!!**

ACRONYM QUICK-SCAN

NCO – noncommissioned officer
PME – professional military education

Regionally Aligned Forces Europe Produce Long-Term Readiness

By LTC Dan Hodermarsky, MAJ Brennan Speakes and MAJ Oliver Davis

After the third rotation to Europe of 1st Armored Brigade Combat Team (ABCT), 3rd Infantry Division, in support of the Regionally Aligned Forces (RAF) Europe mission, the BCT's S-3, the BCT's support-operations officer (SPO) and the BCT executive officer sat down to try to codify what 1st ABCT accomplished over nearly 12 months' deployment.¹

This was in Winter 2016, so Objective-T was the unit-readiness standard that focused primarily on collective live-fires as a key indicator of a unit's training status. Our BCT deployed across 17 countries, mostly down to the company level, so there were limited opportunities to conduct large-scale collective live-fires. Examining the training events we executed, we realized RAF Europe produced a readiness at echelon in both the long and short term.

We will walk through a visualization of how the BCT built readiness in the short term at small-unit level (platoon/company), at times at the higher collective level (battalion/brigade) and, in the long term, when considered a real-world leader-development laboratory.

Situation

The European environment was permissive, but we were concerned that foreign forces were monitoring and testing the BCT's security posture. At the time, Russia was overtly participating in military action in Ukraine, so we were aware of the potential hybrid threats.² Hybrid threats capture the complexity of the RAF Europe operational environments, the multiple actors involved and the blending among traditional elements of conflict. This is especially relevant in multi-domain operations, and we assumed that we were in the "competition" phase of operations and that the brigade's role included demonstrating credible deterrence.

Building readiness at platoon, company level

The platoons and companies/troops/batteries of 1st ABCT, 3rd Infantry Division, likely had the best training experience over the ABCT's rotations in 2015-2016. The brigade executed 24 Gunnery Table VI³ iterations, 12 platoon and company/troop/battery live-fires for each unit in the BCT.

Opportunities for squads, platoons and companies to execute small-arms qualifications and situational-training exercise (STX) lane training were countless. Most units were able to train at echelon daily, normally in conjunction with their allied counterparts. We often conducted physical training with our allies across obstacle courses and foot marches as combined-team-building competitions. If mastery comes through repetition, the number of reps provided by small units that aggressively train in a European RAF environment are able to produce highly trained small units.

Building readiness at battalion, brigade level

Achieving a T- or higher by the current Objective-T standards at battalion and brigade level is meant to be difficult. It requires teams at these levels to execute STX and live-fire exercises training in day and night conditions at echelon.

During our European RAF rotations,

there were limited opportunities for battalions and brigades to execute these types of events with all their own organic subunits. Battalions often commanded multinational companies during exercises (Saber Strike, Iron Sword), and the brigade commanded multinational battalions during Combined Resolve exercises at Joint Multinational Readiness Center (JMRC). The 7th Army Training Command (ATC) resourced these exercises well, but they did not result in bringing every battalion or the ABCT above P ratings.

Where the battalions and the brigade made up ground was staff training at command-post exercises (CPXs). The 7th ATC at Grafenwoehr resourced brigade-level CPXs during each rotation. The 7th ATC also resourced a cavalry squadron rotation at JMRC. These CPXs allowed the brigade and battalion staffs to get well-resourced repetitions in the operations process, allowing the brigade and battalion commanders excellent opportunities to train their staffs.

Sustainment experience

The disposition of the European RAF ABCT forced our sustainment teams to work through real-world problems at an accelerated operations tempo. Executive officers, S-4s, unit-movement officers, forward-support companies and the brigade-support battalion (BSB) worked diligently to ensure people and equipment arrived at the right place at the right time. The RAF

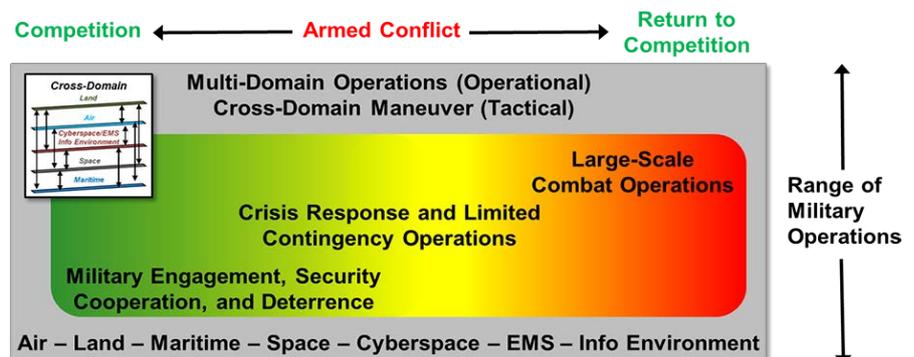


Figure 1. Competition continuum.

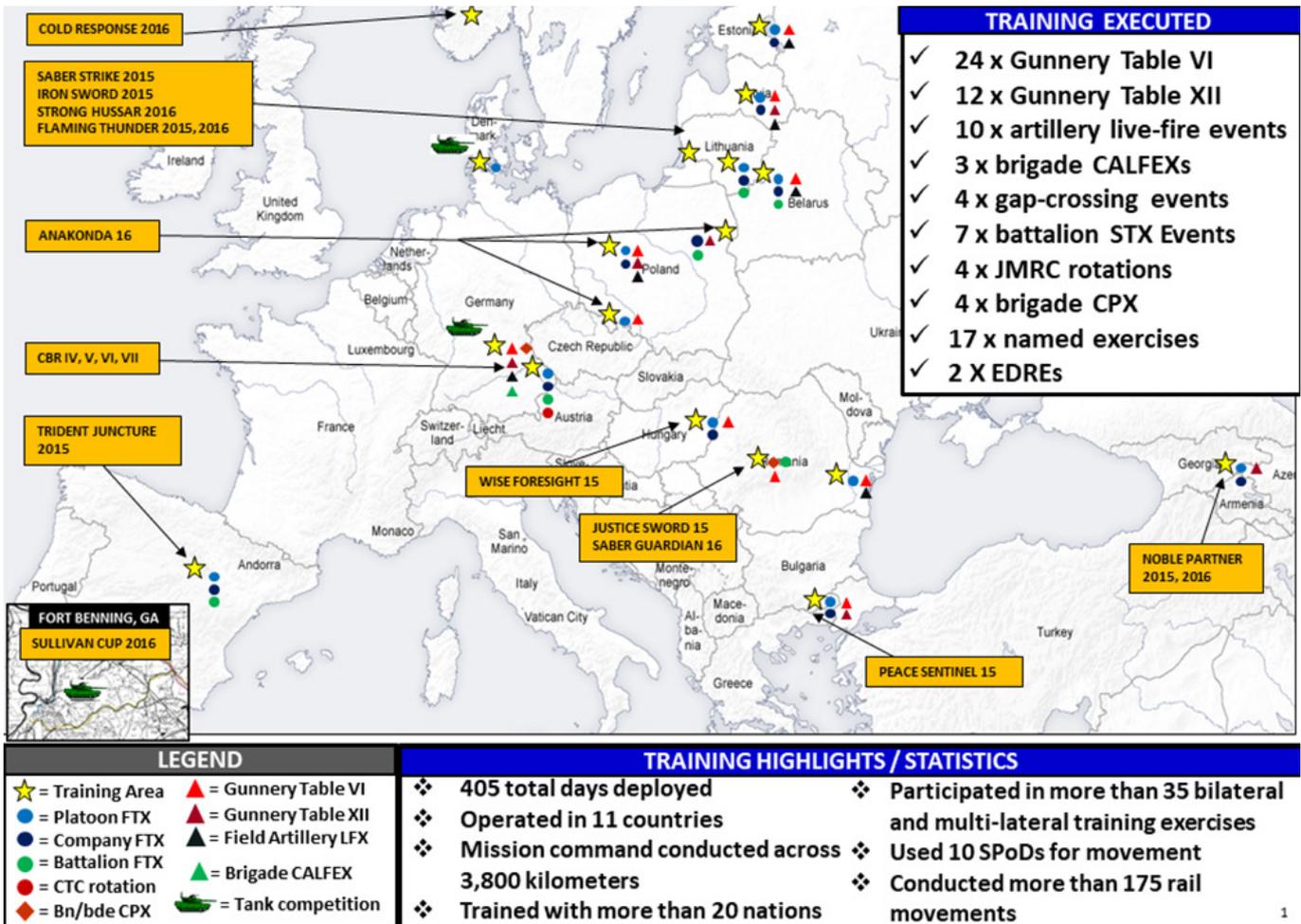


Figure 2. 1st ABCT, 3rd Infantry Division’s training review March-June 2015, September-December 2015 and April-October 2016.

rotation exercised all the principles of sustainment, exposing our junior officers and noncommissioned officers (NCOs) to a level of planning often reserved for the most senior levels. The 3rd BSB commander assumed the role as the sustainment coordinator and ensured sustainment synchronization through detailed concepts of support, synchronization meetings and rehearsal-of-concept drills.

The brigade deployed equipment by rail, sea and air from Fort Stewart, GA, to Europe and back over each rotation. During rotations to Europe, the ABCT operated at multiple airports and seaports to embark and debark combat vehicles, equipment and Soldiers. The ABCT would aggregate, build, disaggregate and reconsolidate combat power multiple times over its time in Europe. This was done while simultaneously sustaining training events at all echelons and in multiple multinational exercises.⁴ Junior officers and

NCOs had to be keenly aware of national regulations for movement timelines, especially as the ABCT had short windows to transition between exercises.

Whether an infantryman or a functional logistician, battalion S-4s found themselves working theater-level sustainment plans to ensure their warfighters received the support they deserved. In today’s European operating environment, the theater-sustainment command (TSC) through area-support groups and mayor cells takes an active role in ensuring life support is in place while brigades build combat power and prepare for onward movement. As Atlantic Resolve was a relatively immature concept, battalion S-4s found themselves responsible for developing agreements between the host nations and the United States that included feeding, billeting and even contracted support.

Maintaining equipment readiness was a challenge as theater processes were immature compared to today’s situation. Our teams moved repair parts by air, rail and sometimes 15-passenger van to units in the field to maintain operational tempo. Line-replaceable-unit repair became difficult, as the brigade Direct-Support Electrical System Test Set could not support armored formations spread across the entire theater. Ammunition had to clear national borders; rail teams had to be deployable and flexible to be prepared to adjust turrets five mils as trains crossed from one country into another. U.S. Army Europe and 21st TSC transportation staffs worked long hours resourcing almost every heavy rail car on the continent in support of moving the ABCT to and from multiple locations.

As the United States doesn’t expect to fight a war unilaterally, the most significant learning experience was for

leaders to learn sustainment interoperability. Through multiple exercises, most notably the Combined Resolve exercises, leaders at all echelons had to learn how to sustain organizations from multiple countries during decisive action. Understanding the task organization, capabilities and requirements became key. To illustrate, during Combined Resolve V, the BCT gained mission command of a Romanian battalion, which had subordinate companies from three countries. Understanding Class III (B) and V requirements, compounded with international agreements for support, added a layer of complexity that developed flexible and adaptive junior leaders.

Experience in security cooperation

Prior to the RAF deployments, most junior leaders had not participated in a deployment outside the continental United States, and even combat veterans were unfamiliar with the RAF mission. For many of us, this was the first experience with security cooperation⁵ as a primary task.

Soldiers and leaders liaised directly with upper echelons of host-nation defense forces and country teams to plan training missions, coordinate transit plans and discuss any resource shortfalls. The RAF mission was an outstanding opportunity to train with multinational counterparts that typically does not happen. Other than 173rd Airborne Brigade, 2nd Cavalry

Regiment and 25th Infantry Division, most U.S. Army Forces Command units do not get to conduct training missions with allies and partners. If large-scale combat broke out, Soldiers and leaders who participated in a RAF Europe mission now have a working knowledge of multinational operations.

Long-term returns on investment

Beyond the immediate experience and training readiness produced by rotations to Europe by 1st ABCT, 3rd Infantry Division, there will be a long-term return through leader development. The junior NCOs and officers who made things happen will be more expert in their craft as they progress in rank and responsibility. Company commanders and their master gunners often created to-standard gunnery ranges out of nothing but an open field. They studied the ABCT gunnery manual requirements; walked the dirt with compasses and Surface Danger Zone overlays; and, with assistance of 7th ATC mobile-support teams, were able to emplace targets and execute gunnery. This experience is invaluable, and these platoon- and company-level leaders have built up gunnery ranges from scratch and now have a deeper understanding of the doctrinal training requirements of a mechanized formation – as well as the ballistics and direct-fire control considerations of their combat platforms.

Senior leaders like LTG Ben Hodges, the U.S. Army Europe commanding general during 1st ABCT, 3rd Infantry Division’s rotations, created a leader-development laboratory. Reminding officers of the level of detail units understood about the terrain and battle plans during the Cold War, and how it mirrored what units could hand over to their follow-on units in Iraq/Afghanistan, energized battalion commanders and their teams. Units created “battle books” for their assigned areas; commanders took officers and NCOs on terrain exercises without troops and had professional discussions of how to fight in these locations. This built a bench of officers and Soldiers who now will have a greater understanding of how the bridges in the Balkans affect armor, and how the Suwalki Gap between Poland and Lithuania affects operational maneuver. These leaders executed multiple rail loads and road movements; understood operational reach and tempo at the tactical level; and can take these lessons forward the rest of their careers.

The European RAF mission continued to evolve after 1st ABCT, 3rd Infantry Division, completed its last rotation in 2016. ABCTs now execute heel-to-toe nine-month rotations spread across similar distances, but also consolidate and execute major exercises a bit more frequently. Rotations will continue to evolve, but we offer that the preceding impacts to unit readiness at echelon and long-term leader development are still major factors from the European RAF mission for an ABCT.

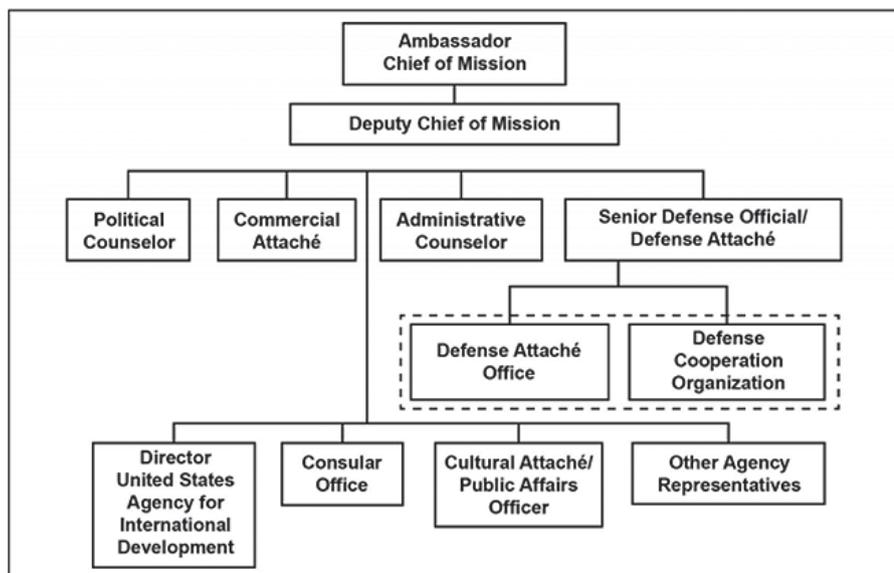


Figure 3. Country team structure.

LTC Dan Hodermarsky is a professor of military science with Oklahoma State University Army Reserve Officer's Training Corps. Previous assignments include G-3 plans officer, U.S. Army Japan; S-3, 1st ABCT, 3rd Infantry Division, Fort Stewart, GA, and Europe; S-3, 3rd Battalion, 69th Armor Regiment, 1st ABCT, 3rd Infantry Division, Fort Stewart; campaign plans officer, U.S. Forces-Afghanistan; and commander, Company D, 1st Battalion 77th Armor Regiment, 4th ABCT, 1st Armor Division, Fort Bliss, TX. His military schooling includes School of Advanced Military Studies, Naval Postgraduate School, Maneuver Captain's Career Course

(MCCC), Scout Leader's Course and Armor Officer Basic Course (AOBC). LTC Hodermarsky holds a bachelor's of science degree in public administration, a master's of science degree in defense analysis from Naval Postgraduate School and a master's of military arts and science degree in theater operations from Command and General Staff College (CGSC). His awards and honors include two awards of the Bronze Star Medal, Defense Meritorious Service Medal and three awards of the Meritorious Service Medal.

MAJ Brennan Speakes is chief of the Commandant's Initiatives Group, U.S. Army Armor School, Fort Benning, GA. Previous assignments included brigade S-3, 1st Security Forces Assistance Brigade, Fort Benning; G-3, Task Force Southeast, Advising Platform **Lightning, Afghanistan; brigade executive officer, 1st BCT, 3rd Infantry Division, Fort Stewart, GA, and Europe; and S-3, 5-7 Cavalry, 1st BCT, 3rd Infantry Division, Fort Stewart. His military education includes interagency fellow at NCR, Command and General Staff College, MCCC, Scout Leader's Course and AOBC. MAJ Speakes holds a bachelor's of science degree in business administration from Texas A&M University and a master's of business administration from Columbus State University. His awards and honors include three awards of the Bronze Star Medal, Defense Meritorious Service Medal and four awards of the Meritorious Service Medal.**

MAJ Oliver Davis is the secretary of the general staff, 21st TSC, U.S. Army Europe, Kaiserslautern, Germany. Previous assignments include G-3 chief of future operations, 21st TSC; BCT SPO

and S-4, 1st ABCT, 3rd Infantry Division, Fort Stewart, GA; BCT 24, 4th Infantry Brigade Combat Team, 10th Mountain Division, Fort Polk, LA; SPO, 6th Battalion, 162nd Infantry Brigade, Fort Polk; and commander, Company A, 210th Brigade Support Battalion, 10th Mountain Division, Fort Drum, NY. MAJ Davis' military schooling includes CGSC, Logistics Captain's Career Course and Quartermaster Officer Basic Course. He holds a bachelor's of arts degree in criminal justice from the University of West Florida and a master's of science-administration in general administration from Central Michigan University. His awards and honors include two awards of the Bronze Star Medal and two awards of the Meritorious Service Medal.

Notes

¹ 1st ABCT's RAF deployment cycle spanned 2015-2016. Rotations were three months (Spring-Summer 2015), three months (Fall 2015) and six months (Spring-Summer 2016). The 1st ABCT was followed by 3rd ABCT, 4th Infantry Division, who executed the first "heel-to-toe" nine-month rotation in support of Operation Atlantic Resolve.

² Army Doctrinal Reference Publication 3-0 states that a *hybrid threat* is the diverse and dynamic combination of regular forces, irregular forces, terrorist forces or criminal elements unified to achieve mutually benefitting threat effects.

³ In most of the eastern locations (the Baltics, Romania, Bulgaria), moving-vehicle targets were not available on tank/Bradley ranges. The ABCT executed modified Table VI crew qualifications by substituting stationary, frontal tank targets at the appropriate range according to the ABCT gunnery manual. The Unit Status Report during these periods was updated

to reflect that crews were qualified only on these modified Table VIs.

⁴ Three of these exercises required armor country teams to deploy intra-theater by sea: Trident Juncture in Spain, Cold Response in Norway and Noble Guardian in Georgia.

⁵ *Security cooperation* is all Department of Defense interactions with foreign security establishments to build security relationships that promote specific U.S. security interests; develop allied- and partner-nation military and security capabilities for self-defense and multinational operations; and provide U.S. forces with peacetime and contingency access to allied and partner nations (Joint Publication 3-20).

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
AOBC – Armor Officer Basic Course
ATC – (7th) Army Training Command
BCT – brigade combat team
BSB – brigade-support battalion
CALFEX – combined-arms live-fire exercise
CPX – command-post exercise
CTC – combat-training center
EDRE – emergency-deployment-readiness exercise
FTX – field-training exercise
LFX – live-fire exercise
JRMC – Joint Multinational Readiness Center
MCCC – Maneuver Captain's Career Course
NCO – noncommissioned officer
RAF – regionally aligned forces
SPO – support-operations officer
SPoD – seaport of debarkation or surface port of debarkation
STX – situational-training exercise
TSC – theater-sustainment command

Achieving Platform Proficiency within a Heavy Cavalry Squadron

by SFC Larry D. Finefield Jr.

Following Sept. 11, 2001, and the subsequent wars in Afghanistan and Iraq, the Army adopted the Army Force Generation (ARFORGEN) model¹ to provide fully manned, equipped and trained forces for both theaters. This three-stage cycle – *reset, train/ready* and *available* – became the doctrinal process within the Army community, tapping into the total force to allow the development and readiness of organizations while meeting combat demands and restoring balance within the force.

Years later, with forces drawing down in Iraq and Afghanistan throughout 2014, the Army began developing the Sustainment Readiness Model (SRM) while focusing more on threats from Russia, China, North Korea and Iran. Introduced in 2017, SRM² provides sustainable readiness tailored to regionally aligned forces. With the introduction of missions such as Atlantic Resolve and Pacific Pathways, developing units with the ability to deter/defeat near-peer adversaries became the Army's paramount focus.

In keeping with the SRM process, 2nd Squadron, 13th Cavalry Regiment, from Fort Bliss TX, participated in five sustainment gunneries to meet manning and operations requirements prior to its Fort Irwin, CA, National Training Center (NTC) rotation before

deploying to the Republic of Korea (RoK). Limited resources, inexperienced armored leadership and a history of no-school-trained master gunners within the organization resulted in a less-than-standard training plan and low overall scores throughout both the squadron's and brigade's gunneries. Low Q1 qualification (65 percent) and high crewman change-over compelled 2-13 Cav to change its training plan to improve the organization's overall performance and capabilities. The leadership of 2-13 Cav relied on doctrine, experience and the expertise of their master gunners to develop a deliberate doctrinal training plan aimed specifically at the fundamentals of leader certification, in-depth skills testing and focused rehearsals to ultimately improve the squadron's Q1 rate to 100 percent.

The plan

With a rotation to the RoK fast approaching, identification of the squadron's operational and training

priorities was a key topic of concern and discussion. The assessment by the unit's leaders of continuous rotations among field-training exercises, sustainment gunneries and NTC identified vehicle maintenance as the squadron's top priority. Next was the need to develop a legitimate squadron-led gunnery training plan and execute it with a goal of attaining a 100-percent Q1 qualification rating. Additional areas of emphasis included the training of tasks specific to crewmen positions, weapons systems and gunnery. The squadron also certified leaders and trainers to ensure that standards and goals would be met.

A quarterly training conference brought together all leaders to develop a plan capable of meeting the squadron commander's priorities.



Relying heavily on the experience of the squadron's two Bradley master gunners, a training plan was developed. Heavy attention went to simulations training. Instructor-operators capable of properly mentoring and training crews increased proficiency and overall throughput for the Gunnery Table II (GTII) requirement. Platform weapon-specific training was designed to minimize crew-induced malfunctions while increasing overall knowledge of the system and its capabilities. Vehicle-crew-evaluator (VCE) training was planned for early execution to properly train all vehicle commanders on proper fire commands, timing, scoring and the overall gunnery process. Lastly, blocking off the required time within the squadron's training cycle enabled each troop to execute training accordingly.

Establishing a plan and following through with its execution can be two completely different concepts when it comes to a forward-deployed unit. It required substantial support from the 2-13 Cav commander and command sergeant major to eliminate unnecessary tasks to ensure the execution of the troop training plans.

Attacking problem

The 2-13 Cavalry Squadron arrived at Camp Hovey, RoK, in September 2018. With their Bradley Fighting Vehicles (BFVs) and Abrams tanks just beginning to arrive, the key task of bringing a fleet of battered vehicles to 100-percent operational readiness began. Every Abrams tank and BFV brought to Korea received both its annual and semi-annual services during the course of the rotation. Backordered and short parts, new track, trackpads for every vehicle and countless other fleet-refurbishment parts were all ordered to support the squadron's vehicle rehabilitation program.

There's an old saying: "Having a horse to ride into a battle does nothing when your swords are bent, dull or broken." The current version of the old saying means units must ensure all weapons are razor-sharp and all equipment is in top working order. To reach this objective, 2-13 Cav established a dedicated service schedule for all personal and crew-served weapons, and

radios and optics were scheduled for ancillary services. In addition, all M242 Bushmaster chain guns, mortar tubes and Abrams main-gun barrels were inspected and received the appropriate level of attention.

Tackling the maintenance and services of all vehicles and equipment in this manner ensured 2-13 Cav's equipment was up to the task. With maintenance under control, the conditions were set to train the operators.

Operator training

The first step was VCE training, with all vehicle commanders as the target audience. This developed a doctrinal baseline standard of crew fire commands and engagement procedures. Without this fundamental step, crews could potentially practice chair drills and fire commands the wrong way. That could develop a habit that would be hard to break prior to live-fire execution. Therefore, this training was immediately followed with instructor-operator training for the Conduct of Fire Trainer and Advanced Gunnery Training System.

The rationale was that anyone can turn on a computer and push buttons. However, the ability to communicate what a crew is doing wrong when they become frustrated takes skill and experience, and it cannot be taken lightly. Close attention was needed to ensure the right Soldiers were selected as instructor-operators because these individuals would be the ones to develop the crews within 2-13 Cav. They would ensure the standards were followed during all simulations training prior to gunnery. Therefore, these operators were selected based on rank, previous gunnery experience, VCE certification and their ability to communicate effectively.

Training within a simulator can seem mundane and repetitive to some, but establishing and achieving a standard can help curb this perception fast. Realizing the standard requirement for GTII qualification is sometimes rather lax, the squadron's master gunners suggested increasing simulator-hour requirements as well as the gate-to-live-fire qualification standards. They proposed all crews be required to maintain a continuous presence

within the simulator to help develop muscle memory when dealing with system switches. It greatly improved crew fire commands. The new gate-to-live-fire standard also required crews to score a +900 and nine-out-of-10 distinguished ratings, not just once but twice, while being evaluated by a master gunner and a troop commander.

Keeping continuous tabs on everything, the master gunners included progress reports during weekly training meetings. This allowed the troop command teams to place more emphasis on their crews as needed.

A factor common to Bradley gunnery-range training is dealing with loading and misfire issues, specifically with the M242 25mm Bushmaster chain gun. This is largely due to a lack of proficiency and familiarization with the weapon system. The squadron's master gunners tackled this issue by developing an M242 academy. The academy was comprised of a 16-hour class (eight hours of hands-on classroom instruction and eight hours of in-vehicle practical exercise).

The M242 academy introduced specific knowledge of the 25mm weapon to all gunners and vehicle commanders. The subjects taught included:

- Common parts list;
- General operation;
- Functionality;
- 10-level pre-inspections;
- Boresighting procedures and ammo upload procedures;
- Misfire identification procedures;
- Common crew-induced malfunctions; and
- Basic troubleshooting.

Upon completion of the M242 academy, Soldiers were able to properly upload and download the M242; identify misfires and malfunctions; perform proper troubleshooting steps; and communicate effectively to a master gunner what was happening in the event basic troubleshooting could not resolve the issue. This greatly increased the crews' knowledge and proficiency both in the BFV and on the gunnery range.

Every gunnery event has certain requirements that must be executed

before any live rounds can be fired downrange. The gunnery-skills test (GTI)³ is no exception. Identifying the need to determine the squadron's trouble areas for this event, guidance was given to execute a GTI practice test two months before the squadron conducted the GTI. All events were tested, and the evaluators for each event were certified by the master gunners to ensure proper evaluation procedures were followed. From the practice test, troops were able to identify strengths and weaknesses and develop another training plan to help ensure first-time "GOs" when conducting the squadron GTI event.

The additional testing and practice paid off; crews and individuals were able to achieve the standards, greatly minimizing the normally drawn-out evaluation process.

Many crews within 2-13 Cav had never been part of gunnery operations before, so the squadron master gunner developed a gunnery operation brief and presented it to all vehicle crew members. In the same way each training event executed in the Army has a *task*, *conditions* and *standards* brief, this brief was designed to explain the whole gunnery process. Crews learned to install cameras, draw ammo, move down a lane, engage targets and exit the range. Crews received detailed information about the gunnery process and what they could expect before executing the range.

This brief was reinforced two days before execution when the master gunners executed a range walk with all crew personnel on the range itself. The range walk discussed the install and checks of cameras, ammunition draw, pre-fire checklist execution, staging areas, range flow, execution and clearing procedures. Also, specific range details and responsibilities were covered as well. This helped minimize questions on the day of execution.

Plan comes together

The U.S. Army operates based on a crawl, walk and run methodology when it comes to the execution of any training event. The training and preparation can seem endless; crews often feel unprepared due to the tough training standards. However, once the

execution day came for 2-13 Cav, all crews were prepared, as their focus on doctrinal fundamentals gave them the keys to success. Despite four weeks of continuous operations, 2-13 Cav closed the chapter on one of the most successful unit improvement stories within its history.

Growing from a hodgepodge group of Soldiers – more than 50 percent of them having never fired at a gunnery – to watching crews become more comfortable and lethal with their platforms, 2-13 Cav met its 100-percent Q1 qualification goal. Taking things one step further, the squadron's combined average of 931 with distinguished rating set an unprecedented bar that will Soldiers in the unit will forever be hard-pressed to beat. The squadron also qualified 39 crews with a distinguished rating between both BFV and Abrams platforms.

Throughout the 2-13 Cav Bradley gunnery, there were only five M242 weapons malfunctions, all of which could not be identified without firing a live burst through the weapon system. Furthermore, all five weapon issues were quickly identified and fixed to maintain an operational fleet throughout gunnery. There were zero crew-induced weapons malfunctions throughout the entire gunnery process, which is a testament to the training and maintenance conducted by all 45 Bradley crews.

Lastly, the squadron developed a stronger appreciation for the gunnery process, which Soldiers can carry to their next units.

Conclusion

It is no secret that the Army is preparing for the next big fight. With that comes the need for well-trained armored brigade combat teams. To better ensure this force is ready and capable of meeting this task head on, organizations need to focus on the basics. The 2-13 Cav did that when preparing training for its RoK rotation through increased planning, preparation and training. These things resulted in substantial improvement of crew proficiency and qualification throughout the squadron as a whole.

SFC Larry Finefield is a platoon

sergeant in Troop B and the squadron master gunner, 2-13 Cav, 3rd Brigade Combat Team, 1st Armored Division, Fort Bliss, TX. His previous assignments include Simulations Training Management Manager's Course (STMMC) developer and noncommissioned officer in charge, 1st Battalion, 29th Infantry Regiment, 316th Cavalry Brigade, Fort Benning, GA; and squadron master gunner, 1st Battalion, 9th Cavalry Regiment, 2nd Brigade, 1st Cavalry Division, Fort Hood, TX. SFC Finefield's military schools include the Senior Leader's Course, STMMC, Small-Group Instructor Course, Basic Instructor Course, Bradley Master Gunner's School, Advanced Leader's Course, Army Recruiting School, Basic Leader's Course and Air Assault School. He holds an associate's of arts degree in general studies from Central Texas College and a bachelor's of science degree in cybersecurity/information-technology management from Excelsior College. SFC Finefield is currently pursuing a master's of science degree in cybersecurity/information assurance from Excelsior College.

Notes

¹ SSG Alexandra Hemmerly-Brown, "ARFORGEN: Army's deployment cycle aims for predictability," Army News Service, Nov. 19, 2009. Retrieved from http://www.army.mil/article/30668/arforgen_army_deployment_cycle_aims_for_predictability.

² Training Circular (TC) 3-20.31, **Training and Qualification Crew**, Washington, DC: Department of the Army, 2015.

³ TC 3-20.31-1, **Gunnery Skills Test**, Washington, DC: Department of the Army, 2015.

ACRONYM QUICK-SCAN

ARFORGEN – Army Force Generation
BFV – Bradley Fighting Vehicle
GST – gunnery-skills test
GTII – Gunnery Table II
NTC – National Training Center
RoK – Republic of Korea
SRM – Sustainment Readiness Model
STMMC – Simulations Training Management Manager's Course
TC – training circular
VCE – vehicle-crew evaluator

The cavalry squadron in Korea is the eyes and ears for U.S. Forces Korea's counterfire task force (CFTF), which is designed to defeat the artillery threat in North Korea. The squadron is the main organization available to the CFTF commander for his reconnaissance needs. By leveraging information gained from conducting Phase 0 reconnaissance, the cavalry squadron provides an advantage in complex terrain.

The advantage in Korea is the ability to train where one fights. Due to the megacity environment, the terrain changes constantly; buildings are constructed in open areas and the road networks change frequently. It is paramount that troops maintain a thorough understanding of the area where they will operate. Seasonal change affects rural terrain – for instance, Korean farmers flood their rice crops, making the terrain severely restrictive for heavy combat platforms during spring and summer. Those same fields become frozen in winter and make this terrain usable for combat operations. Finally, the terrain is changing from rural to urban as 25 million people live in and around the CFTF's area of operations.

As the squadron commander, I expected troops and platoons to constantly conduct Phase 0 reconnaissance patrols to update observation post (OP) locations, link-up locations, changes in terrain, fording sites, patterns of life and changes in concealment based on seasonal effects. Being able to train and conduct reconnaissance where we would fight gives us an advantage over the enemy and must be seized. I expected our platoons to go to their designated battlespace without maps, just as they would in their hometown. For example, in driving to Wal-Mart the first couple of times in a new location, you might use Google Maps, but after that the route is committed to memory.

We had the same opportunity in Korea, and this is how I defined Phase 0 reconnaissance. Conducting effective Phase 0 reconnaissance allows the cavalry squadron to achieve its purpose: to provide accurate and timely information to the brigade commander so he can make decisions ahead of the threat. Phase 0 reconnaissance needs to be seized as the rotational brigade combat teams continue conducting rotations to Korea, Europe and Kuwait. MG Scott D. McKean constantly taught us to train to ensure "we can do the things we say we can do," and Phase 0 reconnaissance ensures the cavalry squadrons are in a position to fight tonight, and keep fighting until we win. –LTC Greg McLean, commander, 2nd Squadron, 13th Cavalry Regiment, 3rd Armored Brigade Combat Team (ABCT), 1st Armored Division

Cavalry Operations in the Republic of Korea: Phase 0 Reconnaissance

by CPT Colton C. Parr and
CPT Andrew Robichaud

Today there are many adversaries in locations across the globe that have the potential to erupt into armed conflict. Many of these locations are identified as areas of interest for the United States which, if engulfed in conflict, would destabilize the region and disrupt partnered and allied nations. As these potential conflict areas are identified, it is important to understand as much about the adversary and location as possible to be in the best position to react should diplomacy or military deterrence fail.

This is where Phase 0 reconnaissance becomes a critical factor in the United States' ability to effectively respond should armed forces be required to deploy to at-risk areas. This is true for U.S. forces deployed to deter conflict as well as for U.S. forces deployed to respond to an ongoing conflict. The more detailed information that can be collected on the adversary, operational environment, terrain, infrastructure, population and weather before the

commencement of hostilities, the better prepared combat forces will be.

This is the role of Phase 0 reconnaissance. Reconnaissance during this phase can answer critical information requirements concerning each of the preceding factors before U.S. forces are engaged in large-scale operations, and it has the ability to drastically increase the effectiveness of an armed response against an adversary.

Phase 0 examples

Examples of the importance of Phase 0 reconnaissance can be seen throughout history. During the Korean War, a detailed understanding of the massive tidal range around Incheon allowed U.S. forces to successfully conduct an amphibious assault that dramatically reversed the course of the war. Without this information, the assault would have been much more difficult.

The amphibious operation during the Battle of Gallipoli during World War I also highlights the importance of Phase 0 reconnaissance but in a negative manner. Lacking updated maps

and information regarding the coastline and water depth, the amphibious landing parties struggled to get ashore to their assigned landing zones. This resulted in the deaths of many Soldiers, as the enemy engaged their landing craft as they searched for a clear route to the beaches. Many other Soldiers drowned or were killed by machinegun fire while attempting to wade ashore in deep water.

Phase 0 recon's purpose

Phase 0 reconnaissance can take place in many different forms – from satellite imagery, to identifying the locations of enemy missile systems, to scouts on the ground collecting information on road networks and the local population. Regardless of the method, the goal of reconnaissance is still the same: to answer critical intelligence requirements that leaders need to make the most informed decisions about when and how to employ U.S. forces and capabilities.

When compared to reconnaissance performed in other phases of the

operation, Phase 0 has the distinct advantage of being conducted in the absence of flying bullets. This dramatically increases the freedom of maneuver scouts on the ground enjoy and allows them to conduct operations that would otherwise have been much more difficult.

In many situations, conducting Phase 0 reconnaissance enables the collection of detailed information over the course of a long period. U.S. forces stationed in Germany as a deterrent to Soviet aggression were able to collect information on infrastructure, terrain and adversary positions for years, making them intimately familiar with the area they could be required to fight in.

The freedom of maneuver possible during Phase 0 is also dependent on host-nation governments. The local government's rules and regulations concerning the movement of U.S. forces within their country can either be restrictive or permissive to U.S. forces operating there. Regardless of these rules, it is important to abide by them rather than risk damaging relations with the host-nation government, which may lead to increased restrictions.

Phase 0 reconnaissance must begin with a route reconnaissance of both the identified primary and alternate routes. There are two main purposes for conducting these route recons. The first is based on painting the picture for the supported unit. By conveying information on bridges, canalizing portions of the route and locations with enough clearance to enable convoys to turn around, scouts will enable their supported unit to be able to choose the most effective route. Also, lateral routes, bypasses to bridges and the general level of civilian traffic must be identified during Phase 0 to reduce friction on the route during the actual operation.

The second purpose is to build familiarity with the route within a scout's own organization. The officers, non-commissioned officers and drivers in the organization must know how to reach the reconnaissance objectives with the same degree of familiarity as they have with driving to their local

grocery store. Also, route reconnaissance should be conducted at different times of the day to establish a pattern for civilian traffic based on time. This information will enable a more accurate estimated time of arrival and will help produce specific windows of time that are optimal for movement.

Transitioning

Upon reaching the reconnaissance objective(s), it is essential to transition to an area reconnaissance to develop understanding of the potential enemy as well as the hydrological and geographical features. Unlike an area reconnaissance in the more traditional "tactical" sense, these area recons will generally be at either the key-leader level or as part of a reduced force. This must be decided carefully based on the level of covertness the force must maintain to prevent revealing portions of its plan via observation by a potential threat.

Within the reconnaissance objective(s), the first priority is to determine primary avenues of approach, infiltration routes and retrograde routes. This can be determined through both a mounted and a dismounted reconnaissance, with the patterns of life within the reconnaissance objective(s) factored in to determine the suitability of each route at different times of day.

The next focus should be on the location of primary, alternate and subsequent battle positions for the supported unit in addition to potential locations for the placement of command-and-control and sustainment nodes. Terrain must be understood and the effects accounted for to provide an advantage to the supported unit and enable achievement of its task and purpose.

It is important to note that during this portion of an operation, enemy contact is unlikely. The recon element must use this time and maneuver space to its advantage by carefully planning a transition from reconnaissance to security.

After identifying suitable locations for the supported unit to achieve its tactical task and purpose, the focus can switch to how to provide area security

to provide the protected force adequate time and maneuver space. The security plan must incorporate both mounted and dismounted OPs that use the terrain to advantage. Mounted OPs should be positioned to make full use of their long-range optics, while dismounted OPs can provide security within identified avenues of approach in restricted or severely restricted terrain.

A plan for when to transition from short-duration to long-duration mounted OPs must also be carefully considered to provide maximum security while the supported unit initially occupies the identified positions, and a specific trigger must be identified to transition to long-duration OPs to enable the recon element to be able to sustain its tempo. The recon element must identify all friendly OPs and submit no-fire-area requests to mitigate the possibility of fratricide. Also, the recon element must fully understand and be able to paint the security plan to the supported unit by identifying the location of friendly adjacent units while integrating any host-nation forces (HNF) into the security plan.

Transitions are periods of natural friction during any military operation. Major transitions during Phase 0 reconnaissance include a transition from route recon to area recon, a transition from area recon to area security, and the occupation of the reconnaissance objective by the supported force. To mitigate the risk of fratricide and to maintain the desired tempo, rapid but effective linkups must be conducted between adjacent friendly units and with the HNF. During Phase 0 reconnaissance, it is vital to develop and rehearse linkup procedures so they are readily understood by all participants. Far- and near-recognition symbols must be established, and the equipment available within HNFs must be understood to create a feasible plan. Operations graphics must be shared during Phase 0 to create a common understanding and to facilitate a quick linkup either in person or via radio.

An example of validated linkup procedures performed within the Korean Theater of Operations is contained in Table 1. It is important to note that this is not all-inclusive and will require

TASKS		STATUS
Prior to link-up		
Receive link-up time, place, unit, command/support relationship (operations order, operations plan)		
Coordinate in-person with receiving unit (if possible)		
Establish liaison (if applicable)		
Establish far recognition (establish comms in accordance with primary, alternate, contingency and emergency plan)		
Coordination while moving to link-up point		
Number/type of friendly vehicles on both stationary and moving elements		
Status of routes to link-up points; updates to rally points, chokepoints and checkpoints		
Friendly (joint/combined) forces in area, and location and disposition of forces		
Confirm communication information (frequencies, call signs, Joint Capabilities Release identification and chatroom)		
Verify fire-control measures or signals in effect		
Friendly adjacent units by location		
Provide/receive intel updates		
Finalize link-up location and rally point as well as alternate location due to contact if different from operation plan tactics, techniques and procedures and GTW positions		
Confirm near-recognition signal (day and night)		
Day (U.S. to U.S.) VS-17 panel with pink side facing out (RoK security forces/U.S.) Green flag/orange VS-17 panel	Night (U.S. to U.S.) P: infrared strobe/infrared panel A: red flashlight/chem light (RoK security forces to U.S.) green chem light/green flashlight	
Coordination at link-up point		
Establish local security		
Provide update on any constraints, limitations or restrictions that will affect mission		
Exchange graphics and brief active fire-control measures		

Table 1. Phase 0 recon checklist.

adjustment based on the supported unit’s capabilities and mission set.

Enablers are simply any asset or unit that can be used to aid mission success. Reconnaissance units must understand enabler capabilities, limitations and sustainment requirements to employ them effectively. The incorporation of these enablers is vital to create shared understanding for the operation and to allow the subject-matter experts, the enablers themselves, to provide bottom-up refinement for the plan. By having physical access to the terrain before execution of the operation, enablers can select the optimal location to ensure survivability and achieve the desired effects. Reduced-force rehearsals can be conducted on-site to enable early identification of friction points within the

plan, and defined triggers can be established to ensure that the right enabler is at precisely the right place, at the right time, to provide the right effect for the situation.

Phase 0 reconnaissance offers a rare opportunity to develop a detailed plan on the very terrain on which operations will be executed. Success enables capturing detailed information on the terrain, infrastructure, threat and societal aspects within an area of operations before the start of hostilities. Of equal importance, success enables the creation of shared understanding among the reconnaissance force, adjacent friendly forces and HNFs. Rehearsals among the aforementioned elements and additional assigned enablers can take place on the actual terrain where a planned

operation will take place. Time is one of the most precious resources that we as reconnaissance leaders have, and it must be put to good use!

As Michael Elliot-Bateman so fittingly said, “If we arrive, as our forefathers did, at the scene of battle inadequately equipped, incorrectly trained and mentally unprepared, then this failure will be a criminal one because there has been ample warning.”¹

CPT Colton Parr commands Headquarters and Headquarters “Hatchet” Troop (HHT), 2nd Squadron, 13th Cavalry Regiment, 3rd ABCT, 1st Armored Division, Fort Bliss, TX. Previous assignments include commander, Apache Troop, 2-13 Cav, Fort Bliss; squadron plans officer, 2-13 Cav, Fort Bliss; executive officer, Crazyhorse Troop, 5th Squadron, 1st Cavalry Regiment, Fort

Wainwright, AK; and reconnaissance-platoon leader, Crazyhorse Troop, 5-1 Cav, Fort Wainwright. CPT Parr's military schooling includes Armor Basic Officer Leader's Course (ABOLC), Army Reconnaissance Course (ARC), Airborne School, Cold Weather Leader's Course, Maneuver Captain's Career Course (MCCC), Cavalry Leader's Course (CLC) and Bradley Leader's Course. He holds a bachelor's of arts degree in international relations from Middle Tennessee State University. CPT Parr's awards and honors include the Parachutist's Badge and the bronze-level Order of Saint George.

CPT Andrew Robichaud commands Blackfoot Troop, 2-13 Cav, 3/1 Armored Division, Fort Bliss. Previous

assignments include armor observer/coach/trainer, Joint Modernization Command, Fort Bliss; executive officer, Palehorse Troop, 4th Squadron, 2nd Cavalry Regiment, Vilseck, Germany; platoon leader, 2nd Platoon, Outlaw Troop, 4th Squadron, 2nd Cav Regiment, Vilseck; and assistant operations officer, HHT, 4th Squadron, 2nd Cav Regiment, Vilseck. CPT Robichaud's military schooling includes ABOLC, Army Reconnaissance Course, Ranger School, Airborne School, MCCC, CLC and Air Assault Course. He holds a bachelor's of arts degree in history from Salisbury University.

Notes

¹ Michael Elliot-Bateman, *Defeat in the*

East, London: Oxford University Press, 1967.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
ABOLC – Armor Basic Officer Leader's Course
ARC – Army Reconnaissance Course
CLC – Cavalry Leader's Course
CFTF – counterfire task force
HHT – headquarters and headquarters troop
HNF – host-nation forces
MCCC – Maneuver Captain's Career Course
OP – observation post

Honoring our Armor and Cavalry Medal of Honor Heroes

Derived from Center of Military History information provided at <https://history.army.mil/html/moh/civwaral.html>. Listed alphabetically. Note: Asterisk in the citation indicates the award was given posthumously.

CAREY, JAMES L. SGT

Unit: Company G, 10th New York Cavalry. Place and date of action: Appomattox Courthouse, VA, April 9, 1865. Born: Onondaga County, NY. Citation: Daring bravery and urging the men forward in a charge.

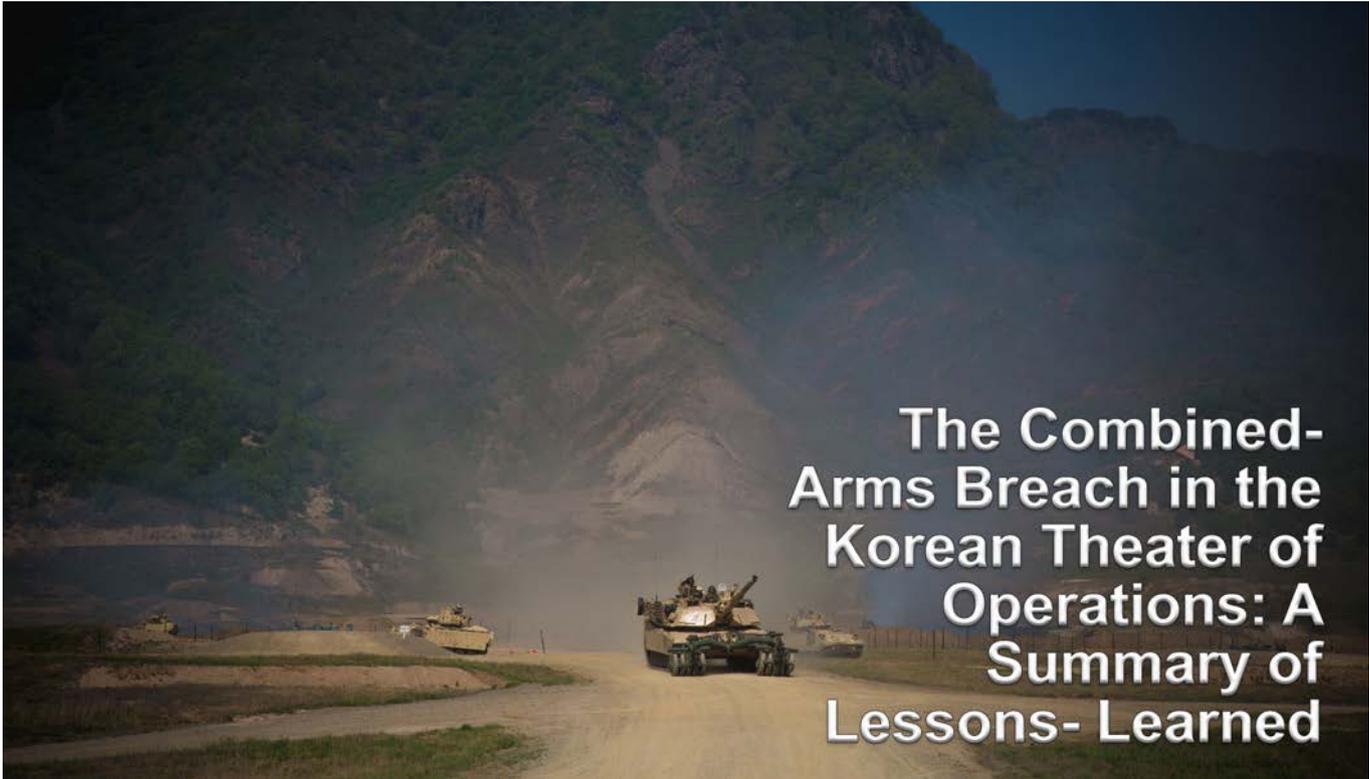
CARMAN, WARREN PVT

Unit: Company H, 1st New York (Lincoln) Cavalry. Place and date of action: Waynesboro, VA, March 2, 1865. Born: Seneca County, NY. Date of issue: March 26, 1865. Citation: Capture of flag and several prisoners.

CARR, EUGENE A. COL

Unit: 3rd Illinois Cavalry. Place and date of action: Pea Ridge, AR, March 7, 1862. Entered service: Hamburg, Erie County, NY. Born: March 10, 1830, Boston Corner, Erie County, NY. Date of issue: Jan. 16, 1894. Citation: Directed the deployment of his command and held his ground under a brisk fire of shot and shell, in which he was several times wounded.





The Combined-Arms Breach in the Korean Theater of Operations: A Summary of Lessons-Learned

by LTC Mark R. McClellan, CPT Christopher D. Mathews, CPT Sean T. Rabbitt, 1LT Lynn M. McCrum and 1LT Roman L. Burke

In 2003, the *ARMOR* magazine article “Preparing for Iraq” identified that “the current training scenarios and task organizations that our armor and mechanized-infantry battalions use, culminating with a rotation at the National Training Center (NTC), is not sufficient for preparing them for duty in Iraq.” The article emphasized a shift from brigade- and battalion-level operations to small-scale operations at the company level.

Just as many battalions were unprepared for operational considerations unique in Iraq in 2003, many of our Army’s formations are currently underprepared for combat operations in theaters that could become the next major war zone of the 21st Century. For example, training operations at NTC do not prepare our Army for combat in the Korean Theater of Operations (KTO). Specifically, conducting a combined-arms breach in the KTO differs significantly from breach operations conducted at NTC.

During 3rd Brigade, 1st Armored Division’s 2018-2019 rotation to the

Republic of Korea (RoK), 1st Battalion, 77th Armored Regiment, conducted multiple iterations of combined-arms breach training. Throughout the rotation, the battalion learned firsthand that conducting a breach in the KTO differs considerably from conducting a breach in the desert environment of NTC, which has more maneuver space and requires larger formations to conduct breaching operations. The severely restricted and canalizing terrain of the KTO requires a breach task force to adjust its task organization and use dismounted infantry to clear severely restricted terrain before committing mounted elements.

Units that could conduct a combined-arms breach should heed lessons cultivated from breach training in the KTO. The 1-77 Armor’s battalion task force (TF) combined-arms breach training yielded multiple lessons-learned for combined-arms breaching in the KTO. These lessons generated recommendations for effective task organization, best practices for mission command and synchronization, and the commitment of specific assets at the point of breach.

Training for breach

Throughout a seven-week collective training period, 1-77 Armor leveraged

live, virtual and constructive training at each echelon of the organization. Company commanders used simulators to familiarize their units with the restricted terrain that characterizes the KTO. During the seven-week collective training progression, each tank company conducted more than 40 hours in the simulator. Company commanders then took their companies and executed two weeks of crew, section and platoon situational-training exercises focused on breaching operations. During this live training, engineer platoons from the brigade engineer battalion, 2nd Engineers, supported the training with mobility and counter-mobility assets.

While the tank companies focused on mounted breach operations, the infantry company, Charlie Company, 1-77 Armor, executed a deliberate defile training progression. This progression included air-assault training, including a live air assault. The company focused on maneuvering onto, across and between the high ground that canalizes defiles. This training constituted a significant change from dismounted operations at NTC or Fort Bliss, TX. The unit’s Bradley Fighting Vehicles (BFVs) could only provide overwatch as the dismounted squads

seized footholds on hills. The company split platoons between two sets of high ground, requiring significant coordination and tracking by the company command element to prevent fratricide and synchronize movement.

Also, the company had to ensure its mounted elements moved in support of the dismounted elements. Dismounted squads operating on high ground under a thick forest canopy made this coordination difficult.

To validate the battalion's proficiency to execute breaching operations in Korea, 2nd Infantry Division executed a breach culminating training event (CTE). This event occurred over the course of a week and concluded with the battalion executing a combined-arms breach, with an RoK army (RoKA) assault force on the Rodriguez Live-Fire Complex Digital Multi-Purpose Range Complex. The breach CTE validated the battalion's ability to execute a combined-arms breach in a defile while operating in support of RoKA forces. This training progression and the breach CTE provided our leaders significant insights into the defining aspect of breaching in Korea, specifically regarding task organization, mission command and synchronization, and assets and actions at the breach.

Task organization

The task organization of a breach task force in the KTO differs from common

task organization most units normally train with when preparing for a doctrinal breach. Due to terrain constraints in the KTO, it is very difficult to employ company-sized support-by-fire (SBF) positions. Based on the terrain, a single M1A2 platoon may effectively suppress enemy overwatching the obstacle. Committing more than a single tank platoon to act as an SBF degrades the survivability of the SBF without measurably increasing its ability to suppress the enemy.

Because of these terrain and space constraints, the TF commander should be prepared to fight the breach with a company team. A company team needs to include company breach, assault and support forces with a platoon of attached engineer assets. In support of mounted breach companies, a company of dismounted infantry is necessary to secure high ground above breach-location defiles. Echeloning the breach by company team as opposed to a battalion TF allows the battalion to have one complete company team in reserve for contingency planning. This added flexibility ensures that the breach TF retains its ability to apply concentrated effort rapidly to any identified weakness. This flexibility can be increased with the addition of a second engineer platoon from an attached engineer company organized in such a way to have redundant engineer assets in reserve.

A recommended organization for the company breach force includes one platoon as the SBF, one platoon as the breach force and one platoon to either act as the independent assault force or as augmentation to an attached infantry assault force. This organization allows operations in severely restricted terrain and provides less confusion during an already complicated operation. Fewer moving pieces reduce congestion at the point of breach.

The task organization that our battalion's breach force, Alpha Company, 1-77 Armor, used during 1-77's combined-arms breach training consisted of a breach platoon with two organic plows and one organic mine roller, an SBF platoon with the remaining plow and an assault platoon. This allowed the bulk of the breach force's organic breach assets to mass near the point of breach, with one asset available in the SBF position for redundancy. This asset distribution also allowed the assault platoon better mobility by not having any breach assets attached to them.

Whatever measures the breach task force can take to reduce congestion and maximize use of effective obscuration are centrally important during planning and coordinating with adjacent units.

A tank platoon, or a tank platoon supplemented with attached M2A3s, can



Figure 1. An M1A2 Tank from A/1-77 Armor provides security while an ABV from 2nd BEB breaches an anti-vehicle ditch during a combined-arms breaching exercise May 9, 2019, at Rodriguez Live-Fire Complex, RoK. The exercise incorporated elements from 1-77 Armor, 2 BEB, 11th Engineers and units from the RoK. (Photo by SGT Alon Humphreys, 3rd ABCT, 1st Armored Division)

successfully suppress enemy elements contesting any breach operation. Rather than employing an entire company as an SBF, a platoon may maneuver and defeat an emplaced enemy with direct fires and coordinated indirect fires. Congestion in the breach area of operations is a key consideration for a battalion TF commander as he or she task-organizes units at his/her disposal. If the terrain dictates, a second platoon or another section can reinforce the SBF.

A potential decision point for future operations is the implementation of M2A3s to act as a supplementary SBF after a tank platoon has established a hasty SBF. After defeating any mechanized or armored resistance, the target set for the SBF is much more suited to the main armament of the M2/M3 Bradley. The tighter surface-danger zones of the M2A3 armament also allow for a longer period of effective suppression before shifting and ceasing fires as the breach and assault forces advance to the point of breach.

When planning for local security during breaching operations, a TF commander must be flexible and cognizant of deadspace. During breach training in the KTO, 1-77 Armor used its organic infantry company, Charlie Company, to clear two severely restricted ridgelines that overwatched the enemy obstacle. Dismounted infantry play a central role in securing any defile leading into the point of breach and can provide local security as reduction and forward-passage-of-lines operations begin later in the operation. The KTO terrain favors dismounted infantry, and the prevalence of light anti-tank weapons will likely be the largest threat during the most vulnerable phases of the operation.

Using dismounted infantry to clear severely restricted terrain prior to committing mounted assets sets the conditions for a successful breach. Charlie Company, 1-77 Armor, used two dismounted infantry platoons during its defile clearance operation. Each platoon cleared a ridgeline on either side of the point of breach, one to the north and one to the south. The battalion S-2 identified both ridgelines as key terrain due to their ability to offer clear observation and fields of fire to

the avenue of approach leading to the point of breach.

Furthermore, the battalion staff assessed that the enemy on the high ground consisted of no more than one enemy infantry squad with small arms and anti-tank capabilities. Therefore, each friendly infantry platoon attacked with a 3:1 ratio against the templated enemy. Also, Charlie Company, 1-77 Armor, used a platoon of BFVs to establish a local SBF position in a clearing some 200 meters south of one of the ridgelines.

Before the TF commander committed mounted assets to the point of breach, the dismounted infantry platoons cleared subsequent phaselines to a limit-of-advance (LoA) parallel with the enemy obstacle belt. As dismounted infantry cleared each phaseline, mounted elements bounded forward to maintain mutually supporting distance with dismounted elements. Once the defile clearance force reached its LoA, the TF commander committed his support force to the primary SBF position. The defile clearance constitutes a time-consuming mission within the larger operation. Thus, the TF commander must deliberately plan the sequencing of the defile clearance, suppression and obscuration of the enemy, and the commitment of breach assets to the point of breach.

The battalion breach TF commander should generally commit no more than a company team to a single point of breach. Considering the severely restricted nature of terrain in the KTO, committing a battalion-size TF to a single point of breach decreases the TF's effectiveness by congesting the point of breach and increasing the risk to friendly forces. Attaching organic plows and rollers to the breach force while maintaining an engineer platoon in reserve establishes redundancy and allows the battalion TF commander to remain flexible. Augmenting mounted platforms with dismounted infantry in the severely restricted terrain surrounding the point of breach allows the TF commander to mitigate risk to force posed by dismounted anti-tank weapon systems.

Mission command and synchronization

The breach task force must thoroughly apply mission-command principles to successfully breach in the KTO. The company team commander's ability to act and make decisions independently is key when terrain and jamming degrade communications. Company team commanders must understand the battalion commander's intent and be able to make independent decisions within that intent at the point of breach. The subordinate commander's shared understanding of the higher commander's intent and an effective use of mission command allowed successful breaching operations during training.

The TF's implementation of redundant communication systems enhances leaders' ability to apply mission command at multiple echelons. During training, 1-77 Armor's use of Joint Capabilities Release (JCR) and Joint Battle Command Platform (JBCP) systems proved effective for communication with the tactical command post for progress updates. However, the time required to send messages over free text limited the company commander's ability to transmit and receive guidance during the execution of a contested breach. It is unrealistic to use JCR/JBCP as primary communication during a combined-arms breach. The commander should use these systems in conjunction with a robust set of phaseline triggers that allow him to track progress throughout the operation through the location of icons populated over the system.

Furthermore, frequency-modulation (FM) retransmission must provide coverage throughout the breach. The KTO terrain dictates the use and placement of a retransmission site. Battalion planners must assume restricted terrain requires FM retransmission to ensure consistent coverage.

Synchronization through thorough planning is critical for a successful breach, especially with partnered forces. Simplicity and rehearsals reduce friction when working with partner forces. A breach TF must conduct at least one combined rehearsal on a good terrain model. This rehearsal

allows all leaders to execute their mission on the terrain model and deconflict phaseline triggers. The 1-77 Armor conducted full-dress rehearsals on the actual terrain where the breach was executed. This opportunity proved valuable and provided more repetitions, but it will likely not be available in a real-world combat situation.

A good technique the TF could use in an actual combat situation is to conduct dress rehearsals in the terrain near the tactical-area assembly. This practice allows the TF to identify possible mechanical issues with breach assets and allow the crews to visualize the maneuver restrictions caused by the terrain where they are operating. It also allows leaders to identify well-planned target-reference points to prevent fratricide.

Tools such as graphic-control measures and an exercise checklist (EXCHECK) foster synchronization by identifying conditions and triggers for each action in the breach operation. For example, the transition from reduction to the assault phase of the operation, especially with partner forces, requires synchronization to avoid fratricide. In the case of a deliberate breach, the most important tool a commander can use to promote synchronization is a robust set of phaselines on shared graphics. These graphics allow elements to initiate triggers from phaselines and provide command-and-control at all echelons. By using phaselines as triggers, the maneuver commander maintains situational awareness of where the breach force is located in the breach, even with degraded FM communications. Furthermore, the commander can use predetermined graphic-control measures to ensure each element involved in the breach is where it needs to be, when it needs to be there.

Maneuvering forces to the correct position at the ideal time requires the commander to conduct time and space analysis. This time and space analysis determines how close in time and space an assault force must be to the point of breach. Too close and the enemy can fix the assault force. Too far away and the force loses tempo. Phaselines and triggers allow the commander to apply time and space

analysis and ensure there is a shared understanding by the maneuver elements.

Also, a thorough but simple EXCHECK is a very important tool to use during breach operations. The key to a good EXCHECK, however, is simplicity. An EXCHECK does not require pro-words for every trigger. A complicated EXCHECK makes it difficult for all involved in the breach to remember and understand each trigger and action. A clear and concise EXCHECK promotes synchronization by allowing each element on the battlefield to track the progress of the operation based on a simple pro-word.

Breach TF commanders must use a variety of techniques to implement mission command and foster synchronization among elements within the TF. Providing clear commander's intent to all elements allows units to maintain the tempo of a breach operation despite degraded communication capabilities. Using redundant communications systems such as JCR/JBCP, FM and retransmission sites helps mitigate common communication issues that units experience in the KTO. Implementing rehearsals, especially full-dress rehearsals, during the planning process promotes a shared understanding among partnered forces. Finally, tools such as graphic-control measures and EXCHECKs synchronize elements on the battlefield by identifying triggers and actions as they relate to time and space.

The breach TF must seize terrain to provide maneuver space for the task force as it commits companies to execute breaching operations. This terrain provides a holding area short of the breaching area of operations for the task force to support the breaching forces. This area provides the follow-on assault force, reserve forces, battalion-support nodes and command posts a secure area in which to remain during the breach's execution. It might be a non-continuous area. Planning for security in this area is necessary unless another organization is responsible for that task. The TF must maintain communications across the formation to allow the call-forward of the assault and reserve forces.

Assets, actions at point of breach

The 1-77 Armor's combined-breach training events yielded important lessons-learned regarding the commitment of assets at the point of breach. For example, the Assault Breacher Vehicle (ABV) should not proof the lane, but an asset attached to a tank from the breach platoon should be used. This decision allowed fewer engineer assets to be dedicated to the breach. Using an ABV with a plow to set off the mine-clearing line charge and thus clear mines, and then having the lane proofed by an M1A2 asset, allowed the ABV to later focus on the anti-vehicular ditch (AVD) and begin reduction of the secondary obstacle. This allowed the commander to dedicate the more heavily armored, more reliable ABV to reduce the AVD, as opposed to the lighter Armored Combat Earthmover.

Furthermore, during the reduction phase, an Armored Vehicle Launched Bridge was not the best choice for an AVD breach. The spoil height on the far side of the ditch made it unfeasible for a M1A2 with mounted plow to cross the bridging asset without either damage to the bridge or without becoming stuck on the far side due to the inclines encountered. Alternatively, the ABV with a plow effectively filled in and breached the AVD.

Another reason why the M1A2 with plow should proof the lane is that once at the leading edge of the AVD, the crew identified targets on the far side of the breach using the Commander's Integrated Thermal Viewer or Common Remotely Operated Weapon System. This situational awareness allowed the tank crew to call for fire on enemy battle positions on the far side of the breach and engage targets with direct fire from the tank commander's .50-caliber machinegun while proofing the lane. The tank crew's ability to continue to engage the enemy became especially important when the effects of obscuration began to wane due to degrading weather conditions and the amount of time required to reduce the AVD. With the M1A2 abreast of the reduction asset, TF 1-77 Armor's breach force provided increased security and covering

fires for the engineers' reduction asset.

Other than the infantry company's clearance of the deadspace leading to the obstacle, reducing the AVD was the most time-consuming period in the operation. This period presented the highest risk to mission for a successful breach.

A major contingency that TF 1-77 identified during training was how to recover disabled vehicles in the breach lane. This contingency becomes more challenging in the KTO due to terrain restrictions. More often than not, the terrain does not facilitate the breach task force's establishing two simultaneous breach lanes. Also, it is possible that there is not enough space to create a second breach lane. Therefore establishing tactics, techniques and procedures for how to deal with a disabled vehicle can be the difference between a successful or unsuccessful breach.

The TF commander can mitigate risk and continue operations by bypassing any disabled breach assets within the breach lane. Having heavy breach assets such as a plow or a roller with the breach platoon complicates recovery operations.

Recovering a vehicle that has a plow or roller provides additional challenges. Although recovery with a tow bar may be the preferred method, the recommendation is that the towing tank use tow cables, which allows faster recovery. Rehearsal of contingency operations with multiple courses of action will build flexibility into any breach operation and ensure the rapid transition to the breach's assault phase.

As TF 1-77 Armor planned and executed combined-arms breach training in the KTO, this yielded lessons-learned that any unit conducting similar operations on the Korean peninsula should consider:

- When a battalion breach TF commander task-organizes his unit for a breach, sometimes "less is more." Using a company-size breach force for a single point of breach helps mitigate congestion in condensed terrain while maintaining



Figure 2. M1A2 tanks from A/1-77 Armor and breaching assets from 2 BEB pass through a proofed lane during a combined-arms breaching exercise May 9, 2019, at Rodriguez Live-Fire Complex, RoK. The exercise incorporated elements from 1-77 Armor, 2 BEB, 11th Engineers and units from the RoK. (Photo by SGT Alon Humphreys, 3rd ABCT, 1st Armored Division)

the effectiveness of the TF's maneuver elements.

- Augmenting mounted forces with dismounted infantry helps mitigate risk posed by dismounted anti-tank weapon systems covered and concealed within the severely restricted terrain.
- Mission command and synchronization during both planning and execution are critical to the success of any breach operation, especially those conducted with partnered forces.
- Clear commander's intent helps ensure that subordinate units can maintain the tempo of a breach operation despite degraded communications with the TF commander.
- Redundant means of communication help mitigate the likelihood of degraded signal capabilities in the first place.
- A thorough rehearsal, as well as the use of graphic-control measures and EXCHECKS, synchronizes elements across the battlefield by creating a shared understanding of triggers and actions in time and space.
- Using the ABV to breach the AVD and an M1A2 with a plow to proof the lane helps ensure that the commander retains flexibility by keeping at least one reduction asset in reserve. Furthermore, it allows the

tank crew proofing the lane to continue engaging enemy on the far side of the breach.

- Finally, the breach task force commander needs to consider the real-world contingency of a disabled breach vehicle in the breach lane.

Armored brigade combat teams (ABCTs) preparing for and conducting training in the RoK should apply these lessons-learned to increase lethality and ensure readiness for operations in the KTO.

LTC Mark McClellan commands 1st Battalion, 77th Armored Regiment, 3rd ABCT, 1st Armored Division, Fort Bliss, TX. Previous assignments include executive officer and chief of the Commandant's Initiatives Group, U.S. Army Armor School, Maneuver Center of Excellence, Fort Benning, GA; brigade combat team S-3 and executive officer, 3rd ABCT, 4th Infantry Division, Fort Carson, CO; combined-arms battalion executive officer, 1-8 Infantry, 3rd ABCT, 4th Infantry Division, Fort Carson; and tank-company commander, 4-64 Armor, 4th ABCT, 3rd Infantry Division, Fort Stewart, GA. LTC McClellan's military schooling includes Armor Officer Basic Course, Infantry Captain's Career Course and Command and General Staff Officer's Course, Command and General Staff College. He holds a bachelor's of science degree in military history from the U.S. Military Academy (USMA) and a master's of business

administration in defense supply-chain management from Naval Postgraduate School. His awards include the Bronze Star Medal with four oak-leaf clusters (OLCs) and the Meritorious Service Medal with four OLCs.

CPT Chris Mathews commands Company A, 1-77 Armor, 3rd ABCT, 1st Armored Division, Fort Bliss. Previous assignments include S-4, 1-77 Armor, Fort Bliss; training and exercise officer, G-37 Training and Exercise Directorate, Headquarters U.S. Army Europe, Wiesbaden, Germany; executive officer, Headquarters and Headquarters Troop, 3-7 Cavalry, 2nd ABCT, 3rd Infantry Division, Fort Stewart; and executive officer, Troop B, 3-7 Cavalry, 2nd ABCT, 3rd Infantry Division, Fort Stewart. CPT Mathews' military schooling includes Stryker Leader's Course, Cavalry Leader's Course (CLC), Maneuver Captain's Career Course (MCCC), Army Reconnaissance Course (ARC) and Armor Basic Officer Leader's Course (ABOLC). He holds a bachelor's of science degree in health science from Brigham Young University-Idaho.

CPT Sean Rabbitt is assistant operations officer for 1-77 Armor, 3rd ABCT, 1st Armored Division, Fort Bliss. Previous assignments include assistant professor of military science, Alcorn State

University; executive officer, Troop B, 3-89 Cavalry, 3rd Brigade, 10th Mountain, Fort Polk, LA; platoon leader, Troop C, 3-89 Cav, 3/10 Mountain, Fort Polk; and squadron adjutant, 3-89 Cav, 3/10 Mountain, Fort Polk. CPT Rabbitt's military schooling includes ABOLC, ARC, MCCC, CLC and Maneuver Leader's Maintenance Course. He holds a bachelor's of arts degree in political science from John Carroll University and a master's of arts degree in higher-education administration from University of Louisville. His awards and honors include the Bronze Star Medal and Combat Action Badge.

1LT Lynn McCrum is the task-force engineer, 1-77 Armor, 3rd ABCT, 1st Armored Division, Fort Bliss. Previous assignments include platoon leader, Bravo Company, BEB, 2nd Engineers, Fort Bliss; and reconnaissance officer, 2 BEB, Fort Bliss. 1LT McCrum's military schooling includes Air Assault School and Engineer Basic Officer Leader's Course. 1LT McCrum holds a bachelor's of arts degree in civil engineering from USMA.

1LT Roman Burke is the tank-platoon leader, Company A, 1-77 Armor, 3rd ABCT, 1st Armored Division, Fort Bliss. Previous assignments include plans officer for 1-77 Armor. 1LT Burke's

military schooling includes ABOLC and ARC. 1LT Burke holds a bachelor's of science degree in criminal justice from Dixie State University.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team

ABOLC – Army Basic Officer Leader's Course

ABV – Assault Breacher Vehicle

ARC – Army Reconnaissance Course

AVD – anti-vehicular ditch

BEB – brigade engineer battalion

BFV – Bradley Fighting Vehicle

CLC – Cavalry Leader's Course

CTE – culminating training event

EXCHECK – exercise checklist

FM – frequency modulation

JBCP – Joint Battle Command Platform

JCR – Joint Capabilities Release

KTO – Korean Theater of Operations

LoA – limit of advance

MCCC – Maneuver Captain's Career Course

NTC – National Training Center

OLC – oak-leaf cluster

RoK – Republic of Korea

RoKA – Republic of Korea army

SBF – support-by-fire

TF – task force

USMA – U.S. Military Academy

The cavalry squadron in Korea is the main organization the CFTF commander has available for reconnaissance and security across non-contiguous artillery positions, two corps boundaries and the Korean peninsula. The forward-support company (FSC) is a profound multiplier to the CFTF. The FSC increases capacity in every measurable metric. The FSC enables the CFTF to move more assets along multiple lines of communication; this enables the CFTF to mitigate restrictive urban terrain and civilian traffic (25 million people live in the Greater Seoul Metropolitan Area), and reduces cross-boundary coordination requirements with the Republic of Korea (RoK) army. –MAJ Demarius Thomas, squadron executive officer, 2nd Squadron, 13th Cavalry Regiment, 3rd Armored Brigade Combat Team (ABCT), 1st Armored Division

Sustaining the Counterfire Task Force-Korea

by CPT Patrick F. O'Brien

The FSC provides 2nd Squadron, 13th Cavalry Regiment, effective distribution of all classes of supply as well as conducts responsive and efficient sustainment support in the Pacific Command (PACOM) area of operations.

Effective distribution

If combat operations commence, the FSC has several planning considerations:

- One, all personnel, vehicles, equipment and classes of supply must be loaded and transported.
- Two, whatever is not loaded and transported will not be available due to the tactical situation.
- Three, speed is essential for the distribution and upload of all classes of supply based on the squadron's mission of providing route reconnaissance, area reconnaissance and area security for the supported battalions.
- Four, the FSC will displace the field-trains command post (FTCP) to the brigade-support area (BSA) and have limited transportation capacity during this phase of the operation.

Based on these considerations, how does the FSC distribute and load four days of supply (DoS) for all classes of supply in a timely, efficient manner and extend the cavalry squadron's operational reach?

One method to expedite distribution is to create configured combat loads (CCLs) for the four main classes of supply: Class I, Class III (bulk/petroleum), Class V and Class IX. Class I meals-ready-to-eat and water are carried by each troop; the troop is responsible for maintaining, loading and transportation.

For Class III, the FSC has six M978 fuel

tankers and six tank rack modules (TRM), transported on a Palletized Loading System trailer; this provides 30,000 gallons of bulk fuel capacity. To extend operational reach, continuity of uninterrupted resupply and sustainability, the FSC will assign operational control of one M978 and one TRM to each line troops; this provides them with 5,000 gallons of bulk fuel capacity or five DoS of Class III-bulk.

The Class V CCLs are broken into three types: mission-essential ammunition, dismounts' unit basic load and non-immediate required Class V. This is tailored to the troop level and in a manner that facilitates quick distribution based on time-limiting factors. The mission-essential package is based on the anticipated threat level and the need for expedited ammunition upload. The dismount package, containing all small-arms ammunition, is consolidated and loaded into speedball bags for ease of use. Distribution of the third package, the non-immediate required Class V, is based on the cavalry troop's time requirements, either by immediate distribution at the designated issue point or transported on a future logistics package (LOGPAC).

The final aspect is repair parts or Class IX. This is broken down into two packages. The first is bench stock. These parts are moved with each cavalry troop and are packaged and maintained by their field-maintenance teams (FMT). To support this requirement, each FMT is assigned more equipment to meet this intent. The second package is shop stock list (SSL), maintained with the FSC. This SSL is 200 lines of mission-essential repair parts. The SSL accounts for up to 15 DoS of repair parts and is available for immediate resupply from the FTCP to the troop FMT.

Sustainment support

After the initial issue of all classes of supply to the cavalry troops, the next phase for the FSC is preparing and establishing the FTCP for future logistical resupply and support. The FTCP's mission is to provide logistical and sustainment support to the squadron as well as direct coordination between the squadron and the brigade-support battalion (BSB). The capability of the FTCP is Class I support through the FSC's field-feeding section, bulk-fuel transportation, ammunition transportation and additional recovery and maintenance support.

Unique to the PACOM mission, the FSC provides direct logistics to the cavalry squadron and more capabilities/capacity to the supported brigade. Capabilities include another 15,000 gallons of bulk fuel; another 2,000 gallons of bulk water for consumption or limited operational decontamination; and field-feeding support at the BSA. The cavalry FSC is a combat multiplier for the supported brigade not only through the additional capacity it brings but through the capability brought by the fires-brigade BSB's modified table of organization and equipment.

The BSB, as it is currently, is limited in fuel and transportation assets and must rely on outside supporting units. The FSC's location within the BSA provides a vital resupply link to each troop from the BSA and from echelons-above-brigade sustainment elements. This dynamically changes the support relationship of the cavalry FSC. The FSC provides direct-sustainment support to the squadron while also providing much-needed throughput to the supported battalions within the brigade.

The relationship between the BSB's

support-operations officer (SPO) and the cavalry FSC commander is integral to the forecasting, anticipation and synchronization of logistical resupply for the supported brigade. As logistical statistics are reported by the cavalry troops and the battalions to the brigade S-4/SPO, daily logistics synchronizations are a must to establish resupply requirements.

Based on the requirements by location, the SPO and brigade S-4 synchronize LOGPAC support through several means:

- One, they divide LOGPAC convoys based on location/supporting unit requirements. For example, instead of sending multiple LOGPACs to the same location, they determine support through the FSC's organic assets to all units in that location while a different LOGPAC resupplies a different unit/location.
- Two, they allocate more logistics assets to outgoing LOGPACs to meet resupply requirements. If multiple units in different areas require resupply, they conduct a LOGPAC using a ring-route method to each of the unit areas and add additional logistics assets to meet the requirement.

Responsiveness

Paragraph 5-79 in Field Manual 4-0 states that "[a] unit uses a logistics release point (LRP) to maximize efficient use of distribution assets and reduce the amount of time and distance the supported unit requires to travel to receive supplies needed for missions." This effective method of resupply is from a central LRP that supports

multiple company/battalion-level organizations to minimize the number of convoys on the road, time on location and risk to the supporting logistics assets.

However, several factors determine the best course of action to meet the intent of uninterrupted resupply. A centralized LRP location may not be sustainable based on the distance to each supported unit, the terrain or the anticipated threat level across the battlefield. The RoK's terrain is mountainous, with dense foliage and restrictive to wheeled vehicles. There are dense urban areas that pose a threat to any ground movement; enemy forces can easily blend into the population.

Based on these factors, the best method for resupply is to use a ring-route method; augment the LOGPAC convoys with more logistics assets; and stop at each unit location to conduct unit distribution. This limits the number of vehicles on the road and reduces security and synchronization requirements to mitigate risk to the formation.

Conclusion

The FSC must provide the cavalry squadron with effective distribution of all classes of supply and responsive, efficient sustainment support in the PACOM area of responsibility. It can do this by packaging CCLs to expedite initial movement; providing additional Class I and V to troops for movement; and maintaining efficiency during resupply operations.

CPT Patrick O'Brien commands Delta FSC, 2nd Squadron, 13th Cavalry

Regiment, 3rd ABCT, 1st Armored Division, Fort Bliss, TX. Previous assignments include support-operations transportation officer, 123rd BSB, 3rd ABCT, 1st Armored Division, Fort Bliss; support-operations supply and services officer, 299th BSB, 2nd ABCT, 1st Infantry Division, Fort Riley, KS; executive officer, Fox FSC, 1st Battalion, 7th Artillery Regiment, 2nd ABCT, 1st Infantry Division, Fort Riley; and distribution-platoon leader, Hotel FSC, 1st Battalion, 63rd Armored Regiment, 2nd ABCT, 1st Infantry Division, Fort Riley. CPT O'Brien's military schooling includes Ordnance Basic Officer Leader's Course and the Logistics Captain's Career Course. He holds a bachelor's of science degree in business management from Norwich University. CPT O'Brien's awards and honors include Noble Patron of Armor and the Ordnance Branch's Order of Samuel Sharpe.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
BSA – brigade-support area
BSB – brigade-support battalion
CCL – configured combat load
CFTF – counterfire task force
DoS – days of supply
FMT – field-maintenance team
FSC – forward-support company
FTCP – field-trains command post
LOGPAC – logistics package
LRP – logistics release point
PACOM – Pacific Command
RoK – Republic of Korea
SPO – support-operations officer
SSL – shop stock list
TRM – tank rack module

The fight 2nd Squadron, 13th Cavalry Regiment – the rotational cavalry squadron – anticipated and trained for was primarily focused on area security, and the main threat from the enemy was artillery. With an artillery threat, we quickly realized there would be no medical-evacuation (MEDEVAC) available, and the wounds our troopers could encounter would be loss of limbs and large shrapnel wounds. We had to figure out how to maintain readiness, keep combat power as far forward as possible and sustain life over 72 hours. The squadron medical team developed a program to fill this capability gap: Dakota First Responder. This became a combat multiplier for us and the entire 2nd Infantry Division. I would highly encourage commanders to develop or conduct this course. This capability gap is not unique to Korea; it exists in decisive-action environments as well. Having first responders embedded in your organizations is a game-changer that will save lives and keep combat power forward, ensuring we can keep fighting until we win. –LTC Greg McLean, commander, 2nd Squadron, 13th Cavalry Regiment, 3rd Armored Brigade Combat Team (ABCT), 1st Armored Division

Dakota First Responder

by CPT Raymond J. Oberle

For almost two decades of combat, U.S. armed forces have maintained air superiority. This achievement allowed swift MEDEVAC in both urban environments and mountainous terrain. However, what if we did not own the sky? How can we prepare for a situation in which MEDEVAC will be delayed for a day or will never come?

Developing the answer to these questions, Dakota First Responder (DFR) training, focused on two main concerns:

- How can we increase battlefield survivability in the absence of medical personnel when MEDEVAC is not guaranteed?

- Can we create a program that can be fielded at our organizational level and sustained for future operations?

The purpose of DFR is to close a critical gap between the lifesaving capabilities of combat medics and combat lifesavers (CLS) using the most up-to-date resources and data available from the Committee on Tactical Combat Casualty Care and the Joint Trauma System. DFR does not change anything taught in those courses, but rather is built on their foundation with a week of training that focuses on sustaining life in an austere environment.

Training

CLS certification is required to be a candidate for DFR. Senior line medics

identified top CLS performers from their troops, and this list was then vetted by the troop command team to identify the strongest candidates for the program. Candidates are split into four-person teams at the beginning of the course, with a focus on evenly mixing military-occupation specialties so they could each learn from each other.

DFR is a five-day program combining didactics and hands-on learning, with testing on the fifth day. Each day is concluded with every candidate performing DFR battle drills involving a multi-trauma casualty. As the course progresses, the casualty becomes more complex, requiring advanced medical treatment – with the cornerstone of the treatment being to



Figure 1. Troopers with 2nd Squadron, 13th Cavalry Regiment “Dakota,” 3rd ABCT, 1st Armored Division (Rotational, 2nd Infantry Division/Republic of Korea (RoK)-U.S. Combined Division) react to a chemical environment during the DFR Course conducted at Camp Hovey, RoK, April 21-25, 2019. DFR provides week-long advanced CLS training to increase survivability and readiness. (Adapted from DFR video, videographer SGT Alon Humphrey, 3rd ABCT, 1st Armored Division Public Affairs)

stabilize the casualty for up to 72 hours. This goal is achieved with the inclusion of intravenous access, administration of resuscitation fluids and medication, and the monitoring of casualty vital signs. Candidates are also trained on managing multiple casualties, to include operating as the senior medical person at a casualty collection point or ambulance exchange point with casualties requiring triage for evacuation.

Testing

Our squadron has been called the “Swiss army knife” for 210 Field Artillery Brigade because we provide a multitude of capabilities outside the brigade’s modified table of organization and equipment, in addition to our reconnaissance and security specialties. We have adapted to meet a multitude of missions and earned the nickname, but we master the role of the cavalry scout. Every step of DFR incorporates the scout mindset of recon and security.

During testing, the DFR teams perform a recon mission to gather and report intelligence on a named area of interest. The operations order delivered on Day 4 outlines the parameters which include liaising with forward elements and transferring responsibility of casualties to a trailing security team. By controlling these aspects of the scenario, we create believable interactions with other U.S. forces and improve training. We also prevent delay-of-movement along the testing lane.

DFR candidates have said that having scenario-based testing vastly improved this program in relation to any other training they’ve received. It provides clear guidance and allowed them to perform the role of the DFR during an actual mission.

Validation for candidates is measured by completion of a 40-question written exam on Day 4 and practical testing on Day 5. The written test requires a score of at least 80 percent to pass. The practical test uses a standardized algorithm drawn from Training and Evaluation Outline medical individual-task-performance steps. Proficiency is tested on both day and simulated night (low-visibility) lanes using go/no-go criteria.



Figure 2. Troopers with 2-13 Cavalry learn how to insert an intravenous line during the DFR course conducted at Camp Hovey, RoK, April 21-25, 2019. (Adapted from DFR video, videographer SGT Alon Humphrey, 3rd ABCT, 1st Armored Division Public Affairs)

Sustaining skills

Sustainment training for DFR is designed to emulate continuing medical education for medics, physician assistants and doctors. We developed a monthly DFR training schedule aimed at building on skills learned in the course. As a perishable skillset, it is important to maintain the validity of the certification.

We have also identified being absent from sustainment training as cause for losing DFR status. To maintain status, a Soldier must be present for at least nine of 12 sustainment-training opportunities in a year. Alibis are available for Soldiers who have these legitimate training absences:

- Ranger School;
- Noncommissioned Officer Education System schooling;

- Temporary-duty tasking; or
- Individual-augmentee deployment.

These are just a few reasons a Soldier may miss the nine mandated training events. For an additional alibi, the medical team has developed a hands-on and written refresher test that will allow a Soldier to maintain his or her certification based on performance.

Sustainment training has also been identified as the best way to add information that pertains to a changing mission. Our current focus may not be the focus six months from now; we can use the sustainment time to key in on new areas such as wildlife or environmental hazards.

Conclusion

DFR is the innovative scenario-based training that successfully bridges the capability gap between combat



Figure 3. Troopers from 2-13 Cavalry learn how to insert a nasogastric intubation to prevent choking during the DFR course conducted at Camp Hovey April 21-25. (Adapted from DFR video, videographer SGT Alon Humphrey, 3rd ABCT, 1st Armored Division Public Affairs)

medics and CLSs. DFRs maintain lethality by increasing survivability in the harshest and most remote environments where U.S. armed forces wage war. They specialize in interventions relatable to the unit's current mission and increase the medical web of support. This program is essential for your unit toolbox and ready to be fielded on predicted near-peer battlefields.

CPT Raymond Oberle is the squadron physician assistant, 2nd Squadron, 13th Cavalry Regiment, 3rd ABCT, 1st Armored Division, Fort Bliss, TX. Previous assignments include battalion physician assistant, 25th Brigade Support Battalion, 1st Stryker Brigade Combat Team (SBCT), 25th Infantry Division,

Fort Wainwright, AK; and battalion physician assistant, 3-21 Infantry Regiment, 1st SBCT, 25th Infantry Division, Fort Wainwright. CPT Oberle's military schooling includes Basic Noncommissioned Officer Course Phase I, Drill Sergeant School, Interservice Physician Assistant Program and Basic Officer Leader's Course. CPT Oberle holds a bachelor's of science degree in physician-assistant studies from the University of Nebraska and a master's of science degree in physician-assistant studies, also from the University of Nebraska. His awards and honors include Armed Forces Reserve Medal with M device and the Military Outstanding Volunteer Service Medal.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
CFTF – counterfire task force
CLS – combat lifesaver
DFR – Dakota First Responder
RoK – Republic of Korea
MEDEVAC – medical evacuation
SBCT – Stryker brigade combat team

Honoring our Armor and Cavalry Medal of Honor Heroes

Derived from Center of Military History information provided at <https://history.army.mil/html/moh/civwaral.html>. Listed alphabetically. Note: Asterisk in the citation indicates the award was given posthumously.

CHANDLER, STEPHEN E.

Rank and unit: Quartermaster sergeant, Company A, 24th New York Cavalry. Place and date of action: Amelia Springs, VA, April 5, 1865. Entered service: Granby, Oswego County, NY. Born: Michigan. Date of issue: April 4, 1898. Citation: Under severe fire of the enemy and of the troops in retreat, went between the lines to the assistance of a wounded and helpless comrade, and rescued him from death or capture.

CHRISTIANCY, JAMES I. 1LT

Unit: Company D, 9th Michigan Cavalry. Place and date of action: Hawes Shops, VA, May 28, 1864. Entered service: Monroe County, MI. Born: Monroe County, MI. Date of issue: Oct. 10, 1892. Citation: While acting as aide, voluntarily led a part of the line into the fight and was twice wounded.

CLANCY, JAMES T. SGT

Unit: Company C, 1st New Jersey Cavalry. Place and date of action: Vaughn Road, VA, Oct. 1, 1864. Born: Albany, NY. Date of issue: July 3, 1865. Citation: Shot the Confederate GEN Dunovant dead during a charge, thus confusing the enemy and greatly aiding in his repulse.





Generating Incentive and Motivation in the Cavalry and Armor Community

by CPT Kyle D. Woods and
CPT William C. Forrest

The U.S. Army must establish an elite armored reconnaissance and security (R&S) organization in a desirable location to retain top-performing individuals within the Armor Branch. In addition, fundamental structural reform is needed to reinvigorate the Armor community.

Infantry officers and Soldiers have a variety of career opportunities available to them. High performers can compete for slots in 75th Ranger Regiment or other elite organizations that possess superior equipment; are burdened with fewer training distractors; and maintain other fringe benefits that incentivize superior performance and effort. However, the Armor community has no such equivalent.

To properly incentivize Armor Branch's top performers, the Army needs to combat organizational fatigue in its armored formations; establish a new, premier armored cavalry regiment (ACR); and leverage advances made by Human Resources Command (HRC) to manage talent effectively.

Organizational fatigue

Organizational fatigue is the greatest long-term issue facing the Armor Branch. Scarcity of armored brigade combat teams (ABCTs), repetitive combat-training-center (CTC) rotations and lack of career fulfillment are all driving factors for this fatigue.¹

Take, for example, 3rd ABCT from 4th Infantry Division. This brigade deployed to Iraq in 2015, has since deployed to Europe for nine months in 2017, and is currently deployed to Kuwait for another nine-month rotation.² From January 2015 to January 2020, the brigade will have spent about 27 of a possible 60 months deployed.³

The 1st ABCT, 1st Cavalry Division, is also representative of the army's ABCT deployment trend. The 1/1 Cavalry Division deployed in Fall 2014 until December 2014 to Europe in support of Operation Atlantic Resolve. The brigade conducted a National Training Center (NTC) train-up and rotation in 2015 before deploying to the Republic of Korea for nine months, starting in January 2016. The brigade reset conducted a train-up culminating in an

NTC rotation and again deployed to Europe for a nine-month rotation in Summer 2018, returning this past spring to Fort Hood, TX.⁴ That puts 1st ABCT at 22 months deployed of the last 60 months.⁵

ABCTs are currently too few to meet the Army's need. The rise of globalization has prompted adversarial nations to develop weapons whose capabilities match or even exceed our own. The Russian Federation, for instance, has spent billions of dollars developing conventional weapons systems that represent an asymmetric threat to current U.S. doctrine. The Russian wealth of long-range precision indirect fires, long-range anti-tank guided missiles and superior air-defense-artillery systems negate historic U.S. advantages.⁶ In fact, the 2016 Russian Threat Study states that "to summarize Russian military capabilities ... [Russia] will achieve by 2025 overmatch of most Western military capabilities in the areas of air and missile defense ... artillery ... and ground attack aviation."⁷

Russian doctrine also includes overmatch not only in distances for artillery available at the BCT level but in



Figure 1. Soldiers from 3rd Infantry Division offload an M1A2 Abrams main battle tank from the transportation vessel *Liberty Promise* March 9, 2015, at Riga (Latvia) Universal Terminal docks for Soldiers of 1st ABCT, 3rd Infantry Division, who used them in an Operation Atlantic Resolve training rotation. Tanks, M2A3 Bradley Fighting Vehicles and assorted military cargo totaling more than 100 pieces of equipment moved to sites in other areas of Latvia as well as to Estonia and Lithuania in support of Operation Atlantic Resolve, an ongoing mission designed to exemplify U.S. and North Atlantic Treaty Organization (NATO) commitment to the region, build Allied capability and interoperability, and bolster regional security and stability. The 1st ABCT is an example of an often-deployed ABCT. (Photo by SSG Warren W. Wright Jr., 21st Theater Support Command Public Affairs)

volume of fire. At the ABCT level, the Russian Federation can employ 36 tubes of cannon artillery and 18 rocket-delivered artillery systems, compared to the 18 155mm tubes available in a U.S. ABCT. The Russians possess 135 Infantry Fighting Vehicles to our 88 Bradley Fighting Vehicles per brigade and 53 tanks to our 58 tanks.⁸

Beyond the BCT level, Russian weight of artillery fire increases even more to an additional mortar division, artillery division, three more artillery brigades and additional rocket assets at their corps level.⁹ Moreover, our reliance on our own artillery and Army attack aviation is antiquated against this force. The result is that our ABCTs today are not properly equipped to handle this

threat without significant augmentation.

In response to the rising parity of our international adversaries, the Army is slowly expanding its ABCTs and deploying them at a sustained rate one deployment every two to three years.¹⁰ The lack of ABCTs permanently stationed abroad in Europe and Asia as direct deterrents to adversarial aggression has forced our ABCTs into this endless cycle of CTC rotations, followed by long-duration deterrence deployments. Moreover, the Army's failure to bolster training for mechanized forces during the past 16 years of combat has laid an inadequate foundation for fostering ABCT growth initiatives.

Exhaustive schedule

Every ABCT is either training for a CTC rotation at NTC, is deployed abroad or is returning from a deployment and preparing to begin a NTC training cycle. This exhaustive schedule is costly in repair parts, fuel and equipment. Furthermore, this cycle of deployment is physically draining on the personnel involved. This is especially true for tank crewmen, who experience this exhaustive cycle regardless of the BCT to which they are assigned; those who serve multiple U.S. Army Forces Command assignments in a row will successively experience the same cycle at each post.

The stress of these rotations, combined with a lack of fulfillment in

Soldiers and leaders, contributes to the departure of top performers who can excel elsewhere. Our best Soldiers and leaders who entered the Army post-Global War on Terrorism (GWOT) will not remain in the Armor Branch if they are not given the opportunity for a sense of real accomplishment during their time in service. Deployments to Europe and the Republic of Korea do not provide our personnel with the sense of mission accomplishment and service that GWOT-era rotations in Iraq and Afghanistan did.

Several RAND studies have identified that a “sense of adventure” and sense of mission accomplishment are among the top factors for recruiting and retaining Soldiers and leaders.¹¹ While it is true this sense of adventure correlates to deployments, every Soldier or officer has a line where they’ve deployed too much within a period of time. A study of re-enlistment prior to GWOT identified that Soldiers were more likely to re-enlist if they had deployed, but a study conducted in 2011 identified that retention dropped among individuals with multiple deployments in a short time span.¹² Bright young officers and noncommissioned officers (NCOs) are sometimes unwilling to leave their careers to chance and depart the force.

Lacking a sense of fulfillment or clearly defined path to career success, more bright young leaders will opt to leave the branch at a time when we are expanding our mechanized formations. Analysis conducted by Armor Branch indicates that of all operational-division branches inside the Army (armor, infantry, aviation, engineers, field artillery and air defense), the only branch to shrink since 2013 is Armor. Every other branch has increased in size since the end of sequestration.¹³

Fortunately, that sense of mission accomplishment and service continues for units like 3rd Cavalry Regiment, 101st Airborne, 82nd Airborne and 10th

Mountain Divisions, who continue to deploy to combat zones. The sense of career fulfillment and mission accomplishment is one of the few factors the Army can use to retain high-performing individuals.

The Army lacks the capacity to raise salaries like the private sector does or to immediately promote individuals in rank. Organizational fatigue is fueled by this lack of fulfillment, burning our leaders out at a high rate within the Armor Branch. To combat this fatigue, a new structure and organization is needed.

New ACR

During the GWOT’s height, the Army’s ACRs transitioned from forces capable of high-intensity conflict to infantry-based, urban-operation-centric counterinsurgency formations. These prestigious and storied formations were converted from R&S units capable of performing autonomous missions into Stryker-based formations. To meet the GWOT’s urgent operational need, the Army stripped these formations of their internal aviation assets and exchanged most of their R&S experts for infantrymen. The 2nd and 3rd Cavalry Regiments of today are nearly unrecognizable from their former selves.

The Army’s return to decisive action frees our Armor Branch to focus on deterrence missions and provides an opportunity for the creation of a premier armored force focused on developing new tactics and fielding new technologies.

The 2nd Cavalry in particular is already engaged in conducting missions centered on the deterrence of Russian aggression in Eastern Europe. If 2nd Cavalry Regiment returned to status as an ACR – along with the requisite modified table of organization and equipment – it would be able to provide an enhanced deterrent in Europe, thus reassuring our allies of our commitment to mutual defense according to Article V of NATO’s charter.¹⁴

The inclusion of a charter such as Ranger Regiment’s would enable the permeation of these top performers throughout the branch after time served in the ACR. Leaders with a significant amount of time spent in this organization would be able to spread lessons-learned and raise the performance of the armored force. Junior Soldiers arriving in the ACR could be afforded the opportunity to stay there until reaching the rank of sergeant first class, offering geographic stability, which is a proven method of increasing retention numbers.¹⁵

The Rangers were created for a purpose. They were chartered to perform operations other infantry organizations could not; however, no armored force was created to meet this same task. For example, in Operation Overlord, hundreds of Sherman tanks were outfitted with flotation devices, crews were given minimal training, and then they were sent to fight the Germans. More than 50 percent of these tanks sunk due to improper maintenance of the vehicles, poor weather conditions and lack of well-trained crews to operate them. The rough waters ahead of Omaha Beach resulted in the sinking of 27 of 29 tanks launched at sea to assist American forces in the seizure of that beach.¹⁶

This example serves to prove that the Army needs a specialized armor unit to fulfill duties outside the normal range of Armor operations, and that unit needs the time and resources to identify and train these specialized tasks. A specialized armor unit could focus on training and developing tactics, techniques and procedures (TTPs) ranging from wet-gap crossings to urban operations. The operational environments of Europe and South Korea where we currently rotate ABCTs necessitate the capability to execute hasty, deliberate and covert wet-gap crossings. ACRs would be uniquely prepared to execute hasty gap crossings with their organic mobility assets,

	Armor	Infantry	Field artillery	Air defense	Engineers	Aviation
% change FY13-18	90%	140%	132%	126%	153%	119%

Table 1. Total change in officer strength, Fiscal Years 2013-2018.

and deliberate crossings when augmented by maneuver-enhancement brigades from the U.S. Army Reserve.

Units could dedicate the time and energy that conventional ABCTs spend preparing for NTC in developing cutting-edge Armor TTPs for specific scenarios such as those previously mentioned, which would propel the Armor Branch into the 21st Century and keep it relevant as the Army plans for future combat in the world's megacities.

Armor Branch lacks a mechanism for its personnel to compete for attractive postings and assignments. If formations like 2nd Cavalry Regiment in Germany were assigned based on merit and performance in previous duty assignments, the Armor Branch's efforts to retain its top performers would be more successful. Top-performing senior NCOs and officers currently have little say about to which location they are assigned when receiving postings to BCTs. The establishment of an ACR forward-deployed in Europe, able to hand-pick its own leaders, would provide individuals the ability and motivation to compete for access to a top-performing unit in a highly desirable location.

Leveraging HRC advances

Commanders in the new ACR could leverage the Army's new Assignment Interactive Module 2.0 (AIM 2) system to select and interview troop/company commanders, first sergeants, field-grade officers and command sergeants major, thus giving them the opportunity to shape their units. These ACRs should be given priority over other units for personnel requests, allowing top-performing officers and senior NCOs an institutional opportunity to translate their performance in the force into concrete rewards such as better locations, assignments or additional benefits, thus increasing the desire for top performers in the Armor community to stay Armor.

HRC has initiated several key reforms the past few years that would augment the ability of leaders in an ACR to select top performers from across the Armor community to fill key positions within the ACR, specifically the AIM 2.0 marketplace. In the



Figure 2. American and Korean forces train on wet-gap crossings in the Republic of Korea.

marketplace, individuals can rank units and duty positions according to their own preference, and units can view personnel and indicate their own preference for those individuals.¹⁷

Also available through AIM is the ability to volunteer for service in a security-force assistance brigade (SFAB). All officers applying for service in one of the Army's new SFABs apply through the AIM portal. Individuals could easily use AIM for either the unit preference or to directly volunteer for service in an ACR. The ACR could then hold a selection-style event similar to SFAB or Ranger Regiment to determine from its pool of volunteers who would serve and in what capacity at the unit.

Finally, if Armor professionals are given the ability to do more than execute CTC rotations and consecutive deterrence deployments by participating in innovative doctrinal and technological experiments, branch retention would improve. If a resurrected ACR filled with top performers is given the time, space and resources to develop and test new doctrine, and field prototypes and new equipment, then innovative and adventurous Armor officers will seek this unit out in an attempt to push the branch and Army forward. Given the lack of red-cycle taskings, an ACR forward-stationed in Europe would be able to rotate squadrons

through training with allied nations in Eastern Europe and conduct testing and training of new equipment and doctrine at training locations like Hohenfels, Germany.

Conclusion

Armor Branch's history is filled with innovators who pushed the limits of their current technology and fought hard to develop new TTPs to keep the American cavalry and armor force the best in the world. We currently lack the freedom in our Army's structure for this kind of innovation. Our Army's ABCTs are stuck on increasingly rigorous operational tempo training schedules to keep them on rotations to NTC at Fort Irwin, CA, and keep them deployed abroad to South Korea, Europe and the Middle East in important deterrence missions. The resurrection of an ACR permanently stationed in Europe or another choice location capable of deploying on these rotations would 1) meet this need for the nation to have ABCTs deployed forward 2) while providing a structural framework that encourages innovation and rewards top performers desiring to not only better the branch and the Army but to enjoy a higher degree of career satisfaction as well.

To retain the best and brightest personnel within the Armor Branch, and regain the overmatch our armored force formerly enjoyed, the Army must

fundamentally restructure the Armor Branch through the reconstitution of an ACR posted in one of the Army's most desirable locations, filled with the best officers and NCOs the branch has to offer.

CPT Kyle Woods is the assistant operations officer for 6-8 Cavalry, 2nd ABCT, 3rd Infantry Division, Fort Stewart, GA. Previous assignments include executive officer, Troop B, 3-4 Cav, 3rd Infantry Brigade Combat Team (IBCT), 25th Infantry Division, Schofield Barracks, HI; platoon leader, Troop B, 3-4 Cav, 3rd IBCT, 25th Infantry Division, Schofield Barracks; and assistant operations officer, 3-4 Cav, 3rd IBCT, 25th Infantry Division, Schofield Barracks. His military schooling includes Maneuver Captain's Career Course, Cavalry Leader's Course, Army Reconnaissance Course, Pathfinder School, Air Assault School and Armor Basic Officer Leader Course. CPT Woods holds a bachelor's of arts degree in history from Claremont McKenna College. His awards and honors include Order of Saint George, black medallion.

CPT William Forrest is squadron S-4 for 5-1 Cav, 1st Stryker Brigade Combat Team (SBCT), 25th Infantry Division, Fort Wainwright, AK. Previous assignments include company executive officer, 2-8 Cav, 1st ABCT, 1st Cavalry Division, Fort Hood, TX; and platoon leader, 2-8 Cav, 1st ABCT, 1st Cavalry Division. His military schooling includes Marine Expeditionary Warfare School, Army Reconnaissance Course and Armor Basic Officer Leader Course. CPT Forrest holds a bachelor's of science degree in exercise science from Appalachian State University.

Notes

¹ The following articles provide insight on how frequently ABCTs deploy in support of the missions in South Korea, Europe and Kuwait:

- Meghann Myers; "These Army Units Are Next Up for Deployments to Afghanistan, Iraq, Kuwait and Europe"; *Army Times*, Oct. 18, 2018, www.armytimes.com/news/your-army/2018/10/18/these-army-units-are-next-up-for-deployments-to-afghanistan-iraq-kuwait-and-europe/.
- "Greywolf Assumes Korea Mission"; www.army.mil/article/224353/greywolf_assumes_korea_mission.

- "Army Announces Upcoming 2nd BCT, 1st Cavalry Division Unit Rotation"; www.army.mil/article/225785/army_announces_upcoming_2nd_bct_1st_cavalry_division_unit_rotation.
- "Department of the Army Announces Upcoming 3rd BCT, 4th Infantry Division Unit Rotation"; www.army.mil/article/212546/departement_of_the_army_announces_upcoming_3rd_bct_4th_infantry_division_unit_rotation.
- The Associated Press; "Fort Carson Prepares for Massive Deployment to Europe"; *Army Times*, Aug. 7, 2017, www.armytimes.com/news/your-army/2016/11/30/fort-carson-prepares-for-massive-deployment-to-europe/.
- "Army Announces New Deployments for 5,700 Soldiers"; *Army Times*, Aug. 7, 2017, www.armytimes.com/news/your-army/2017/04/27/army-announces-new-deployments-for-5700-soldiers/.
- "2015 Deployments: Back to Europe, Iraq, Other Hot Spots"; *Army Times*, Aug. 7, 2017, www.armytimes.com/news/your-army/2014/12/27/2015-deployments-back-to-europe-iraq-other-hot-spots/.

² "Department of the Army Announces Upcoming 3rd BCT, 4th Infantry Division Unit Rotation"; www.army.mil/article/212546/departement_of_the_army_announces_upcoming_3rd_bct_4th_infantry_division_unit_rotation.

³ See the articles presented in Note 1. The brigade's deployment to the Middle East in 2015/16, rotation to Europe in 2017 and return to Kuwait (ongoing) result in the calculation of 27 months deployed out of a possible 60 months (five calendar years). This math assumes the brigade will complete its current deployment on time, returning after nine months in Kuwait.

⁴ The following Websites detail the lengths and locations of historic deployments of 1 ABCT, 1st Cavalry Division: <https://1cda.org/history/history-1bde/>, accessed Aug. 22, 2019, and "Department of the Army Announces Upcoming 1st Cavalry Division Deployment," www.army.mil/article/198287/departement_of_the_army_announces_upcoming_1st_cavalry_division_deployment.

⁵ Calculation done in August 2019. The 1/1 Cavalry Division deployment schedule as annotated in the previous note results in four months deployed at the end of 2014, 0 months deployed in 2015, nine months deployed in 2016, 0 months

deployed in 2017 and a nine-month deployment split between the end of 2018 and beginning of 2019.

⁶ *Worldwide Equipment Guide* Vols. 1 and 2; Fort Leavenworth, KS: U.S. Army Training and Doctrine Command G-2; 2016. Weapons data for Russian systems are found in the unclassified *Worldwide Equipment Guide*. Artillery references are found starting on Page 9 of Vol. 1, while Vol. 2, titled *Air and Air Defense Systems*, lists the wealth of Russian tracked and wheeled air-defense artillery systems in Chapter 7. Anti-tank guided missile (ATGM) systems are found in Vol. 1 and detail systems such as the 9P149 SHTURM-S, which has a range of 6,000 kilometers for high-explosive anti-tank (HEAT) rounds; ATGM 9 P162/KORNET-LR, with a range of 5,500 kilometers; Chinese Type 92B/Red Arrow-9, with a 5,000-kilometer range; Russian *Boyevaya Razvedyvatelnaya Dozornaya Mashina-2* HOT 3 reconnaissance/anti-tank platform, with a range of 4,300 kilometers for its HEAT missiles; and T-90, which can fire the AT-11 (sniper) ATGM and has a range of 4,000 kilometers from its main gun. These ranges are all significantly longer than the currently established tube-launched, optically tracked, wire-guided anti-tank missile's range of 3,750, also found in the *Worldwide Equipment Guide* in the ATGM chapter.

⁷ "Future of Operational Environment Threat Study Series: Russia"; Russian Threat Study Series; Fort Leavenworth, KS: U.S. Army Training and Doctrine Command G-2; 2016.

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ Some brigades, such as 3/4 Infantry Division, have been deployed nearly 40 percent of the time in the last five years, while others, like 1/1 Cavalry Division, are roughly at 33 percent deployed during the past five years.

¹¹ This article from the RAND institute, accessed Aug. 22, 2019, indicates that fulfilling deployments and "adventure" beat out even monetary benefits when it comes to recruiting and retaining Soldiers: <https://www.rand.org/blog/rand-review/2018/10/an-inside-look-at-life-in-the-armys-junior-ranks.html>. "Busy work" and tasks often associated with red-cycle taskings are a major negative factor when it comes to retention. Removal of a new ACR from a pool of red-cycle taskings would be a very attractive proposition for Soldiers of all ranks and ages: <https://www.armytimes.com/news/your-army/2018/05/24/recruiters-and-ncos-pay-attention-this-is->

[why-soldiers-are-joining-the-army-to-day/](#). Another key component is that regenerating losses in the Army is a risky proposal, as identified in this RAND study: https://www.rand.org/pubs/research_reports/RR1637.html. We cannot make experienced and effective leaders appear when we need them. If we do not cultivate and retain our talented leaders, we will lose them.

¹² <https://www.rand.org/pubs/monographs/MG1123.html>. This RAND study on the retention of junior officers indicates a high correlation of officers with multiple deployments leaving the force. Analysis at the time indicated that the nature of the intense combat deployments was a factor which would not be a factor with current deployments. However, the economy now is significantly stronger now than in 2011, and the national economy's relative weakness in 2011 was a major factor identified in the study as a reason for officers continuing service.

¹³ Armor (19A/19D/19K/19Z) position authorizations shrank significantly throughout the Army between Fiscal Year 2013 and FY17. This was due to several brigades' deactivation at Fort Benning, GA (3/3 Infantry Division's ABCT) and throughout Europe, including 170th and 172nd Separate Brigades. Several 4th Brigades in each division were also deactivated to reallocate their two maneuver battalions so as to add a third maneuver battalion to each of the remaining brigades (31 BCTs remain in the Active Component). However, the Armor Branch is growing again since 2017 due to recent conversions of infantry and Stryker brigades to ABCT. An IBCT converted to an ABCT in 3rd Infantry Division Fort Stewart, and an SBCT converted to ABCT at 1st Armored Division, Fort Bliss, TX. Also

see the testimony, <https://www.rand.org/pubs/testimonies/CT446.html>, by Bernard D. Rostker of the RAND Corporation in December 2015, which indicates that often talented junior officers leave the force because of the lack of a clear path ahead and an unwillingness to leave their careers in the hands of the bureaucracy and the Army.

¹⁴ See https://www.nato.int/cps/en/nato-hq/topics_110496.htm. Article 5 of NATO's charter is the cornerstone of the alliance. It provides for the collective defense of the alliance. Article 5 states that an attack against one member of the alliance is treated as an attack on every member of the alliance. The first and only invocation of Article 5 so far occurred after the terror attacks of Sept. 11, 2011, against the United States.

¹⁵ https://www.rand.org/pubs/research_reports/RR2304.html. This RAND study on the effects of the military's frequent permanent-change-of-station (PCS) moves found a strong negative correlation between PCSing and retention. For reasons obvious to military members today, frequently moving a family across the country on average once every three years causes major disruptions and has primarily negative consequences for the spouse of the service member. Removing this problem from military families or lengthening the time between PCS moves would be a step in the right direction to retaining Soldiers, NCOs and officers at all ranks.

¹⁶ "UK | The Tanks That Didn't Land on D-Day"; BBC News; May 30, 2002; news.bbc.co.uk/2/hi/uk_news/2016280.stm. Steven J. Zaloga; *US Amphibious Tanks of World War II*; Long Island City, NY: Osprey Publishing Ltd; 2012.

¹⁷ <https://www.hrc.army.mil/site/assets/directorate/OPMD/What%20is%20>

[AIM%202.pdf](#). The AIM marketplace offers officers the chance to add a resume and skills not normally documented on an Officer Record Brief (ORB) in a platform visible to units and commanders around the Army. The marketplace feature also enables units to view the resumes and ORBs of officers available to move and select which officers they are interested in. Officers are also able to indicate which units and duty positions they are interested in on the marketplace.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
ACR – armored cavalry regiment
AIM – Assignment Interactive Module
ATGM – anti-tank guided missile
BCT – brigade combat team
CTC – combat-training center
FY – fiscal year
GWOT – Global War on Terrorism
HEAT – high-explosive anti-tank
HRC – Human Resources Command
IBCT – infantry brigade combat team
NATO – North Atlantic Treaty Organization
NCO – noncommissioned officer
NTC – National Training Center
ORB – Officer Record Brief
PCS – permanent change of station
R&S – reconnaissance and security
SBCT – Stryker brigade combat team
SFAB – security-force assistance brigade
TTP – tactics, techniques and procedures



On the Employment of Cavalry

by MAJ Amos C. Fox

COL Matthew Morton's fantastic treatise, *Men on Iron Ponies: The Death and Rebirth of the Modern U.S. Cavalry*, provides an instructive lesson on the evolution of the U.S. Army's cavalry over time. Morton argues that with the advent of the Armored Force in the 1930s and early 1940s, the U.S. Cavalry experienced a fundamental shift in its purpose, function and structure. Prior to the existence of the Armored Force, the U.S. Cavalry (like the cavalry of other armies) focused not only on reconnaissance and security (R&S) operations, but it was also responsible for rapid frontal and flank attacks, envelopments and rapid pursuits to scythe down a fleeing enemy.¹ The U.S. Army's adoption of an Armored Force resulted in the cavalry's

begrudging divestiture of the preponderance of its historic and traditional mission – attacks, envelopments and pursuit – to settle on R&S activities.

More poignantly, Morton states that the existence of the nascent Armored Force resulted in the U.S. Cavalry branch losing control of its destiny.²

From World War II to the Pentagon's "Transformation" period in the wake of the Sept. 11, 2001 attacks, the cavalry largely maintained its pedigree as a combined-arms force built to fight for information. Along the way, the cavalry experienced minor adjustments, including the addition of rotary-wing aviation capabilities, but by and large the cavalry experienced routine incremental change that reflected the technological and tactical evolutions of the period.

Post-9/11 warfighting concepts

However, the U.S. Cavalry came under assault from the warfighting concepts of the post-9/11 environment. In essence, post-9/11 Information Age technology promised to put sensors and unmanned surveillance assets on the battlefield and more or less obviate the Army and joint force's need for ground-cavalry formations.³ To be sure, the now-debunked "revolution in military affairs" and "shock and awe" concepts of the post-9/11 era advanced this argument to the point of making it official policy.⁴ The effect was deleterious for the cavalry. Perhaps the most insidious and noticeable result of this hostile takeover was the deletion of armored-cavalry regiments (ACRs) and division-cavalry

squadrons from the U.S. Army's bench of capabilities and replacement of that formation with a variety of unproven concepts, sensors, systems and units.

Furthermore, as part of the Pentagon's transformation effort, the Army began shifting from specialization in pursuit of modularity. In doing so, it transitioned leadership in the U.S. Cavalry from armor officers to a situation in which either infantry or armor officers could lead and staff cavalry formations. The effect was that officers with little to no experience or formal education in cavalry operations were now leading those formations. In turn, this had a pernicious impact on the U.S. Cavalry because the organizations led by those officers were often improperly trained and employed, while Soldiers within those formations were improperly developed.

The impact of this ripples across the force today. It illuminates itself in combat-training center (CTC) rotations, command-post exercises (CPX), warfighter exercises, field-training exercises and deployments. In most cases, this manifests in one of two ways. First, at high echelons of command, leaders fail to identify the need for a dedicated formation to fulfill the purpose and function of R&S operations. For instance, in many division-level CPXs and warfighter exercises, divisions parry the need for a dedicated cavalry formation and instead push those requirements to one of its brigade combat teams, thereby forcing that brigade to answer the division commander's critical-information requirements while also fighting its assigned mission.⁵

Second, commanders and staffs use their assigned cavalry as another combined-arms or infantry battalion. In doing so they mismanage their available forces, which in the case of mismanaged cavalry, equates to fighting with a blindfold strapped around one's eyes. All that is to say that in effect, the Pentagon's transformation effort of the post-9/11 period, fueled by a technocratic mindset on war and land warfare, all but neutered the U.S. Cavalry.

Yet for the U.S. Cavalry there is light at the end of the tunnel. Considering the



Figure 1. An M24 Chaffee light tank belonging to 106th Cavalry Group moves on the outskirts of Salzburg, Austria, in May 1945. The M24 was a Johnny-come-lately to the war effort, but armored-division crews reported liking the Chaffee's improved off-road performance and reliability. However, they were most appreciative of the 75mm main gun, which was a vast improvement over the M5A1 Stuart tank's 37mm gun. In spite of the gun's upgrade, cavalry was still unable to perform its historic and traditional mission in Europe and the following conflict, Korea.

resurgence of land warfare, spurred by Russia's 2014 invasion of Ukraine and the ensuing five years of continued tank- and artillery-laden combat in Ukraine's Donbass region, the need for rugged ground-based cavalry is on the upswing. To be sure, Morton argues that "[a]t the squadron level and below, little has changed since World War II with respect to finding the enemy."⁶

Pondering cavalry's role

In light of that fact, and as the U.S. Army looks again to large-scale combat operations (LSCO) as a potential answer in the new era of Great Power competition, it is necessary to ponder the cavalry's role. Balancing a historical perspective while maintaining a watchful eye on current and future armed conflict, a number of ideas or principles on the employment of cavalry come to the fore.

The principles listed following are not intended to parrot doctrine, but instead, they are a handful of foundational truths on the employment of cavalry. Furthermore, it is important to note that in many instances within

this article, non-doctrinal words and phrases are used to help define and explain these principles. This is done intentionally because the use of doctrine often carries impedimenta to new ideas and therefore obstructs open-mindedness. It is hence of utmost importance that the reader approaches the following principles dispassionately and not in a polemic manner to rebuff the suppositions for not aping doctrine.

This is important because, for all its virtue, doctrine merely describes how one wants to think and fight, and not necessarily how one should think and will have to fight. The student of war understands that the praxis of war, governed by the interaction between two or more unique belligerents, drives the conduct of war more than doctrine. Therefore, one must be mentally and physically prepared to fight in a variety of ways not necessarily captured in doctrine.

With the groundwork laid, it is time to examine a set of principles that should govern how to think about cavalry.

Principle 1: Cavalry allows a commander to manipulate time in battle.

It is instructive to note that many military theorists make the case that time, above all else, is the most important element of war. American military theorist Robert Leonhard suggests that the inability to effectively manipulate time is what most plagues military commanders.⁷ Continuing that line of logic, Leonhard contends that “[m]ilitary conflict – whether in wars, campaigns or battles – seeks to summon that failure (or delay it) and is, therefore, when reduced to its fundamentals, a contest for time.”⁸ Meanwhile, British theorist J.F.C. Fuller offers that “[s]uperiority of time is so important a factor in war that it frequently becomes the governing condition.”⁹ But perhaps no one captures time’s salience more clearly than French general and statesman Napoleon Bonaparte. Bonaparte posits that “I might lose a battle, but I will never lose a minute.”¹⁰

Yet, conversely, time is often overlooked, mismanaged and squandered in many tactical formations. For instance, units often fritter away time working through the military decision-making process (MDMP), which often becomes ponderous and unwieldy, and thus devours available time. In turn, this mismanaged time causes the formation to not get its cavalry force into the fight with enough time to positively influence and shape the environment.

Further, a common trope among commanders today is that virtue exists in waiting to the last possible moment to make a decision. However, this is illogical, especially when viewed in light of the importance the U.S. Army places on shaping the environment and on seizing initiative. To accomplish these goals, commanders must proactively make decisions and, in land warfare, timely decisions are enabled through felicitous employment of one’s cavalry force. Thereby, it follows that for a commander to dictate the provisions of time on an opponent, the commander must proactively make decisions, and that decision-making process is driven by carefully considered and expeditiously employed cavalry.

On the other side of the coin, punting decisions down the road, allowing MDMP to monopolize available time,

and not thinking clearly about current and future decisions often results in squandering cavalry forces. Ineffective employment often renders the cavalry belatedly deployed, which in turn drives an unforeseen set of decisions to emerge for which the command is ill-prepared.

Principle 2: Cavalry shapes the environment and the situation of its supported force. Building on the previous point, British military theorist B.H. Liddell Hart, in his seminal treatise, “The Essence of War,” argues that the apogee of land warfare is to attack along the line of least probable expectation, and to do so, one must follow the line of least resistance.¹¹ American cavalryman GEN George S. Patton Jr. makes a similar argument, suggesting that one “[n]ever attack where the enemy expects you to come. It is better to go over difficult ground where you are not expected than it is over good ground where you are expected.”¹²

If one gives credence to Liddell Hart’s and Patton’s theories, he or she will find that cavalry is decidedly important in enabling this activity. On that account, the cavalry is the pre-eminent shaping force in land warfare because, if it correctly executes its mission, it allows its supported force – whether that be tanks, infantry or a combination thereof – to attack along the line of least probable expectation by finding the line of least resistance.

Shields and swords

Fuller offers a penetrating framework to support Liddell Hart’s and Patton’s theses. Fuller suggests that the battlefield consists of entities possessing “shields” and “swords,” or forces that enable and forces that attack.¹³ Fuller’s shields do what they must to allow the possessor to position its sword to thrust at the enemy. Nevertheless, the “shield” protects the possessor and its sword, because without protection, the possessor and sword are prone to destruction. Accordingly, the cavalry, or Fuller’s “shield,” shapes the environment for its supported force in a number of ways, as it:

- Softens the target through indirect and direct fires;
- Deceives the enemy as to the whereabouts of the supported force;

- Misleads the enemy on the support forces’ intended direction of advance;
- Facilitates the supported force’s positioning, movement and maneuver on the battlefield;
- Deceives the enemy about what lies to its front and causing it to transition, or change its plan, ahead of schedule; and
- Augments the defense, both deliberate and hasty, providing an additional layer of protection, early warning and stand-off for the support force.

A commander must therefore thoughtfully employ his/her cavalry to proactively shape the environment for the supported force to allow it to operate along the line of least probable expectation and to follow. He/she must do so while meticulously accounting for the indomitable force of time during his/her planning effort.

Principle 3: Cavalry is a commander’s tool and he/she must not be deprived of it. Cavalryman and pre-eminent American tanker GEN Creighton Abrams was noted for his uncanny ability to proactively sense the timing and pace of battle while possessing the acuity to advantageously use terrain during his command of 4th Armored Division’s 37th Tank Battalion, and later Combat Command B, during World War II.¹⁴ Abrams’ tactical acumen and battlefield success can be tied to training and education in the U.S. Cavalry, which allowed him to think and fight like an old horse cavalryman while employing his own reconnaissance assets during the war.¹⁵ Nonetheless, commanders should seek to emulate Abrams’ ability to sense the timing and pace of battle, and the terrain’s power and influence on the tactical action. A commander’s cavalry is the tool that allows him/her to do so.

In a commander’s hand, cavalry forces enable him/her to improve understanding on the current situation, develop the picture for future tactical activities and shape the future. Therefore, it is paramount that commanders retain control of their respective cavalry formations. All too often today, senior commanders confiscate the

cavalry formations of their subordinate commanders to augment their own cavalry force. For example, when brigade commanders strip the scout platoons from their combined-arms or infantry battalions to reinforce their cavalry squadron, it neutralizes a battalion commander's ability to proactively shape and gain an understanding on his/her respective area of operation. Or, as frequently happens in digital division-level exercises, the division headquarters robs a brigade combat team of its cavalry squadron, thus leaving the brigade commander

blind and understrength.

To make headway on this verity – that in land warfare, cavalry is the commander's tool for proactively shaping the environment – senior commanders must not take the cavalry force of their subordinate commander(s). Doing so undermines the subordinate commander's tactical success, thereby increasing, not decreasing, the problems for the senior commander.

Further, in light of the attention placed on LSCO, commanders at all levels of command, from the battalion to the

field army, need a degree of organic cavalry. As the Army looks at modernization efforts that seek to address the challenges of Great Power competition and LSCO, it should invest in sinew ground-cavalry formations so that field commanders are better able to succeed on the battlefield.

Principle 4: Cavalry operations build the framework for the employment of a commander's reserve. The commitment of one's reserve should not be an off-the-cuff, reactionary endeavor. If done properly, the commitment

LEGENDS OF ARMOR



"ABE"
 CREIGHTON W. ABRAMS
 COMMANDER, 37TH TANK BATTALION
 RELIEF OF BASTOGNE
 CLOCHIMONT HILL, BELGIUM
 26 DECEMBER 1944
 AWARDED THE DISTINGUISHED SERVICE CROSS
 CHIEF OF STAFF, UNITED STATES ARMY
 1972-1974



of a reserve should be tied to a decision point developed during thorough and detailed planning. In most situations the employment of one's reserve should be tied to one of three conditions:

- Tactical success;
- Failure to accomplish the mission or to attain an objective; or
- A previously identified transition.

Four primary transitions come to the fore when planning to employ a reserve. The transitions include 1) transition from an attack to a defense; 2) transitioning from a defense to an attack; 3) transitioning from an existing form of warfare to a pursuit; and 4) transitioning from one form of warfare to a retrograde or withdrawal.

Having identified the aforementioned conditions and transitions during the planning process, commanders should orient their cavalry force on seeking information that supports, answers and informs the decisions for each of those points. Doing so better enables commanders to appropriately employ their reserve.

Principle 5: The use of cavalry must be purposeful and not be anchored on vacuous jargon. If used effectively, a cavalry force enhances the mission of the headquarters it supports. If used ineffectively – hastily employed without enough thought given to its focus, objective or sustainment – cavalry forces become a burden for the command they support and thus begin to work against that command.

In the U.S. Army, the idea of “kicking out the cavalry squadron” or “kicking out the scout platoon” as early as possible has taken on near dogmatic proportions. However, the lens of history notes that this heuristic is not new. To be sure, this problem has plagued commanders for centuries. Namely, Prussian army Chief of Staff Helmuth von Moltke noted a similar problem in the Prussian army during the 19th Century's wars of German unification. He reflects, “Premature deployment [of cavalry forces] is disadvantageous because long lines are unwieldy in movement, easily miss the correct direction and come apart. They find cover difficult to obtain in open terrain and

cannot easily escape the enemy's view and fire.”¹⁶

The haste in which many commanders deploy their cavalry force in training results in the cavalry's becoming more vulnerable to counter-reconnaissance, surveillance, indirect-fire attacks and destruction. This in large part is why one often sees cavalry formations die a quick death during CTC rotations and in digital training exercises.

Hasty vs. timely employment

While in training this can be chalked up to learning, the mindset and perspective on cavalry cannot be allowed to calcify. To be sure, as the Army re-invests in LSCO, commanders must realize that if a cavalry force is quickly destroyed, it will not be rapidly reconstituted or regenerated like it is at the National Training Center or during a CPX. Instead, a commander must purposefully employ his/her cavalry formation. The cavalry-force employment must be timely and adequately resourced to boot. Otherwise, the potential cost of a hasty employment outweighs the benefit of a rapidly committed, but quickly destroyed, cavalry force.

Principle 6: Cavalry builds the framework for exploitation. History suggests that the preponderance of casualties in war are brought about through exploiting tactical success by pursuing a beaten enemy and driving them down as they abscond toward safety. Bonaparte echoes this verity in stating that “[t]he secret of war is to march 12 leagues, fight a battle and march 12 more in pursuit.”¹⁷ Yet far too often, Army plans posit that “consolidation and reorganization” come on the end of a tactical operation. This planning paradigm suggests that the commander foresees failure or at least a zero-sum situation at the battle's conclusion. For if a commander sees success and not ruin on the far side of his/her plan, he/she would then speak of exploitation or transitions.

The cavalry plays a major role in this decision space by gathering the information necessary to enable a combined-arms or infantry battalion's pursuit of a defeated enemy. It does so by working throughout an ongoing

operation to fill the tenuous gaps between known and unknowns to provide the commander the information needed to craft a plan for pursuit.

Therefore, the supported commander must proactively task the cavalry to look for the answers to drive those transition decisions. Commanders must not wait for the conclusion of an existing operation to think about where and how to employ the cavalry. Instead, they must build upon the existing decision-support matrix by using the existing tactical situation to gain insight to opportunities, gaps and weaknesses to exploit.

Principle 7: Cavalry leaders are forward-thinkers, problem-solvers, independent spirits and decisive operators. Given the fluidity and temporal aspects of cavalry operations, cavalry formations require a certain type of leader. The character of cavalry operations demand that leaders of cavalry formations be forward-thinking. Cavalry leaders must always think about what is next, how their operations support higher headquarters and what should they see or find that they were not necessarily instructed to find.

Problem-solvers

Next, cavalry leaders must be independent problem-solvers capable of operating beyond the confines of mission command. Recalling Principle 3's focus on sensing time and the pace of battle, as well as the physical and temporal effects of terrain, cavalry leaders must intuitively act in a decisive manner based on fleeting environmental factors to capitalize on the temporal, environmental and spatial factors of engagements and battle.

To be sure, cavalry leaders must not be doctrinaires but must be able to think, speak and operate beyond the narrow confines of U.S. Army doctrine. Army doctrine, focused solely on how the U.S. Army seeks to fight as part of the joint force, is a cognitive box that narrowly directs how to operate at the tactical level, thereby also limiting the number of mental models available for leaders to effectively make sense of what's unfolding before them. However, the problems faced at the tip of the spear rarely fall into the simplistic, maneuver-centric tactical concepts cap-



Figure 2. Ukrainian troops during the Battle of Debaltseve, Feb. 5, 2015.

tured in U.S. Army doctrine.

For example, Russian operations in eastern Ukraine highlight this point. The Battle of Zelenopillya – more a slaughter than a battle – presented a tactical situation in which Russian reconnaissance and its nascent reconnaissance-strike model rapidly overwhelmed several Ukrainian combat brigades, resulting in hundreds of casualties and the destruction of three Ukrainian armored brigades.¹⁸

The battles for Luhansk airport, Donetsk airport and Debal'tseve were all positional battles of attrition, or sieges, in which the Russians, taking advantage of the Ukrainians' willingness to seize the initiative, lured them into terrain that put them at a severe tactical disadvantage.¹⁹ In each case, Russia bludgeoned the Ukrainian forces and won tactical victories that rippled at strategic and policy levels.

Yet, U.S. Army doctrine is devoid of tactical and operational frameworks that illustrate much beyond the maneuveristic method of how it wants to fight. Because of this, cavalry leaders must be able to understand operations beyond the myopic confines of doctrine. Failure to do so can result in Debal'tseve-eque situations in which cavalry leaders guide their supported unit into a trap.

Conclusion

Harkening back to the beginning, Morton reminds the student of war, "Then, as now, war remains a human endeavor. Until the army develops a remote sensor capable of divining intentions

and reading minds, there will be a need to close with the enemy to determine his plans."²⁰ Current events continue to reinforce this assertion. A resurgent Russia, waging a land-based campaign in eastern Ukraine – dominated by the ground combat fought by tanks, infantry and artillery – demands that U.S. Army land forces understand how to effectively employ cavalry forces. Further, this dynamic demands that the U.S. Army re-examine the need for cavalry forces at the division, corps and field-army level.

U.S. Army Europe's upcoming Defender 2020 exercise might help bring the need for ground-cavalry forces at the division, corps and field army to the fore.²¹ The Defender 2020 exercise is also likely to highlight the need for forward-deployed ground-cavalry forces in middle and eastern Europe. To be sure, Defender 2020 and smaller rapid-force-deployment exercises, such as the deployment of a task force from 2nd Armored Brigade Combat Team, 1st Armored Division, in April to May 2019 to Drawsko Pomorski, Poland, do not take place in a contested environment in which movement into the theater via air and sea are denied or obstructed.²² An aggressive adversary patrolling the waters of the Atlantic, and the sky above it, could prove problematic if the need arose to expeditiously invest Europe with U.S. Army forces.

Moreover, cavalry's bright future demands a clear understanding of its employment. The U.S. Army must also shake free of the faulty Information Age concepts that denuded the U.S.

Cavalry in the early days of the post-9/11 period. Some of these concepts include the idea that rugged ground cavalry is no longer needed and that sensors and surveillance equipment can do the job cavalry once did. Further, the idea that any combat-arms leader was suitable to develop, coordinate and lead cavalry formations has proven false.

Inquisitive students of war find that a basic set of principles permeate cavalry operations if they challenge themselves to look beyond the confines of U.S. Army doctrine.

- **Principle 1:** Cavalry allows a commander to manipulate time in battle.
- **Principle 2:** Cavalry shapes the environment and the situation of its supported force.
- **Principle 3:** Cavalry is a commander's tool, and he or she must not be deprived of it.
- **Principle 4:** Cavalry operations build the framework for the employment of a commander's reserve.
- **Principle 5:** The use of cavalry must be purposeful and not be anchored on vacuous jargon.
- **Principle 6:** Cavalry builds the framework for exploitation.
- **Principle 7:** Cavalry leaders are forward-thinkers, problem-solvers, independent spirits and decisive operators.

These principles are not meant to be a checklist but rather a guide to help Soldiers assigned to cavalry formations better understand the purpose and function of the formation to which they are assigned. For as Fuller reminds the Soldier, "We must liberate our thoughts from customs, traditions and shibboleths, and learn to think freely, not imitatively. When anything appeals to us or displeases us, we must not accept it on its face value, but examine it, criticize it, and discover its meaning and inner worth. Remember that every student has much more to unlearn than to learn, and that he cannot learn freely until he has hoed the weeds of irrational thought out of his head."²³

These principles are focused on generating thought and debate among

U.S. Army Cavalry practitioners – akin to that which marked the coda of the U.S. Army’s horse cavalry, the birth of the U.S. Armored Force and the complementary rise of mechanized cavalry – in hope of improving the cavalry force and its leaders, and making it more effective on the battlefield.

MAJ Amos Fox is the executive officer, 3rd Squadron, 4th Security Force Assistance Brigade, Fort Carson, CO. Previous assignments include executive officer, 1st Squadron, 35th Armor Regiment, 2nd Brigade, 1st Armored Division, Fort Bliss, TX; operations officer, 1-35 Armor, 2/1 Armored Division, Fort Bliss; plans officer, 1st Armored Division, Fort Bliss; plans officer, Combined Joint Forces Land Component Command-Operation Inherent Resolve, Baghdad, Iraq; commander, Troop L, 2nd Squadron, 16th Cavalry Regiment, 199th Infantry Brigade, Fort Benning, GA; commander, Company D, 1st Squadron, 11th ACR, Fort Irwin, CA; assistant operations officer, 1st Squadron, 11th ACR, Fort Irwin; and commander, Headquarters and Headquarters Troop, 1st Squadron, 10th Cavalry Regiment, 2nd Brigade, 4th Infantry Division, Fort Carson. MAJ Fox’s military education includes School of Advanced Military Studies, Command and General Staff College, Airborne School, Maneuver Captain’s Career Course, Cavalry Leader’s Course, Bradley Fire Support Vehicle Course and Field Artillery Officer Basic Course. He holds a bachelor’s of science degree in secondary education from Indiana University-Purdue University at Indianapolis; a master’s of arts degree in secondary education from Ball State University; and a master’s of military arts and science degree in theater operations from the School of Advanced Military Studies. MAJ Fox’s awards include the Tom Felts Leadership Award; the Draper Armor Leadership Award, Fiscal Year 2013; member of 11th ACR’s

honorary rolls; and the Order of St. George (Bronze). He is also a recipient of Silver Spurs.

Notes

¹ Matthew Morton, *Men on Iron Ponies: The Death and Rebirth of the Modern U.S. Cavalry*, DeKalb, IL: North Illinois Press, 2019.

² Ibid.

³ Harlan Ullman, James Wade Jr., Frederick Franks, Charles Horner, Jonathon Howe and Keith Brendley, *Shock and Awe: Achieving Rapid Dominance*, Washington, DC: National Defense University, 1996.

⁴ Donald Rumsfeld, “Transforming the Military,” *Foreign Affairs*, May/June 2019, <https://www.foreignaffairs.com/articles/2002-05-01/transforming-military>; accessed Oct. 19, 2019.

⁵ Author’s notes from personal observations of multiple command post and warfighter exercises.

⁶ Morton.

⁷ Robert R. Leonhard, *Fighting by Minutes: Time and the Art of War*, Westport, CT: Praeger, 1994.

⁸ Ibid.

⁹ J.F.C. Fuller, *The Foundations of the Science of War*, London, United Kingdom: Hutchinson, 1926; reprint, Fort Leavenworth, KS: Combat Studies Institute, 1993.

¹⁰ David Chandler, *The Campaigns of Napoleon*, London, England: Weidenfeld and Nicolson Limited, 1973.

¹¹ B.H. Liddell Hart, “The Essence of War,” *Royal United Services Institute*, Vol. LXXV, 1930.

¹² GEN George S. Patton Jr., *War as I Knew It*, New York, NY: Houghton Mifflin, 1995.

¹³ Fuller.

¹⁴ Lewis Sorley, *Thunderbolt: General Creighton Abrams and the Army of His Times*, Bloomington, IN: Indiana University Press, 1992.

¹⁵ Ibid.

¹⁶ Helmuth von Moltke in Harry Bell and

Daniel Hughes’ translation, *Moltke on the Art of War: Selected Writings*, Novato, CA: Presidio Press, 1993.

¹⁷ W.D. Bird, *The Direction of War: A Study and Illustration of Strategy*, Cambridge: Cambridge University Press, 1925.

¹⁸ Shawn Woodford, “The Artillery Strike That Spooked the U.S. Army,” *The DuPuy Institute*, March 29, 2017, <http://www.dupuyinstitute.org/blog/2017/03/29/the-russian-artillery-strike-that-spooked-the-u-s-army/>; accessed Nov. 9, 2019.

¹⁹ MAJ Amos Fox, “Cyborgs at Little Stalingrad: A Brief History of the Battles of the Donetsk Airport May 26, 2014, to Jan. 21, 2015,” *Institute of Land Warfare, Land Warfare Paper 125*, May 2019; MAJ Amos Fox, “Battle of Debal’tseve: the Conventional Line of Effort in Russia’s Hybrid War in Ukraine,” *ARMOR*, Winter 2017.

²⁰ Morton.

²¹ Jen Judson, “Reforger Redux? Defender 2020 to be the 3rd Largest Exercise in Europe Since Cold War,” *Defense News*, Oct. 7, 2019, <https://www.defensenews.com/land/2019/10/07/reforger-redux-defender-2020-exercise-to-be-3rd-largest-exercise-in-europe-since-cold-war/>; accessed Oct. 27, 2019.

²² Todd South, “Rapid Deployment of Fort Bliss Soldiers to Poland Tests Army’s Force Flexibility,” *Army Times*, March 21, 2019, <https://www.armytimes.com/news/your-army/2019/03/21/rapid-deployment-of-fort-bliss-soldiers-to-poland-tests-armys-force-flexibility/>; accessed Oct. 27, 2019.

²³ Fuller.

ACRONYM QUICK-SCAN

ACR – armored cavalry regiment
CPX – command-post exercise
CTC – combat-training center
LSCO – large-scale combat operations
MDMP – military decision-making process
R&S – reconnaissance and security

Work the Problems: Tanker Thought

by CPT Adriano Santiago Garcia

“Give us the tools and we will finish the job,” Sir Winston Churchill famously said during the Battle of Britain, the air conflict that saved the English island from Adolf Hitler’s invasion.

However, armies will never be battle-ready 100 percent of the time in materiel and training so that they can be deployed any place to face any situation just like magic. Some of the shortfall can be attributed to voices within individual countries who contest the military budget, and this sometimes impacts the end of the acquisition line in less-effective equipment.

But “it is what it is,” as the saying goes; one works the problems before one. This article’s main objective is to show the difficulties and solutions tank leaders face when they know their machines are not state-of-art. As

an example, we will analyze a tank company equipped with the basic version of a Leopard 1A5 tank and look at how tank leaders work to minimize their problems.

International problem

Not-state-of-the-art materiel is an international problem. Many times, multinational task forces mix different tanks, Infantry Fighting Vehicles and armored personnel carriers within the same battle group. As we know, leaders need to make all assets work together to accomplish the mission.

In Latin America, Eastern Europe and some Asian countries, armored forces’ reality is that Cold War-era vehicles might be upgraded in some capabilities but still conserve their original firepower and ammunition set. Inside this reality, preparing and training individuals and tank crews is priority

when operations require tank-forces deployment.

Observing the countries of Strong European Tank Challenge (SETC) 2018, it is possible to illustrate the differences in equipment in basic aspects such as armored protection, command-and-control and, most importantly, firepower.

Work with what you have

Some observations regarding firepower:

- The first thing a tank leader will observe when he studies an enemy is the firepower of his weapons.

Our Leopard 1A5 is equipped with a very reliable fire-control system (FCS) that has the same first-hit probabilities that Leopard 2 tanks have. The German-built version of the British L7 A3 105mm gun, similar to the



Figure 1. Different types of tanks used during SETC 2018: Germany, Leopard 2A6; France, LeClerc; United Kingdom, Challenger 2; Poland, Leopard 2A5; Romania, TR-85; Sweden, Stridsvagen (“combat carriage”) 122; Ukraine, T-84; and United States, M1 Abrams.

American M-48 Patton (and its descendant, the M-60), certainly increases range capabilities and armor penetration.

- In tank-against-tank combat, the larger caliber will possess the standoff, hitting our forces long before our FCS can be in active range to fight.

When a tactical leader knows that his adversary's main battle tank has a similar or inferior firepower to his tanks, the first step in defeating the enemy is to really know his gun range to cripple the enemy's tanks and disable his FCS through our mobility.

- Employ overkill shooting. To know the damage each type of tank ammunition can create, leaders should design different types of operational scenarios where they might use more ammunition on each target than needed.

The use of overkill shooting creates the real damage so that during mission analysis, leaders can requisition up to twice the amount of ammunition than normal.

- The logistics process to rearm must be perfectly trained to maintain the maximum number of tanks in an engagement.

The crew's gunners and tank commanders need to be especially sharp and ready to see first, identify first and

react first (the "three Fs" process). For this to happen, the platoon's master gunner must obtain the maximum rates during training tables -- especially the most elementary ones -- to create the almost-instantaneous response amalgamating the "three F" tasks.

When tank leaders have perfect knowledge of how much blast they have and how accurate their shoots are; understand disadvantages of overloading the logistics structures; and are sure of the part they will play, they have the tools to start a real, consistent plan.

However, despite all the information and intelligence that leaders will use to create their orders, it is important to remember the famous quote of Helmut von Moltke, the Prussian army's chief of staff before World War I:



Figure 3. An Israeli Centurion tank operates in the Sinai during the 1973 Yom Kippur War. On Oct. 6, 1973 – Yom Kippur, or the “Day of Atonement,” the holiest day in Judaism – Egypt and Syria launched a coordinated surprise attack on Israel. Egypt attacked Israel on its southern front, crossing the Suez Canal into the Sinai Peninsula. (*Israel Defense Forces archives*)

“No battle plan survives contact with enemy.”

Work where you are

Seize the high ground. The Yom Kippur War is an example of when good use of terrain was the solution to facing a more powerful armored force. Israel used a mix of different types of tanks when it was trying to block two invasion forces: Syria, invading Israel's north in the Golan Heights, and Egypt, coming into the south across the Suez Canal into the Sinai Desert.

Israeli tanks took the high ground in the desert to block Egyptian forces equipped with cutting-edge Soviet materiel. When Egyptian tanks approached Israeli defense positions, they were stunned to realize their gun-tubes couldn't elevate to engage the Israelis, and this advantage reversed the situation for the Israelis, allowing a free shoot on the Egyptian tanks below.

Use camouflage. In the years following the Yom Kippur War, each nation's tanks became more heavily armed and protected, giving tankers the sense that each ton brought more force and each vehicle was its own sealed fortress. But when our enemy is more protected than we are, two basic



Figure 2. The Taiwanese army has 220 M-60 tanks in service, which have the M-68 105mm gun.

aspects become critical to success: camouflage and proper terrain use.

Recent generations will not believe that camouflage discipline is functional in the drone-observer or thermal-camera era. Reliance exclusively on gear can be exploited as a weakness, so leaders should understand the materiel's capabilities.

New camouflage net can cover, occult or dissimulate the shape, color and heat signature of armored vehicles, so the correct camouflage discipline – that includes covering tracks visible from the air – correct use of natural and artificial covers, and discipline in communications – for example, use of wire communications in assembly areas instead of radio – can create a false sense of security in the enemy.

Proper terrain use. Closely associated with seizing the high ground is the principle of using the terrain in two aspects: against the enemy and in your favor. The enemy will plan the same thing, of course, but the main difference is in how terrain will impact the tanks of each side.

As an example, Leopard 1A5 tanks weigh less than 45 tons combat-ready, so they have more effective off-road capabilities than most heavy tanks. Heavy tanks are more prone to getting stuck in mud or are denied passage through some kinds of terrain, so this works against an enemy, creating a natural death trap.



Figure 4. Leopard 1A5 tank.



Figure 5. Planning process and simulation.

Planning to use the terrain to our advantage requires focus during the crew-training phase. Tank commanders must study how to maneuver their own vehicles; approach enemy positions while protected at points that permit shooting; and disappear with steady and synchronized maneuver to gain terrain or just create damage.

Improving odds

The principle to success during planning and training is to be a hard, true self-critic. Only then will it be possible to rank your main weak spots. After this analysis, you do hard work in training on those points while starting to think of creative solutions to solve

or lessen problems.

The constant work will improve how you get the best of your equipment such as thermal-vision observations. It will also help you in searching for targets using tank sights and other devices such as binoculars; to understand hotspots in the heat signature; and to improve your tank's possibilities and tactics, techniques or combat actions.

Tank leaders in the entire chain of command must conduct a regular and constant study of new technologies, ammunition types and devices to regularly check how effective training is and adapt to overcome the most dangerous things – or even to suggest the modernization of components.

Principles of joint operations

Some principles:

- The highest tactical leaders may follow operational principles to design their orders, but if those principles are not imparted to the other side of the chain of command, the principles can kill the planning process itself.
- We explored the condition that if your tanks aren't in state-of-the-art shape, you may need more logistics resources to sustain operations.
- There is the side that thinks the principle of economy-of-force must be supreme to all others and give the minimum resources necessary to

troops in the field.

- Further, public opinion most times will disapprove of a large, well-armed force in the field, voicing non-operational arguments.
- The raid on Mogadishu in 1993, the “Black Hawk down” event, is a strong argument that the principles of offense, mass and maneuver always go together when employing armored task forces.

Conclusion

The history of armored forces has proved more than once that those who have the strongest force may not win battles. For example, the lighter and outnumbered German forces’ raid on France in 1940 showed that tanker skills are still a success factor in operations.

The two invasions of Iraq proved that

in open field or urban scenarios, tanks are still key in securing the ground advance.

There are no great secrets to achieving victory other than a hard, serious training plan and critical thinking, always trying to think how the enemy will exploit your weakness and overcome your troops.

Besides all these aspects, the great GEN Heinz Guderian quote is still in every tanker soul: “If tanks succeed, then victory follows.”

CPT Adriano Santiago Garcia is an officer in the Brazilian army. Assignments have included logistics-battalion officer, 3rd Tank Battalion, Ponta Grossa, Brazil; tank-company leader (Leopard 1A5 BR), 3rd Tank Battalion, Ponta Grossa; senior instructor, Army

ACRONYM QUICK-SCAN

FCS – fire-control system
SETC – Strong European Tank Challenge

Evaluation Center, Rio de Janeiro, Brazil; master-gunner chief instructor, Brazilian army armor school, Santa Maria, Brazil; chief of Leopard 1A5 BR training cell, master-gunner adviser of operations officer and battalion commander, 3rd Tank Battalion, Ponta Grossa; and tank-platoon leader (Leopard 1A1), 3rd Tank Battalion, Ponta Grossa. CPT Garcia’s military schooling includes Escola de Aperfeiçoamento de Oficiais (Brazil’s captain’s maneuver course) and Academia Militar das Agulhas Negras (Brazil’s army military academy).

Armored Fighting Vehicles of the World

Type 99, ZTZ 99A MBT



Type 99



Type 99

ZTZ 99A

Chinese main battle tank, first fielded in 2000 (99A in 2011). Three-man crew, weight 54 tons (99A 58 tons). 125mm smoothbore main gun with autoloader. Advanced modular ERA armor protection, infrared and laser detecting and jamming. In service with China PLA ground forces, 500 of the type 99, 500+ 99A.

When Cavalry Attacks: Battle of Palmetto Ranch, 1865

by MAJ Nathan Jennings

American cavalry has historically been mounted, trained and armed to execute reconnaissance and security operations in support of higher-echelon maneuvers since the Civil War. While the historical role of cavalry remains unchanged, the U.S. Army's current panoply of armored, Stryker and motorized ground-cavalry squadrons vary in their specific abilities to enable brigade combat team (BCT) and division actions. They all focus on collective missions that include zone, route, area and forceful reconnaissance, or screen and guard assignments. While the former task group centers on proactive methods for fighting for information with both stealthy and rapid advancement, the latter aims to provide freedom of action for higher commands through projection of mobile and static picket lines.¹

Despite optimization for such critical enabling tasks, the realities of combat often demand broader tactical versatility. According to Field Manual (FM) 3-98, *Reconnaissance and Security*, U.S. Army cavalry forces may, when required, be compelled to "attack enemy positions and attempt to force the enemy to react by using local reserves or major counterattack forces." On the other hand, guarding elements sometimes attack, defend and delay as needed, while a larger covering force "reconnoiters, screens, attacks, defends and delays as necessary."² These offensive requirements – often resulting from unexpected exigencies – mean that mounted scouts must maximize their unique combination of mobility, protection, firepower and operational reach.

The military history of the United States, during the U.S. Civil War in particular, is replete with instances of American cavalry successfully conducting hasty-attack operations. For example, at the Battle of Palmetto Ranch fought in 1865 in south Texas, 2nd Texas Cavalry Regiment, Confederate

States of America (CSA), won the final engagement of the tectonic conflict when it defeated an invading Union task force that sought to achieve a last, if ill-advised, victory along the Gulf Coast before the cessation of hostilities. Throughout the mini-campaign, the Texans employed speed and close-combat firepower to mitigate their enemy's initiative and infantry mass. By maximizing these attributes, the Confederates fixed, flanked and ultimately routed the dismayed Union forces.

Defending south Texas

The little-known Battle of Palmetto Ranch, named for a horse farm near Brownsville on the north bank of the Rio Grande, occurred as a tactically

important, though strategically inconsequential, engagement May 12-13, 1865, the final year of the Civil War. COL John Salmon Ford, veteran of the Mexican War and former Texas Ranger, held responsibility for guarding the Gulf Coast against possible Union incursions. He commanded 2nd Texas Cavalry Regiment with several volunteer mounted battalions. Though the Lone Star State won a clear victory at the ranch, GEN Robert E. Lee and the Confederate Army of Northern Virginia in the Eastern Theater had surrendered four weeks prior, and the collapse of the Confederacy was imminent.

The Palmetto Ranch expedition was not the North's first attempt to invade mainland Texas. On two previous occasions, substantial U.S. Army and Navy task forces had attempted to seize lodgments along Texas's Gulf Coast after occupying nearby coastal islands. These actions aimed to initiate a larger strategic envelopment of the Confederate Trans-Mississippi Theater from the west and provide the Union with immense quantities of war-related resources like cotton and beef that frontier industry produced in abundance. The final protection of the Gulf Coast unfolded as a remarkable example of economized defense much like the first two defensive actions that turned away Union fleets.

The first two serious attempts at penetration of Texan coastal defenses did not involve cavalry actions; they predictably unfolded primarily as naval efforts launched from the Union stronghold at New Orleans, LA. With the U.S. Army in possession of southern Louisiana by April 1862, the nearby Texas coast became a natural target for amphibious invasion by armadas of gunships and amphibious-assault infantry. This development corresponded with a blockade of the Gulf Coast by the Union Navy to deprive the flagging Confederacy of critically needed seaborne commerce with Latin America



Figure 1. Confederate COL John Salmon Ford led the victorious Texas cavalry forces at the Battle of Palmetto Ranch. (Courtesy Wikipedia Commons)

and Europe.

The Union assaults found Texas straining under its expansive wartime commitments. Even as the state struggled to defend both its Indian frontier from a resurgent Comanche threat and its long coastline from Union invasion, it deployed thousands of soldiers to support Southern war efforts in the Trans-Mississippi and Eastern Theaters. The U.S. Navy first sought to exploit this situation Oct. 4, 1862, when it attacked the island of Galveston. After a brief cannonade, the overmatched defending garrison withdrew, thus depriving Texas of a valuable commercial port. Some 500 Massachusetts soldiers then occupied the coastal town, while a second armada in New Orleans prepared to transport several infantry regiments to reinforce the foothold.

Another important coastal town, Corpus Christi, endured naval bombardment soon after the fall of Galveston. Despite the suddenness of the attack, Texas forces managed to retain control of the port. Francis Lubbock, the secessionist governor of the Lone Star State, immediately sought to galvanize resistance with a dramatic call to arms: "The crisis of this war seems to be at hand in Texas, and we must prepare to defend our homes, or be driven from them with insult and degradation, and all the horrors of rapine and violence." Relying on his state's historical strengths in rapid mobilization to combat Indian threats on the Great Plains, Lubbock called for 5,000 volunteers to defend the coast.³

On New Year's Day 1863, MG John Magruder, commander of the Confederate Military District of Texas, counterattacked with a synchronized gunboat and amphibious ground offensive to repossess Galveston. Relying on the element of surprise, a small fleet of brown-water vessels first engaged the unsuspecting Union fleet with a lightning night attack. With this diversion in effect, Confederate ground forces under the command of BG William Scurry, along with an assortment of local militia, then assaulted the island. The attack succeeded, and the Confederates were jubilant when they captured three Union ships and more than 350 prisoners. The vengeful Texans inflicted 650 Federal casualties while

suffering 26 killed and 117 wounded.⁴

The next significant Union invasion occurred in September 1863. Called the Second Battle of Sabine Pass, the day belonged to a single Texas artillery battery fortuitously stationed at Fort Griffin at the mouth of the Sabine River. In an act of notable bravery, the severely outnumbered Confederates waited until an armada transporting 15,000 infantry, cavalry and artillery troops approached within 1,200 yards of the fort. Then they opened a rapid-fire cannonade. After sinking one transport and severely damaging another, the 44-man contingent under Irish immigrant LT Dick Dowling compelled the other 15 ships to retreat.⁵ The *Texas State Gazette* subsequently boasted with Lone Star bravado that "the ball is again opened in Texas. We have met the enemy and they are again ours."⁶

Palmetto Ranch contest

The unlikely Palmetto Ranch Campaign saw Texas's cavalry arm take its turn defending the state from a third incursion. On May 11, 1865, COL Theodore Barrett, commander of the Union regiment occupying the island of Brazos Santiago near Brownsville, ordered a sudden expedition onto the mainland. Despite the tacit ceasefire that had existed for several months due to shared understanding that the war would soon be decided in Virginia, he ordered the attack for unknown reasons. It is possible the New York officer sought to requisition horses for his dismounted cavalry, but it is more likely, as accused by the quartermaster of 34th Indiana Infantry Regiment in a letter later published in the *New York Times*, that he hoped to "establish for himself some notoriety before the war closed." Barrett later called it a "foraging expedition" at his court martial over the matter.⁷

The attacking task force comprised eight companies from 62nd U.S. Colored Troops (USCT) and two from the dismounted 2nd Texas Cavalry Battalion (U.S.). Unionist Texans who remained loyal to the United States predominantly populated the latter companies, adding a new political and social context to the situation. The entire expedition totaled about 300 soldiers. On the CSA side, Ford commanded the

lower Rio Grande defenses with the dispersed 2nd Texas Cavalry Regiment and several understrength mounted volunteer battalions. At the time of invasion, one of his volunteer units was encamped at Palmetto Ranch near old Fort Brown. The disparity in tactical mobility between opponents would prove decisive in days to come.⁸

On the night of May 11, the Union force crossed to the Texas mainland under concealment of darkness. Under command of Barrett's deputy, LTC David Branson, the expedition then marched against a suspected enemy position at White's Ranch near the Rio Grande, ostensibly to requisition horses. Finding the station abandoned, they spent the night under cover. The following morning the Federals finally located and skirmished with 190 cavalrymen from a volunteer mounted battalion led by CPT William Robinson. When the fight proved inconclusive, the Union soldiers retired back to the ranch. Barrett soon arrived with 200 more infantrymen and assumed personal command of the operation.⁹

The next day, on May 12, the strengthened Union task force of about 500 soldiers — now a battalion-sized element — advanced and again skirmished with Robinson's horsemen near the Southerners' camp at Palmetto Ranch. Relying on massed musket volleys, the larger infantry force pushed the Texans out onto open ground and half-heartedly pursued them a mile to the west. Uncertain of his next move, Barrett established a temporary camp around a small hill and sought to exploit the elevated terrain. Though the infantrymen had prevailed in the skirmish, the invaders would soon suffer from their mobility deficit.¹⁰

Despite Barrett's initial tactical success, the Texans rapidly gathered forces from across the region and planned to seize the operational initiative from the invaders. That afternoon Ford began to organize the Confederate counterattack at Fort Brown on the Rio Grande. When his own 2nd Texas joined with elements from several local units, the force totaled close to 400 horsemen. He also brought a mobile battery comprised of six light field guns to

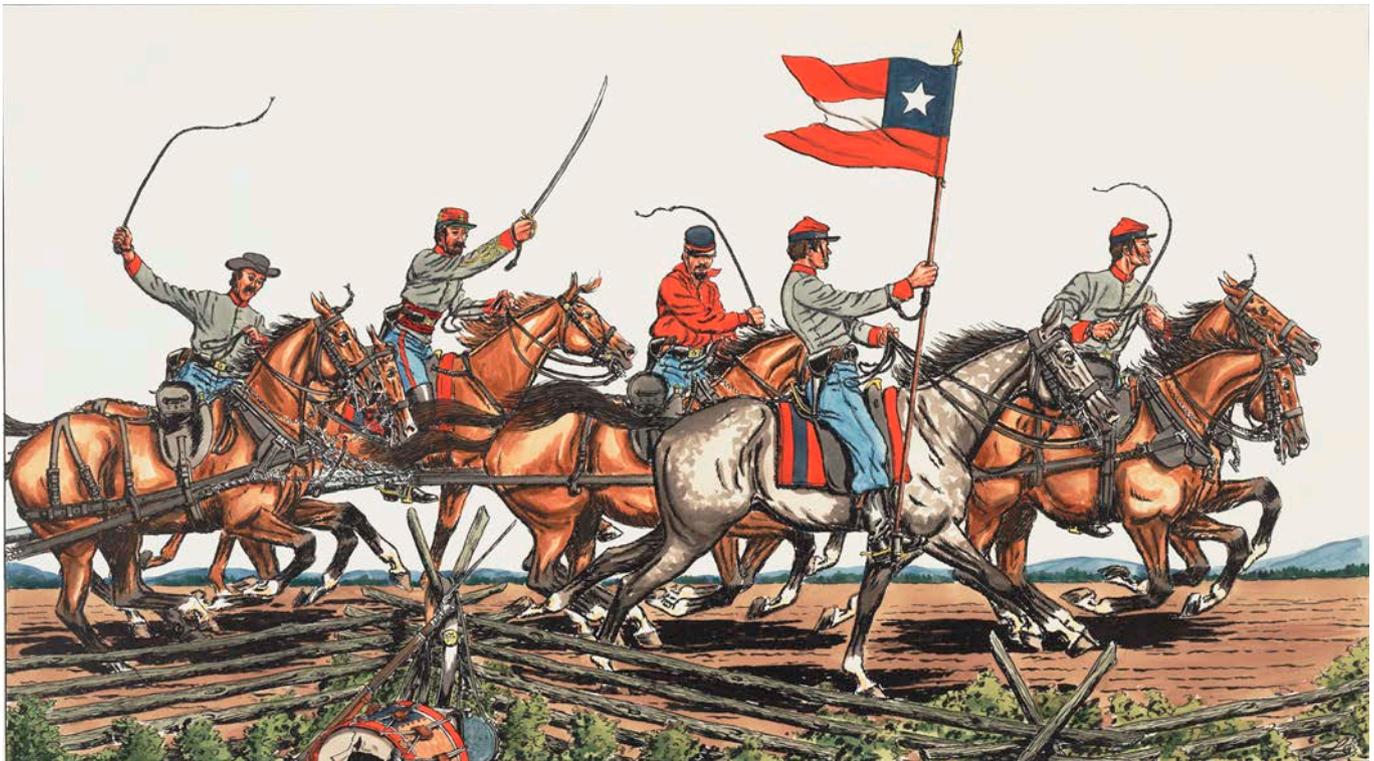


Figure 2. Mobile light artillery proved decisive at the Battle of Palmetto Ranch. (Drawing: “The Alamo City Guards of San Antonio,” Edgar’s Battery, First Texas Light Battery, CSA, 1862. Courtesy of the Anne S.K. Brown Military Collection, Brown University)

offset his lack of massed firepower and combined-arms capacity.

Skirmishing had continued between the Texan volunteers and Union soldiers while Ford and the reinforcements deployed from Fort Brown. Upon arrival the commander, according to his memoir, immediately “made reconnaissance and determined to attack.” Since Barrett had let himself be caught in open terrain that suited cavalry, the Texan chose to maximize his superiority in mobility with a double envelopment. He planned to use artillery “in advance of the line,” flank with “enfilading fire” on the right and assault another wing to “turn the enemy’s right flank.”¹¹ Despite the audacity of the scheme, it held great risk for horsemen since they would be charging entrenched infantry – an immensely perilous task by this time in the war due to improving tactics and weaponry among the Union foot regiments.

Ford grossly overestimated the size of the Federals. He privately worried that “this may be the last fight of the war and from the number of Union men I see before me, I am going to be whipped.” Regardless of concerns, the

Confederates initiated the assault as planned with battery fire against the Union front. They then followed the barrage with a charge by 2nd Texas companies in the center and the simultaneous flanking of Barrett’s left and right with volunteer horsemen. Ford described the action on his left where he intended to deliver the decisive blow: “very soon ... Robinson charged with impetuosity. As was expected, the Yankee skirmishers were captured and the enemy troops were retreating at a run.”¹²

The shock of the artillery, rapid flank assaults and loss of its forward positions placed the Union task force in an untenable situation. With his front collapsing, Barrett began a retrograde under pressure toward the coast. The enraged Texans “pursued at the gallop” and harassed the retreat, which proved so unorganized that two infantry columns physically marched into each other and caused further chaos. Barrett eventually assigned, and sacrificed, a detachment from 62nd USCT to screen his escape. By day’s end the dismayed Federals lost four dead, 12 wounded, 102 captured and two missing soldiers. Adding sting to defeat,

they also suffered the disgrace of losing two “battle flags” of 34th Indiana Regiment.¹³

Battle analysis

Texan maneuvers during the final battle of the Civil War provided a veritable display of cavalry advantages during offensive operations, though extremely conditional, on mid-19th-Century battlefields. It first manifested when Ford used speed available only to mounted forces to mobilize and reinforce the Texan garrison at Palmetto Ranch. He next used his cavalry to fix and envelop the Federal position before its slower infantry ranks could react. At the battle’s culmination, the same maneuverability facilitated rapid shock charges, which, along with supportive artillery fires, compelled the Federal retreat. He finally pursued the retreating adversary to complete the rout and cement the victory.

While no two battles are exactly comparable, the Confederate employment of fundamental cavalry strengths at Palmetto Ranch are instructive. By employing the mobility superiority inherent in mounted formations to apply decisive effects, the Texans fulfilled

the modern U.S. Army's operational imperative to "operate dispersed over wide areas because they are able to integrate intelligence and operations to develop situational understanding through action, while possessing the mobility to concentrate rapidly."¹⁴ This application of offensive fundamentals allowed the Confederate horse, who normally supported infantry throughout the war, to marginalize their enemy's strengths while maximizing their own. It ultimately allowed the Confederates to present the Union commander with cascading tactical dilemmas that dislocated and desynchronized his ability to either defend or maneuver.

Looking to the 21st Century, the storied U.S. cavalry will likely remain focused on traditional reconnaissance and security tasks in support of brigades and divisions. However, just as 2nd Texas hastily attacked at Palmetto Ranch, it will occasionally be required to attack to fix or destroy opposing forces. Whether armored, Stryker or motorized in platform, U.S. Army scouts and tankers will, if unleashed properly, defeat their enemies through decisive application of fire and maneuver. Just as in ages past, these instances will see mounted U.S. Soldiers employ their structural advantages in mobility and firepower to assault into the teeth of their enemy's defenses and emerge victorious on the other side.

MAJ Nate Jennings is an Army strategist in the Combined Arms Center, Fort

*Leavenworth, KS. His previous assignments include strategic planner in Resolute Support Headquarters, Kabul, Afghanistan; assistant professor of history at U.S. Military Academy, West Point, NY; Headquarters Troop commander and Troop C commander, 4-9 Cavalry, 2nd BCT, 1st Cavalry Division, Fort Hood, TX, and Iraq; platoon leader, Company B, 1-34 Armor, 1st BCT, 1st Infantry Division, Fort Riley, KS, and Iraq; and 19D cavalry scout in 2nd Armored Cavalry Regiment (Light) with Operation Iraqi Freedom tours in Baghdad and Kirkuk, Iraq. His military schooling includes the School of Advanced Military Studies, Command and General Staff Officer's Course, Cavalry Leader's Course, Maneuver Captain's Career Course, Armor Officer Basic Course and Air-Assault and Airborne schools. MAJ Jennings holds a bachelor's of arts degree in history from Northwestern State University of Louisiana and a master's of arts degree in American history from the University of Texas at Austin. He won the Perry Prize for the best master's thesis at the University of Texas at Austin in 2013 and 1st place in the U.S. Army Armor School's 2015 Starry Writing Competition. He is the author of the book, **Riding for the Lone Star: Frontier Cavalry and the Texas Way of War, 1822-1865.***

Notes

¹ FM 3-98, *Reconnaissance and Security Operations*, July 2015.

² Ibid.

³ Allen Ashcraft, *Texas in the Civil War: A Resume History*, Austin: Texas Civil War Centennial Commission, 1962.

⁴ Ibid.

⁵ Harry Henderson, *Texas in the Confederacy*, San Antonio: The Naylor Company, 1955; Ralph Wooster, *Lone Star Regiments in Gray*, Eakin Press, 2002.

⁶ *Texas State Gazette*, Sept. 16, 1863.

⁷ *New York Times*, June 18, 1865; Jeffrey Hunt, *The Last Battle of the Civil War: Palmetto Ranch*, Austin: University of Texas Press, 2002.

⁸ Hunt; John Ford, *Rip Ford's Texas*, edited by Stephen Oates, Austin: University of Texas Press, 1987.

⁹ Ibid.

¹⁰ Ibid.

¹¹ Ford.

¹² Ibid.

¹³ Ibid; Hunt.

¹⁴ U.S. Army Training and Doctrine Command Pamphlet 525-3-1, *The U.S. Army Operating Concept: Win in a Complex World*, October 2014.

ACRONYM QUICK-SCAN

BCT – brigade combat team
CSA – Confederate States of America
FM – field manual
USCT – U.S. Colored Troops



It Is, So What, Therefore and Who Else Needs to Know! A Paradigm for Operations Centers

Procedures = what to think. Paradigms = how to think. It takes both to be effective and efficient

by COL Harry “Zan” Hornbuckle

The first report is received, announced in the operations center and acknowledged. This first report, while unique, provides all the basics of the developing situation and demands your attention. What happens next should be based on standard-operating or fast-reaction procedures that your command center uses. These procedures and drills should have been taught, reviewed and practiced as you joined the operations team and integrated into the watch.

Unfortunately, the condition described in the report and the ongoing action is

not included in your known procedures. Maybe it fits into a combination of two or three, but you find yourself in a situation that is not accounted for in your volumes of procedures. We know from Army Doctrine Publication (ADP) 6-0 that “[p]rocedures are standard, detailed steps, often used by staffs, which describe how to perform specific tasks to achieve the desired endstate.”¹ In other words, procedures are the actions taken in the operations center to respond to common situations with specific actions in a concise manner.

Scenarios not covered by procedures

transpire across our operations centers almost daily. This trend occurs in the small-organization level all the way up to the corporate-organization level. You ask yourself, “How can we not have a procedure written for this situation?” The answer is simple: because if you had all the procedures required for every single possible event, and even those black-swan events, no one would know where to find it when they needed it. Also, the digital file would crush your network, and the binder would require a two-person lift to open.

Effective operations centers

The procedures in your operations center for the purpose of this article are sound and by design account for common and routine actions. The procedures enable your operations center to be effective.

Keep in mind that, if used effectively, a procedure is basically a tool that teaches people what to think in the context of that situation. A procedure provides instructions, with a sequence of actions to follow, to accomplish a task. This is useful to a point and, in most cases, sufficient for operations centers to be of some benefit to the organization. We all want our operations centers to provide us with significant benefit given the cost in personnel and resources to operate a functional operations center.

I believe that our most effective and efficient operations centers will also develop the ability for and be trained on how to think. Effective and efficient centers will deliver considerable dividends to the organization. The combination of what to think – procedures, with how to think - paradigms will equip the operations center with a range of capabilities and problem-solving attributes. The Merriam-Webster dictionary describes a paradigm as “a philosophical or theoretical framework of any kind.”² The key here is the framework that allows a way to train watch teams how to think in our operations centers.

To accomplish this, we need to consider the paradigm we can use for those uncommon events that force us outside our procedures. I recommend that an operations center considers the paradigm “it is, so what, therefore and who else needs to know.” This is nothing unique, and it is something we have been taught in one form or another. I was taught this early in my career, and it has always been of great value. In my execution, observation and coaching experiences – from the small- to large-level operations centers, this paradigm always assists in navigating complex situations. It is an effective paradigm for operations centers to follow as they think their way through events not covered by established procedures.



Figure 1. A Soldier monitors input in a tactical-operations center during an infantry brigade combat team limited-user test at White Sands Missile Range, NM. An operations center should consider the paradigm “it is, so what, therefore and who else needs to know” when conducting its tasks. (U.S. Army photo)

It is

The report that has entered the operations center contains both facts and (most likely) some assumptions. The facts are the best we have at that time. It is the fact that is relevant at the time the report is sent. The assumptions are those things that are considered possible and may be listed as part of the “why” or impact elements of the report, and again are relevant at the time the report was sent.

The operations center will want to ensure they understand what the facts are and what the assumptions in the report are. As the event progresses from the initial report to a more developed situation, the operations center will review and update the known facts and assumptions. In some cases these will change, and in almost all cases, there will be updates. “It is” should follow a simple format of:

- Who is involved?
- What has happened or is happening?
- When did this happen, or is it ongoing and developing?
- Where is the event located?
- Why did this event occur or what is the impact?
- What is the request or recommendation, if any?

The operations center will want to

gather as many details as possible before proceeding to the *so what, therefore* and *who else needs to know* stages. This is where your operations center’s experience and training comes to play. There is not a single way to proceed here. The operations-center leader must understand the decision-makers who will be involved, the possible impact of this event and the organization’s ability to influence the outcome or respond to the event’s conclusion. Encouragement of initial reports is critical to success and is the only way to facilitate the operation center’s responsiveness in unique events. We should not allow our desire for a 100-percent report to delay us in informing decision-makers.

We should foster an environment that encourages everyone to communicate the information available at the time and welcomes the updates that will inevitably adjust our understanding of the situation. This environment of information-sharing should be developed into a culture of collaboration. To do otherwise contributes to the operations center consuming information and producing little in the development of situation awareness leading to understanding. There is a fine balance between the amount of time used to gather more facts and the

requirement to inform decision-makers so they have an opportunity to influence the situation. Paradigms help us navigate this balance.

So what

We have discussed the *it is* stage; now on to the *so what* stage, which is easy to say but hard to accomplish. Here is where you have developed the operations team to think and they are value-added, or you identify a requirement to go back and encourage initiative within the shared understanding of organizational expectations.

The *so what* is basically what we think the impacts will be based on the report or the immediate actions that are prudent to recommend to decision-makers. The *so what* will help the operations center identify a similar situation or combination of situations that allow you to reference your procedures.

A discussion on the operations center's authority will also allow them to take the immediate emergency actions required, if any, to ensure the organization can posture to respond with an adjustment action or begin a new action. Opportunity is momentary, and when you can allow your operations center to act within the authority level you are comfortable delegating, you will find success. Some form of immediate action is almost always required to allow the organization to gain momentum and continue to develop the situation as more reports are provided.

Therefore

We have a good understanding of the facts of the event, have taken initial actions and informed leadership, and are now at the point where we make recommendations to either gather additional missing facts or to conduct an operational adjustment.

For the leader, this can be invaluable, as it provides you with options. Options are critical to decision-making and are where your operations center proves its worth to the organization. Options help save the leader time and again posture the organization to maximize momentum.

If there is not a *therefore*, the operations center is just an information center and has reduced its potential to build synergy for the overall organization.

Who else needs to know?

This action should repeat throughout the paradigm multiple times. It is not required to be done at the end, nor is it expected to be completed only once. *Who else needs to know* should be asked across the operations center multiple times. The operations center should review who else needs to know from receipt of the initial report all the way through the event's conclusion. As I mentioned, a key enabler of this action is an environment that encourages open dialogue about the information available and welcomes the updates that will inevitably adjust our understanding of the situation.

I recommended at the start of this article that we combine procedures and paradigms to develop efficient and effective operations centers. Procedures answer the *what to think* requirement to be efficient. Paradigms enable the *how to think* requirement to be effective. Our operations centers need a combination of standard reaction procedures and thinking paradigms since it is almost impossible to identify and train every scenario they will face.

The paradigm *it is, so what, therefore* and *who else needs to know* is a way to support development of operations centers' ability on how to think. There are, of course, many other paradigms

that can be used for this purpose. In fact, development of your own paradigm may prove the most effective. This will ensure the operations center and the decision-makers are communicating on this topic and developing the ability to share information and build understanding in a time of crisis. Operations centers with these skills will prove to be efficient and effective.

COL Zan Hornbuckle is an assistant deputy director for operations at the National Military Command Center, Pentagon, Washington, DC. Previous assignments include Task Force 2 senior observer/coach/trainer, Joint Readiness Training Center, Fort Polk, LA; and commander, 3rd Battalion, 69th Armor Regiment, 1st Armored Brigade Combat Team (ABCT), 3rd Infantry Division, Fort Stewart, GA, with decisive-action training environment rotations to the National Training Center, Fort Irwin, CA, and Joint Multinational Readiness Center, Hohenfels, Germany. He also served at the brigade and battalion levels as executive officer and operations officer within 3rd ABCT, 4th Infantry Division; and as a small-group instructor, Maneuver Captain's Career Course, Fort Benning, GA. COL Hornbuckle holds a bachelor's of science degree in business administration from The Citadel and a master's of public administration degree from Troy State.

Notes

¹ ADP 6-0, *Mission Command*; Washington, DC: Department of the Army; May 2012.

² Merriam-Webster dictionary, <https://www.merriam-webster.com/dictionary/paradigm>.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
ADP – Army doctrinal publication

Improper Close-Air-Support Integration During Planning at Battalion Level: a Threat to Future Operations?

by SFC Morgan S. Wallace

As the Army fought across multiple theaters over the past 17 years in support of the Global War on Terrorism, it became primarily engaged in counterinsurgency (COIN) operations. For the Army to achieve success in a COIN environment, we had to adapt our tactics, techniques and procedures (TTPs) to win the hearts and minds of the local populace.

A byproduct of these adaptations was the attrition of TTPs necessary for successful unified land operations (ULO). This situation improved once the 2018 National Defense Strategy outlined the Defense Department's revised strategic goals to refocus brigade combat teams' training to better align with ULO; now tactical units focus their training on decisive action supporting ULO.

While this transition was much needed, one area that tactical units still struggle with is the integration of close air support (CAS) in planning and executing decisive action. To achieve greater success against a near-peer enemy, our units must resolve this shortfall.

Limited CAS training

There is no instruction on CAS integration and limited instruction on coordination-and-control measures for both CAS and indirect-fire support in the Battle Staff Noncommissioned Officer (NCO) Course, Cavalry Leader's Course (CLC) or other NCO professional-development courses. This is unfortunate because cavalry units, whether a scout troop or tank company, are usually the first elements to gain contact with the enemy during decisive action.

While there is limited CAS planning at the company level, it is crucial that battalion planning elements create and integrate coordination-and-control measures for CAS. One of the key elements of CAS is the "ability to mass joint fire support at a decisive point and to provide the supporting fires needed to achieve the commander's objectives."¹ However, this cannot occur without thoughtful and detailed coordination-and-control measures by elements on the ground.

This means that CAS assets should be preplanned and prebriefed. It is this preplanning that often falls through the cracks. Things such as fire-support coordination measures, coordinating altitudes, kill boxes and engagement-area planning are just a few of the



crucial planning measures battalions must be capable of preparing.

Battalion planners often do not properly plan for CAS simply because they are unfamiliar with these concepts. This results in more attention going to the ground-maneuver plan and the indirect-fire plan, ultimately relegating CAS to a less decisive role and resulting in a less effective plan.

To properly understand how to best integrate CAS into planning, the planner must have a thorough understanding of what CAS is, how it can support ground maneuver and what the necessary coordination measures are to improve integration. A complete understanding is more than just knowing that planes show up and drop bombs. Instead, planners must know how CAS requests are processed, what airspace coordination-and-control measures accomplish and who can control the planes once on-station.

Joint Firepower Course

The best way to gain a complete understanding is to attend the Joint Firepower Course taught by the Army Joint Support Team-Nellis, Nellis AFB, NV. The course focuses on how the Army and Air Force work together to integrate air assets to accomplish decisive action. Upon graduation, the Soldier is awarded the additional skill identifier (ASI) 5U (tactical air operations).

The course is beneficial to planners who will integrate CAS with the maneuver and indirect-fire plan. The course culminates in a practical exercise (PE) that requires a battalion staff, along with Air Force liaison officers, to plan a mission that closely integrates CAS, artillery and maneuver forces. The PE further reinforces the importance of understanding tactical air operations while conducting mission planning.

5Us limited

Information gained in the Joint Firepower Course is indispensable to any maneuver leader from the platoon level up. Unfortunately, the Joint Firepower Course is not a well-known course. However, according to the armored brigade combat team's (ABCT) modified table of organization and equipment (MTOE) for a combined-arms battalion (CAB), the S-3, assistant S-3, operations sergeant major and a sergeant first class should all hold ASI 5U.

Another more pressing and potentially dangerous issue is the fact that there are no 5U positions within an ABCT cavalry squadron's MTOE – the only 5U-qualified position in a cavalry squadron is typically the squadron fires-support officer. However, the cavalry squadron is ideally the first element of a brigade to make contact with the enemy; therefore, we need more subject-matter experts planning



Figure 1. An AGM-65 Maverick missile flies away from a U.S. Air Force A-10 Thunderbolt attack aircraft. A complete understanding of CAS is more than just knowing that planes show up and drop bombs – planners must know how CAS requests are processed, what airspace coordination-and-control measures accomplish and who can control the planes once on-station. (U.S. Air Force photo by MSG Michael Ammons)

and integrating CAS within that formation.

Furthermore, 19D and 19K Soldiers cannot hold the 5U ASI until they become a 19Z. Conversely, 11B Soldiers can hold the ASI 5U without restrictions and no requirement to be 11Z. Considering that armor and cavalry are usually the first elements to engage the enemy in high-intensity conflicts and are crucial to effective large-scale maneuver, this must change.

Recommendations

My first recommendation would be to make the Joint Firepower Course more readily available to units and maneuver military-occupation specialties. It is currently only taught at Nellis AFB or at locations that have requested a mobile-training team (MTT). With limited funds to send Soldiers to schools, courses like the Joint Firepower Course are prioritized less than other courses such as airborne, air-assault or Pathfinder. This is where the MTT becomes an asset; it is more cost-effective to pay for an MTT than to send more than 100 students to Nellis AFB. However, commanders must recognize the training's importance and be willing to bring the training to their units.

My second recommendation would be

to open the ASI to 19D and 19K (Skill Level 3 and 4). Armor and cavalry leaders who have completed the course could be valuable assets to both CABs and cavalry squadrons.

Finally, if the Army wants to become more proficient at integrating CAS, it needs to add more 5U positions in the cavalry squadrons and fill each one with experienced maneuver leaders.

CAS integration into armor and cavalry units is imperative in creating more lethal armored formations. We must recognize this begins with proper planning, coordination and integration at battalion level. We must train our leaders and planners to properly integrate this crucial asset to succeed during ULO. Once we have increased the number of planners who have ASI 5U, we can begin to increase our integration of CAS, which ultimately will lead to more lethal maneuver units.

SFC Morgan Wallace is an instructor at the U.S. Military Academy, West Point, NY. Previous assignments included assistant operations NCO, 1st Squadron, 16th Cavalry Regiment, Fort Benning, GA; platoon sergeant, Troop A, 1-16 Cav, Fort Benning; master gunner, Company B, 1st Battalion, 8th Cavalry Regiment, 2nd ABCT, Fort Hood, TX;

tank commander, Company D, 1-8 Cav, Fort Hood; and tank gunner, Company D, 1-8 Cav, Fort Hood. SFC Wallace's military schools include Joint Firepower Course, CLC, Battle Staff NCO Course, Senior Leader's Course, Advanced Leader's Course, Advanced Situational Awareness Course (Basic), Basic Leader's Course and Small Unmanned Aerial Vehicle Course. He holds a bachelor's of arts degree in homeland security from American Military University.

Notes

¹ Joint Chiefs of Staff, *Close Air Support*, Washington, DC: Department of Defense, Government Publishing Office, 2014.

ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
ASI – additional skill identifier
CAB – combined-arms battalion
CAS – close air support
CLC – Cavalry Leader's Course
COIN – counterinsurgency
MTOE – modified table of organization and equipment
MTT – mobile-training team
NCO – noncommissioned officer
PE – practical exercise
TTPs – tactics, techniques and procedures
ULO – unified land operations

Honoring our Armor and Cavalry Medal of Honor Heroes

Derived from Center of Military History information provided at <https://history.army.mil/html/moh/civwaral.html>. Listed alphabetically. Note: Asterisk in the citation indicates the award was given posthumously.

CLAPP, ALBERT A. 1SG

Unit: Company G, 2nd Ohio Cavalry. Place and date of action: Sailors Creek, VA, April 6, 1865. Born: Pompey, NY. Date of issue: April 24, 1865. Citation: Capture of battle flag of 8th Florida Infantry (CSA).

COCKLEY, DAVID L. 1LT

Unit: Company L, 10th Ohio Cavalry. Place and date of action: Waynesboro, VA, Dec. 4, 1864. Born: June 8, 1843, Lexington, OH. Date of issue: Aug. 2, 1897. Citation: While acting as aide-de-camp to a general officer, he three times asked permission to join his regiment in a proposed charge upon the enemy, and in response to the last request, having obtained such permission, joined his regiment and fought bravely at its head throughout the action.

COLE, GABRIEL CPL

Unit: Company I, 5th Michigan Cavalry. Place and date of action: Winchester, VA, Sept. 19, 1864. Entered service: New Salem, MI. Born: Chenango County, NY. Date of issue: Sept. 27, 1864. Citation: Capture of flag, during which he was wounded in the leg.

FROM THE SCREEN

Why Does Cavalry Still Matter?

by CPT Timothy C. Lee

Students at the Cavalry Leader's Course (CLC) are asked a simple question on Day 1 about the cavalry and its role in large-scale combat operations: Why does cavalry still matter? After a few minutes of silence, students typically respond with a variety of answers. Some state that the role of cavalry is to serve as the brigade commander's eyes and ears, providing the information the commander needs to conduct detailed planning and understand the area of operations. Others state that the role of cavalry is to serve in an economy-of-force role, allowing the commander to expend only minimum essential combat power on supporting efforts. Finally, some students state that the role of cavalry is to protect the force to enable the commander to seize, retain and exploit the initiative.

While these are all great answers and doctrinally correct, they miss the mark. At its core, cavalry exists to enable the commander to make timely decisions and achieve positions of relative advantage by filling in identified information gaps and answering commander's critical information requirements (CCIRs).

The cavalry's role is clearly defined throughout Field Manual (FM) 3-98 and reinforced by FM 3-90-2. Paragraph 1-1 in FM 3-98 states that "[r]econnaissance operations allow

commanders to understand the situation, visualize the battle and make decisions. Security operations provide reaction time and maneuver space to enable decisions and protect the force from unanticipated danger."

The critical word shared in these sentences is **decisions**. Cavalry units conducting reconnaissance and security (R&S) operations enable the commander to make decisions. **How** cavalry units do that is inferred from the next sentence in FM 3-98, "[R&S] tasks answer [CCIRs], mitigate risk, identify enemy weakness and isolate the enemy from sources of strength." FM 3-98 goes on to conclude, "[R&S] tasks allow [brigade combat teams] to achieve positions of relative advantage."

Figure 1 may assist in the understanding of cavalry's fundamental role.

In short, the fundamental role of cavalry units' R&S is to enable the commander to make decisions by precisely answering priority intelligence requirements (PIRs). As stated in Paragraph 1-24 of FM 3-98, "[R&S] tasks answer PIR and enable the commander to make decisions and direct forces to achieve mission success." Once again, **decisions** is the common word. All R&S operations undertaken must help the commander make informed decisions. By collecting information through reconnaissance tasks, the cavalry unit can turn gaps identified during mission analysis into information

requirements and, ultimately, **intelligence** to enable the commander to capitalize on opportunities and exploit success.

While doctrinally correct, limiting the fundamental role of cavalry to just "eyes and ears" and "economy of force" significantly undermines the real purpose of the cavalry: to enable the commander to make decisions to retain a position of relative advantage. It is the responsibility of the commander and staff to focus the collection of information to drive informed, timely decisions in the area of operations. The entire purpose and fundamental role of the cavalry is to enable the commander to make decisions by answering CCIR.

While simple in concept, it is widely misunderstood, as cavalry units are often told to "screen" or "do reconnaissance" with little thought as to what the PIRs are for the operation. Before deciding to employ cavalry units, commanders must always ask, "What information gaps can the cavalry help me fill, and what decision will that ultimately drive?" Only in this way can the cavalry genuinely serve as the commander's "eyes and ears" on the battlefield.

CPT Tim Lee is course director for CLC, assigned to 3rd Squadron, 16th U.S. Cavalry Regiment, 316th Cavalry Brigade, Fort Benning, GA. Previous assignments include commander,

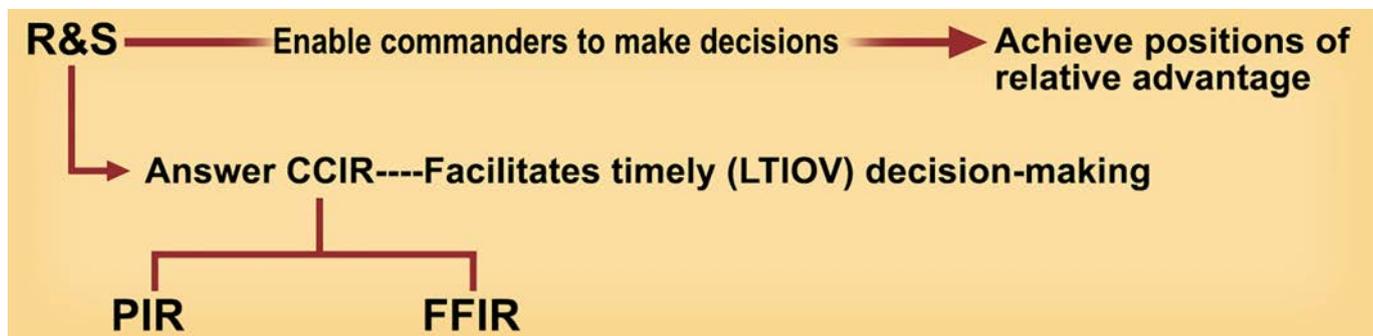


Figure 1. R&S and CCIR link.

Headquarters and Headquarters Troop, 6th Squadron, 1st U.S. Cavalry, Fort Bliss, TX; commander, Troop E, 6-1 Cav, Fort Bliss; assistant S-3 plans, 6-1 Cav, Fort Bliss; and platoon leader, Troop C, 1st Squadron, 40th Cavalry Regiment (Airborne), Fort Richardson, AK. CPT Lee's military schooling includes CLC, Maneuver Captain's Career

Course, and Ranger and Airborne Schools. He holds a bachelor's of science degree in systems engineering from the U.S. Air Force Academy. CPT Lee's awards and honors include Bronze Star Medal with oak leaf, Meritorious Service Medal and Combat Action Badge.

ACRONYM QUICK-SCAN

CCIR – commander's critical information requirements
CLC – Cavalry Leader's Course
FFIR – friendly forces' information requirements
FM – field manual
LTIOV – latest time is of value
PIR – priority intelligence requirement
R&S – reconnaissance and security

For Company- and Platoon-Level Leaders' Professional Development: *Musicians of Mars, Vol. 3: the Cobra Strikes*

One of the Center for Army Lessons Learned (CALL)'s recent products (published in February 2019), it is a series of tactical vignettes in the same vein as *Duffer's Drift* and should aid mounted-maneuver leaders in conducting professional development with their junior officers / noncommissioned officers. From the CALL Website:

"*Musicians of Mars III The Cobra Strikes* picks up the tale of ... Task Force Mustang in the aftermath of their successful defense (in CALL Handbook 16-12, *Musicians of Mars II*) of Engagement Area Blackjack. ... As with *Musicians of Mars II*, this handbook takes the reader through a fictional scenario where the tactical leaders make decisions, some good and some not so good, that impact subsequent actions. *Musicians of Mars III* will have its leaders learning and improving as they progress through tactical engagements. This was intentional in the development of this publication and is designed to facilitate tactical discussions at the company and platoon levels."

All three *Musicians of Mars* publications are available by going to the CALL Website, <https://call.army.mil>, and clicking on "Publications." Direct links are *Musicians of Mars III: The Cobra Strikes*, <https://usacac.army.mil/sites/default/files/publications/19-08.pdf>; *Musicians of Mars II*, <https://usacac.army.mil/organizations/mccoe/call/publication/16-1>; *Musicians of Mars I: A Story of Synchronization for the Company/Team Commander*, <https://usacac.army.mil/node/2358>. The publications are also available to order in hard copy. (Books and shipping are free to unit address. To order publications, visit <https://call2.army.mil/rfp> (CAC login required). General questions can be directed to CALL's Request for Information line at (913) 684-2255 (CALL).)

From foreword:

"There is still a tendency in each separate unit ... to be a one-handed puncher. By that I mean that the rifleman wants to shoot, the tanker to charge, the artilleryman to fire. ... That is not the way to win battles. If the band played a piece first with the piccolo, then with the brass horn, then with the clarinet, and then with the trumpet, there would be a hell of a lot of noise but no music. To get harmony in music, each instrument must support the others. To get harmony in battle, each weapon must support the other. Team play wins. You musicians of Mars ... must come into the concert at the proper place at the proper time." -MG George S. Patton Jr., address to 2nd Armored Division, July 8, 1941

BATTLE ANALYSIS

Operation Crusader: Auchinleck's and Rommel's Great Gamble

Part 1 of 2

by retired LTC Robert W. Lamont

By November 1941, Britain and her Commonwealth stood alone against the advancing tide of European fascism. One glimmer of light would emerge from the bright desert landscape of North Africa as Operation Crusader – and the confused armor melee that was part of it – provided for the relief on an embattled seaport at Tobruk and the subsequent liberation of Cyrenaica in eastern Libya.

This two-part article reviews the conduct of this battle and highlights lessons-learned. The approach used here is to summarize the interaction between combat forces, explore the engagement defeat mechanisms and suggest operational ramifications for future battle doctrine and organization.

Battlespace

The area between Tobruk in the northwest and Buq Buq in the east would serve to frame the maneuver space for the approaching battle. Major military units could be sustained within 80 miles of the coast, and these boundaries defined the area of interest for

each side. That's an area that would encompass all of the National Training Center plus a line connecting Barstow and Ridgecrest running through Death Valley out to the California-Nevada border.

An escarpment rising up from the coast could only be traversed by major military formations at the road junctions connecting the lower coastal areas with the upland desert. The major road through this region, known as the Via Balbia, tended to follow the coast running from Tobruk through Bardia to Sollum. Less-improved tracks ran both parallel to the coast and inland, providing keys to navigation and supporting wheeled-vehicle movement. The Trigh Capuzzo track ran above the escarpment from El Aden through Sidi Azeiz to Bardia. Finally, further inland, the Trigh El Abd ran from Bir Gubi through Bir Sheferzen to Halfaya Pass.

While microterrain would dominate the employment of direct-fire weapon systems, the high-desert plain was trafficable terrain and supported the operational maneuver of wheeled and track vehicles during the contest. Few

built-up areas would impede the maneuver of mounted units as they struggled to gain advantages over their opponent.

Given the open nature of the terrain, tanks were destined to play a key role in the future offensive. Table 1 gives a quick review of the main vehicles engaged in this battle and provides some of the technical and material insights that influenced planning and tactical outcomes.

What is striking in this armor comparison is not how different key operational characteristics were between vehicles but rather how similar the technical parameters were given the unique national designs. The German vehicles had an edge in armor protection, and the uniformity of their speed would allow for tighter tactical employment. Vehicle operational range would allow the British increased options, but the underpowered nature of the Matilda would complicate tactical employment and coordination. What is clear from the table is that no side commanded a dominating technological edge that would translate to unchallenged battlefield success.

Tank Types							
Characteristic	Matilda	Cruiser	Stuart		M13 (Italian)	Panzer III	Panzer IV
Weight (tons)	25	19	16		13.5	23	25
Height	8 ft 3 in	7 ft 4 in	7 ft 6 in		7 ft 10 in	8 ft 2 in	8 ft 10 in
Armor	78mm	40mm	51mm		42mm	70mm	88mm
Gun	40mm	40mm	37mm		47mm	37mm	75mm
Power/weight	6.5	18	18		8.9	12	12
Range	160	200	74		120	96	120
Road speed	16	26	36		20	25	26

Table 1. Crusader tank characteristics.¹ Allied tanks are to the left of the red bar; Axis tanks are to the right of it. The power-to-weight ratio in the table is horsepower per ton. *Range* is the expected distance in miles the vehicle can cover on a single tank of fuel. *Speed* is listed in miles per hour while moving on a paved roadway.

Battle leadership

Leadership on the German side was dominated by the two personalities of GEN Erwin Rommel and GEN Ludwig Crüwell. Rommel commanded Panzer Group Africa, which included the German Afrika Corps and the Italian XXI Corps. He arrived at this position as somewhat of an outsider with the German General Staff. Independent, driven and offensive-oriented, he led 7th Panzer across France in 1940 and reversed the Italian collapse in the desert by securing all of Cyrenaica except Tobruk. His attention at the start of Operation Crusader was consumed in the capture of this last remaining British outpost and key port facility.

In contrast, Crüwell, commander of Afrika Corps, had risen through the more traditional route within the Wehrmacht. He would command two panzer divisions and one infantry division during the battle. While he reported directly to Rommel, the two would have strong differences over strategy and tactical approach throughout the campaign.²

As Commander-in-Chief Middle East, Field Marshal Sir Claude Auchinleck would sit atop the British order of battle. Having arrived from the Indian theater, his depth of experience would focus in the Western Desert during Operation Crusader. His command presence was to prove key in the turbulence to follow.

GEN Sir Alan Cunningham took command of the newly formed British Eighth Army fresh off stunning victories over Italian forces in Somaliland and Ethiopia. He had three months to stand up a new army headquarters, plan a major offensive to relieve the siege of Tobruk and provide for the logistical demands of a large mobile force operating under the most austere conditions.³

Battle plans

Following Operation Battleaxe, both sides made plans to resume the offensive and seize the initiative in the campaign. On the German side, Rommel was focused on securing the port city of Tobruk. Taking this transportation

hub would allow supplies to avoid more than 1,000 miles of roads in supporting the forward elements of Afrika Corps. Given his limited combat strength, this effort consumed his operational intensity as he looked to develop a scheme of maneuver to secure this stronghold.

His counterpart would beat him to the punch as preparations to secure Tobruk matured. The British were pushing forward their rail line from Cairo to simplify their supply arrangements. Progressive shipments of tanks, some from the United States, allowed Eighth Army to build its mobile striking power. For their part, the British were eager to pre-empt the German attack and take control of the situation in North Africa. They envisioned an end-run around the German screening forces and a breakout from Tobruk to turn the tide.

This set the backdrop against which each antagonist would formulate his courses of action.

Rommel's plans were oriented on a

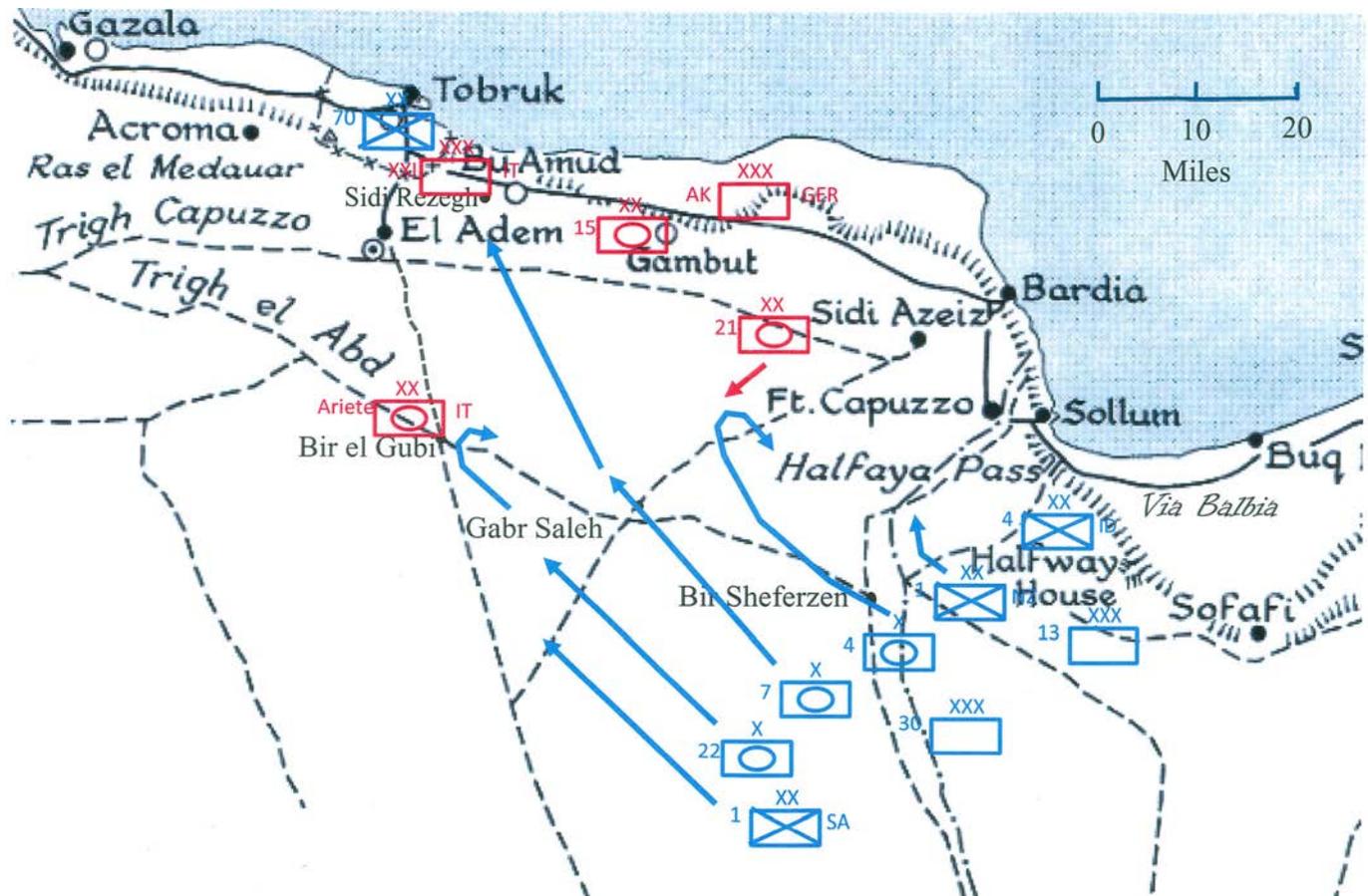


Figure 1. Disposition of units at the opening of Operation Crusader Nov. 18-19, 1941. (Map by author)

British and Commonwealth Forces		
Unit		Strength
Eighth Army		738 tanks (including many of the new Crusader Cruiser tanks, after which the operation was named, and new American M3 Stuart light tanks)
XXX Corps		477 tanks
	7 th Armoured Division	
	South African 1 st Infantry Division	
	Sudan Defence Force	
	22 nd Guards Brigade (independent)	
XII Corps		135 tanks
	4 th Indian Infantry Division	
	2 nd New Zealand Division	
	1 st Army Tank Brigade	
Tobruk garrison		126 tanks
	32 nd Army Tank Brigade	
	Australian 9 th Division (replaced by British 70 th Infantry Division and Polish Carpathian Brigade in late 1941)	
	Australian 20 th Brigade	
German and Italian Forces		
Unit		Strength
Panzergruppe Afrika		406 tanks
	Deutsches Afrika Korps (15 th Panzer Division and 21 st Panzer Division)	260 tanks (15 Panzer I, 40 Panzer II, 150 Panzer III, 55 Panzer IV L/24, 154 Italian tanks)
	Special Purpose Division Afrika (renamed 90 th Light Africa Division)	
	Italian 55 th Infantry Division "Savona"	
Italian XX Motorised Corps		146 Fiat M13/40 medium tanks
	132 nd Armoured Division "Ariete"	
	101 st Motorised Division "Trieste"	
XXI Corps		
	17 th Infantry Division "Pavia"	
	102 nd Motorised Division "Trento"	
	27 th Infantry Division "Brescia"	
	25 th Infantry Division "Bologna"	

Table 2. Units involved in Operation Crusader. As Axis forces built a defensive line of strongpoints along the escarpment running from near the sea at Bardia and Sollum to Fort Capuzzo, elements of 21st Panzer and the "Savona" divisions manned these defenses. Rommel kept the rest of his forces grouped near or around the Tobruk perimeter.

local offensive to recapture Tobruk. Most of his combat power was

concentrated for this effort. He maintained a screen along the Libyan fron-

tier and had less-mobile Italian formations occupy strongpoints along the

coast road. He kept an Italian armor division and a panzer division as a mobile reserve to counter any pre-emptive moves emanating from Egypt.

The British planned to launch an attack around the southern flank of Afrika Corps in an attempt to secure both Tobruk and Bardia. XIII Corps with the New Zealand Division, 4th Indian Division and 1st Army Tank Brigade would strike toward the Italian garrison at Bardia. XXX Corps – led by 7th Armoured Division, 4th Armoured Brigade, 1st South Africa Division and 22nd Guards Brigade – would attack Tobruk. The 7th Armoured Division would head directly for Tobruk, and 22nd Guards would move on the southern flank toward Bir el Gubi, with the South Africans to their left flank. The 4th Armoured Brigade would act to tie the two corps together and strike more due north than rest of the corps.

Crusader begins

This scheme of maneuver had the effect of spreading three lines of approach that were separating as they departed the attack positions along the frontier. Instead of striking at Tobruk with a mailed fist, the British were extending an opening hand. This had the effect of partitioning the effort into three columns of about 150 tanks each, allowing Afrika Corps to concentrate on each in turn.⁴

On Nov. 18, 1941, the British plan was unfolding with three strong columns fanning out across the desert, screened by armored cars and active reconnaissance. This activity brought Crüwell to Rommel's headquarters. He was pushing to move 21st Panzer to attack east toward Sidi Azeiz to counter the advance of the British armored-car screen. Rommel was reluctant to let go his attack on Tobruk, commenting, "We must not lose our nerves." As the situation continued to unfold, Crüwell would revisit the issue the next day and obtain permission to move 21st Panzer toward Sidi Azeiz and get 15th Panzer to an assembly area within supporting distance.

By the evening, Rommel had given his counterpart a free hand in dealing with the attack.⁵ While 21st Panzer would strike and try to turn the British effort south, a faulty read on the



Figure 2. British Matilda tanks on the move outside the perimeter of Tobruk, Libya, Nov. 18, 1941. (United Kingdom government photo by CPT G. Keating, No. 1 Army Film and Photographic Unit; public domain)

strength, composition and location of the threat developing along the frontier limited the influence of this action. However, it would serve to position both panzer divisions within a mutually supporting distance and align them to counterattack from a direction not expected in initial British planning.

Change of plans

By the evening of Nov. 20, Crüwell had realized his efforts toward Sidi Azeiz were ineffective. Coordinating with Rommel, Crüwell broke contact with the British 4th Armoured Brigade and turned in the direction of the airfield at Sidi Rezegh and 7th Armoured Brigade.

The next two days would witness a full engagement of this brigade by Afrika Corps. As the panzers closed on his position, the commander of the British 7th Armoured Brigade left 6th Royal Tanks to defend the airfield and turned

to meet his attackers with 2nd Royal Tanks and 7th Hussars, partitioning yet again his forces for little tactical advantage.⁶ In the freeform battle that followed, 7th Armoured Brigade would lose 113 of the 141 tanks with which it started.

As these losses were being inflicted, both 22nd Guards Brigade and 4th Armoured Brigade were moving to support the beleaguered 7th Armoured Brigade.⁷

Nov. 21 would break with a new threat to Afrika Corps as the garrison at Tobruk attacked to link up with 7th Armoured Brigade at Sidi Rezegh. This attempt was turned back with Rommel's personal intervention by reinforcing the Italian "Bologna" Division with his reconnaissance units and 88mm anti-tank guns. The battle in and around the airfield remained undecided, but by the evening, the German mobile forces were in a solid central position

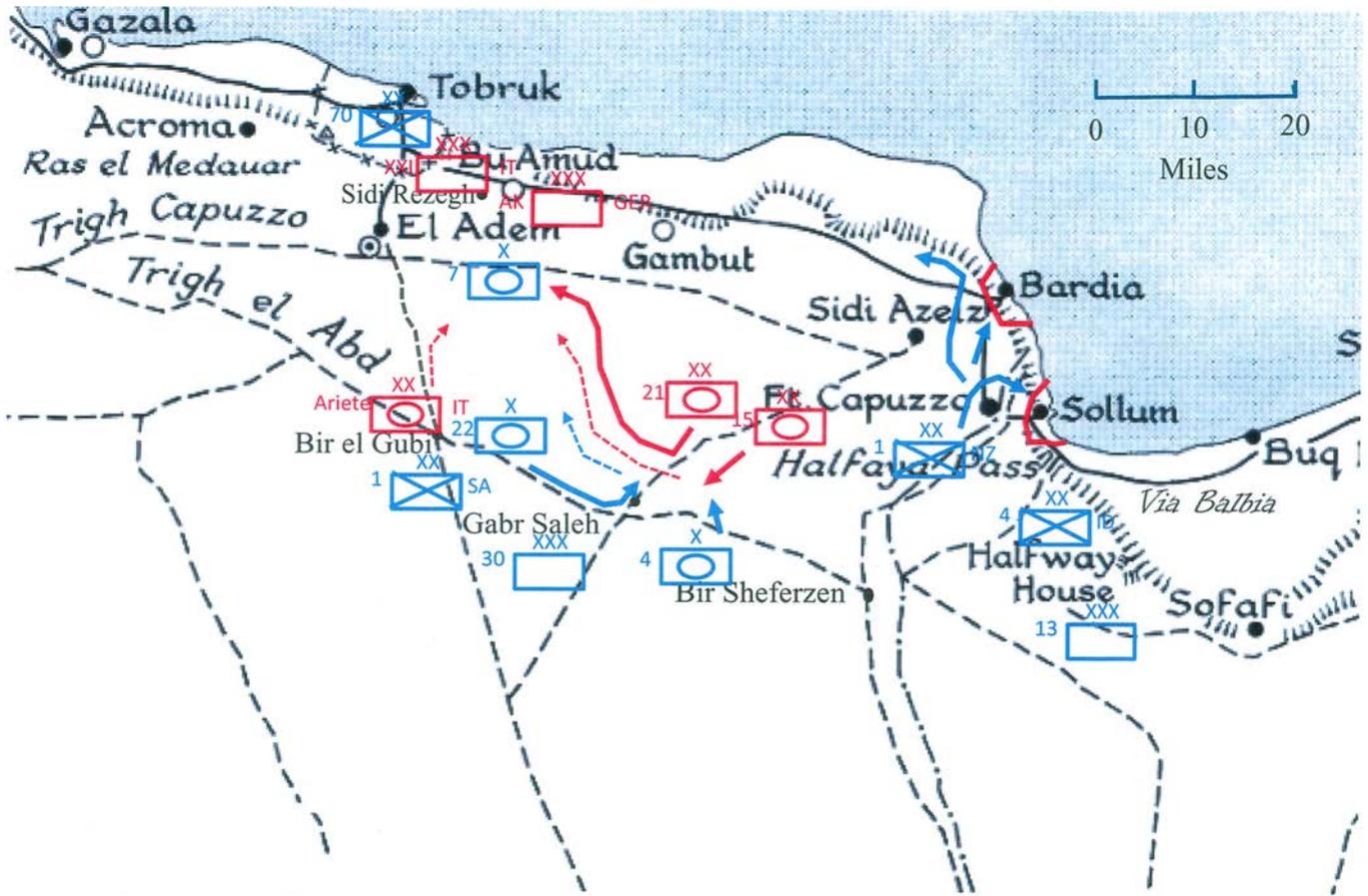


Figure 3. Unit positions Nov. 20-23, 1941. (Map by author)

between Sidi Rezegh and the closing 4th and 22nd Brigades, allowing them the opportunity to attack each separately.⁸

The following 48 hours were to prove both decisive and bloody for both sides. Afrika Corps was able to concentrate its divisions against British brigades and inflict enough loss to render them less than operationally effective. This result was due in part to the converging nature of the German maneuver, coupled with the tendency of 4th Armoured Brigade to hang back from the initial stage of the fighting. In sharp contrast, Crüwell advanced on his own initiative, overrunning the headquarters of 4th Armoured Brigade and disrupting the formation of 8th Hussars. This action around Sidi Rezegh blunted the offensive action of the British 7th Armoured Brigade and placed the battle's initiative squarely on the German side.⁹

In just four days in November, Eighth Army lost more than 500 tanks, while the Axis lost about 100.¹⁰ The ability of

Afrika Corps to exploit operational speed in maneuvering its forces successively against the disjointed efforts of its British opponents ensured that it was able to retain the full advantage afforded it by partitioning its adversary on the battlefield.

Lanchester Square Law

In reviewing Table 1, we noted that the German side may have had some advantages in armor protection and uniform speed, while the British maintained lower silhouettes and some mobility advantages. Given this relative parity of opposing weapons capabilities, how then do we account for Afrika Corps' ability to readdress numerical inferiority in the opening rounds of Operation Crusader? We'll consider the Lanchester Square Law.

Before World War I, Fredrick Lanchester observed that changes in technology were altering the fundamental conditions of combat. He coupled differential equations to capture the essence of the attrition process on the evolving battlefield. His well-known

Square Law combat model states that the squared starting strength of the opposing sides, minus the squared ending strength of the opposing sides, times unique combat-force attrition coefficients, equals the casualties one force will inflict over a period of time relative to those inflicted by the opposing side.¹¹

Defining these coefficients generated much debate when the model was used to predict battle outcomes or fit historical data. However, this dialogue does not distract from the model's descriptive powers to explore combat interactions when these limitations are accounted for in the discussion's underlying assumptions and the resulting operational points are so illuminated.

For the purpose of this discussion, we will assume the threat of interest is a true peer-competitor. The competitor is able to muster equal technology in terms of weapons systems, doctrine and command, control, communications, computers and intelligence.

Also, the competitor's units of combat power are equivalent as a result of training or organization to those arrayed against them.

In one sense, this case represents an upper-boundary condition. In such a fight, if one side is able to muster a combat strength of 1,200 against an opposing force of 800, that side will eliminate its opponent while retaining a strength of 894 for follow-on operations. However, if the opposing force is able to partition its larger opponent into three battles and fight each partition in turn, the opposing force will eliminate its larger opponent and still have half its force at the end of the engagement.¹²

Under modern conditions, partitioning as a defeat mechanism allows an outnumbered opponent to gain the upper hand against a force with technological parity.

So, while the theory appears to hold potential, how does it hold up in reviewing the outcomes from North Africa in November 1941? Using tanks as the unit of combat power in the desert, and accepting the limitations that such an approach implies, the Germans were able to fight three battles against the 4th, 7th and 22nd Guards Armoured Brigades. Further, 22nd Guards reached the field behind the other two brigades in terms of strength, having lost 40 tanks to the Italians at Bir el Gubi.

If each engagement was fought to conclusion, we would expect the British to lose 410 tanks, while the Germans would retain the field with just over 100 vehicles remaining operational. Historically, tank losses were reported as 530 for the British and 100 for the Germans. The larger volume of British losses reflect tank losses in XIII Corps, which are not included in the model, coupled with the superior influence of the 88mm cannon used as an anti-tank weapon.

The point here is the consistency of the influence of partitioning between both the model and historical outcome, and the resulting potential it represents as a defeat mechanism for conducting high-tempo mounted operations when outnumbered.



Figure 4. GEN Erwin Rommel consults with COL Paul Diesener and Italian GEN Enea Navarini near the start of Operation Crusader Nov. 21, 1941. (Deutsches Bundesarchiv photo by Moosmüller)

Operational ramifications

On the morning of Nov. 24, Rommel and Crüwell met to discuss the outcome of the action in and around Sidi Rezegh. Crüwell stressed that the enemy had been smashed but enough force remained for Afrika Corps to stay in the area and destroy the survivors. Intelligence was reporting that the New Zealand Division, moving west from Bardia, posed a potential threat to the Tobruk area if left uncovered.¹³ MG Friedrich von Mellenthin, in his post-war account, indicated that since the New Zealand Division was advancing piecemeal, holding tight and defeating them as they approached offered a solid chance to win the battle.¹⁴

As Rommel was taking this information in, he was balancing it against a plan of his own. Rommel had cast his eyes east with the potential to strike a decisive blow against Eighth Army. He felt by attacking across XXX Corps' line of communication, he could inflict enough fear in the British of being surrounded and could strike at their command structure's cohesion. In short, by exploiting maneuver as a defeat mechanism, he could unbalance Eighth Army and throw them from the field. As supreme on-scene commander, he had to weigh the reality of incremental attrition vs. a decisive campaign-winning blow.¹⁵

This sort of operational flair was certainly reflected in his historical tendencies. During the Battle of France, he led 7th Panzer Division following the breakthrough at Sedan across the plains of the French countryside, exploiting rapidity of advance as a weapon. The inability of the French command to respond to these actions had resulted in their collapse of will to continue the contest on the battlefield.

Were the British ripe for a repeat for such a bold maneuver? The balance of tank strength within Afrika Corps, when coupled with vehicles from the Italian "Ariete" Division, would have placed enough combat power on the field to challenge any likely combination the British could muster along the Libyan-Egyptian frontier.

So as the sun began to climb into desert sky Nov. 24, Rommel had to decide between two conflicting courses of action. His subordinate commanders were recommending that he retain the field of battle, exploit the uncoordinated advance of the New Zealand Division and defeat its brigades in turn as it attacked, and exploit his advantage in armor by keeping the body of his forces concentrated. In contrast, he could see a line of action that would place his combat power across the British line of communications and compel a positive resolution to the

campaign. This would require Panzer Army Africa to let go of the current field of battle, accept the logistical challenges of rapid forward displacement and strike his opponent before the New Zealand and Indian formations could link for a coordinated action against him.

One course was reactive to the efforts the British telegraphed. The other course allowed the German side to take the initiative and dictate the terms of the engagement while accepting increased operational risk. Which way would Rommel lean? Perhaps, more importantly, what would action would you take?

Retired U.S. Marine Corps LTC Robert Lamont is technical director of the Amphibious Vehicle Test Branch, Camp Pendleton, CA. Previous assignments include scientist, Naval Surface Warfare Center, Fallbrook, CA; exercise action officer, III Marine Expeditionary Force, Okinawa, Japan, planning Tandem Thrust in Australia and Cobra Gold in Thailand; instructor, U.S. Army Armor School, Fort Knox, KY; and company commander and assistant operations officer, 3rd Tank Battalion, Twentynine Palms, CA. Other assignments included operations analyst in the Studies and Analysis Division, Marine Corps Combat Development Command, completing analyses for

anti-armor force structure, combat identification and the Advanced Amphibious Assault Vehicle. His service afloat includes executive officer, Marine Detachment, USS Constellation, and combat cargo officer, USS Cleveland. His military schooling includes the Armor Officer Basic Course and Armor Officer Advanced Course. He holds a bachelor's of science degree in management and technology from the U.S. Naval Academy and a master's of science in operations research from the Naval Postgraduate School. His awards and honors include Meritorious Service Medal with three gold stars, National Defense Medal with one bronze star and the Sea Service Deployment Ribbon with four bronze stars. He is a silver-level member of the Order of St. George.

Notes

¹ See http://en.wikipedia.org/wiki/operation_crusader. In short, Crusader (Nov. 18-Dec. 30, 1941) was a military operation during World War II by the British Eighth Army (with Allied contingents) against Axis forces in North Africa. The British intended to bypass Axis defenses on the Egyptian-Libyan frontier, defeat Axis armored forces and relieve the 1941 Siege of Tobruk.

² MG F.W. von Mellenthin, *Panzer Battles*, New York, NY: Ballantine Books, 1956.

³ Ibid.

⁴ LTG Sir Geoffrey Evans, *History of the Second World War* (Part 24), BPC Publishing Ltd., Marshall Cavendish, USA, 1973.

⁵ Mellenthin.

⁶ Ibid.

⁷ Evans.

⁸ Mellenthin.

⁹ Ibid.

¹⁰ http://en.wikipedia.org/wiki/operation_crusader.

¹¹ **Editor's note:** Lanchester's Linear Law (for ancient combat) and Lanchester's Square Law (for modern combat with long-range weapons) are mathematical formulae for calculating the relative strengths of military forces. Lanchester's differential equations in the "Square Law" demonstrate the power relationships between opposing forces: that the power of each force is proportional not to the number of units it has but to the **square** of the number of units. In its basic form, the law is only useful to predict outcomes and casualties by attrition. Lanchester's Square Law does not apply to technological force, only numerical force.

¹² For a more detailed discussion of Lanchester dynamics, see "An Operational Analysis of Operational Maneuvers form the Sea," *Phalanx* magazine, December 1994.

¹³ Evans.

¹⁴ Mellenthin.

¹⁵ Ibid.

LEGENDS OF ARMOR



SERGEANT MAJOR OF THE ARMY
WILLIAM A. CONNELLY

7th Army Training Command 1975-1976
1st Armored Division 1976-1977
US Army Forces Command 1977-1979
Sergeant Major of Army 1979-1983

BOOK REVIEWS

Case White: The Invasion of Poland 1939, by Dr. Robert Forczyk; Oxford, United Kingdom: Osprey Publishing; 2019; 348 pages; \$30 (paperback).

Every student of World War II knows the generally-agreed-upon *casus belli* of that particular global conflict is the German invasion of Poland Sept. 1, 1939. Similarly, they know the German military flawlessly introduced combined-arms warfare to the world via blitzkrieg against obsolete horse-mounted Polish forces. Too often overlooked, but still known to some, is the role the Russian military played in attacking Poland from the east. These are the agreed-upon facts behind the German attack into Poland under Case White ... or are they?

In his book **Case White: The Invasion of Poland 1939**, U.S. Army veteran and author Dr. Robert Forczyk presents a new study of the combined Russian-German invasion of Poland using previously untouched Polish sources to shed new light on a much-studied moment in the larger history of World War II. Rather than retreading the same old ground, however, Forczyk dispels many commonly held misconceptions of the campaign. The Polish military, for example, fielded more advanced equipment and employed modern doctrine during its defense of its homeland. Potential readers are forewarned, as this is not a book to be read lightly. Each page is packed full of facts, figures and acronyms, with little ink spilled in developing a storytelling approach. **Case White** is a much, much more detailed account than a typical history of World War II and addresses every facet of this critical campaign.

Case White is particularly relevant now given the specter of Russian encroachment upon Europe's eastern flank, the North Atlantic Treaty Organization's forward deployment to the Baltics and the growing U.S.-Polish alliance. Indeed, students of current events will note that many of the same preparations Germany made in 1939

– such as creating a false narrative of ethnic tension and using paramilitaries in concert with conventional forces – bear striking similarity to Russian approaches to warfare, as evident by their invasion of the Ukraine in 2014. Further, readers may wish to study **Case White** with an eye to the future, given recent developments in Syria following Turkey's incursion against the Kurds and the potential for Great Power miscalculation leading to an expanded conflict. World wars are started in such ways.

LTC CHRIS HEATHERLY

Time in the Barrel: A Marine's Account for the Battle of Con Thien by James P. Coan; Tuscaloosa, AL: University of Alabama Press; 2019; 256 pages; \$23.44 new.

U.S. Marine Corps combat base Con Thien, affectionately known as the "hill of angels" for its natural beauty, was more like "hell on Earth" in September 1967 when 2LT James Coan reported for duty as the tank-platoon commander of 1st Battalion, 9th Marine Regiment. Coan led his fellow Marines for eight months, but his first 30 days proved to be the most dangerous, as the base fell under an intense artillery siege that was compounded by horrendous monsoon rains. His book **Time in the Barrel: A Marine's Account of the Battle of Con Thien** provides a straightforward and unembellished account of leadership, patriotism and survival on and around the hills he called "red clay bullseyes."

For Coan, this book was a long time coming. After his return to "the world" from his year in Vietnam, Coan began writing about his tour of duty as a form of self-therapy. Years later, he determinedly finished the story, drawing on the diary he kept and, with help from his wife and others, as a way to pay tribute to those who served and selflessly sacrificed themselves during the Vietnam War. He achieved this and much more, virtually re-creating the Battle of Con Thien to the point where

you can almost hear the screeching of rounds overhead and feel the intense overpressure created from their explosions in your chest and ears, while the mud forces its way between your fingers as you claw the ground to escape it all. His masterful application of the first-person narrative invariably pulls the reader into the story almost as another member of the platoon.

In 1967, the scale and intensity of combat increased dramatically, originating out of the long-standing demilitarized zone (DMZ) between North and South Vietnam. The most northern area of South Vietnam fell under the command of the Army of Republic of Vietnam I Corps. Until late 1966, it was defended by Army of Republic of Vietnam troops, III Marine Amphibious Force and, in the case of Con Thien, U.S. Special Forces. Due to Con Thien's commanding hilltop terrain in the flat Bến Hải River valley situated two miles south of the DMZ, the U.S. Marine Corps turned it into a combat base by the beginning of 1967.

The base repelled several North Vietnamese Army (NVA) probes and defeated a major attack in May 1967, leaving 49 marines and 197 NVA soldiers dead. This battle reverberated all the way to Washington, DC, leading to the major policy shift of immediately demilitarizing the DMZ. After four months of intense offensive operations in the DMZ, the U.S. Marine Corps cleared it out. Then, on Sept. 3, the day after free elections, the NVA turned to siege tactics, unleashing a continuous bombardment of rocket, artillery and mortar fire on Con Thien. A week later, as a brand-new "butter bar" fresh out of Marine Corps Base Quantico, Coan entered the fray and found himself right in the middle of hell's frying pan.

For the next 34 days, the reader follows Coan and his platoon, mounted on five M48A3 Patton tanks, through the morass of oozing mud and churned-up red clay to which Combat Base Con Thien had been reduced. The reader quickly learns that every movement came under enemy observation

and was followed by accurate artillery fire, which led to the grim understanding of “hesitate and you’re dead” whenever moving above ground. The reader experiences huddling inside a bunker, thus gaining an understanding of why the U.S. Marine Corps held the earth dwelling as a vaunted sanctuary, even amid the squalor of mud and rats. You get to know the coveted 52-ton M48A3 Patton tanks and the brave men who crewed them. And you gain an appreciation of spending nights peering through infrared night sights in an M48A3 on a listening/observation post with the crew straining to catch NVA troops coming through the wire.

Coan never loses his military bearing as he recounts his time on Con Thien. You hear it from a platoon commander as he steadily issues orders to his men, enforces maintenance standards to keep the Patton tanks operational and looks after his troops’ welfare, while constantly under fire in the monsoon rains. Through his actions, you see what good results “coolness under fire” and “trusting your gut” bring.

Time in the Barrel is the complete package featuring maps, photos and detailed endnotes. Devoid of fanfare, this matter-of-fact book can take its place among the classic studies of small-unit leadership. A must-read for company-grade leaders, Coan gives new meaning to the old saying “shooting fish in a barrel,” the “barrel” being the height of the Battle of Con Thien.

RETIRED LTC RONALD T. STAVER

The Falaise Pocket: Normandy, August 1944 by Yves Buffetaut; Haverstown, PA: Casemate Publishers; 2019; 128 pages including photographs, maps, illustrations and bibliography; \$24.95.

The Battle of the Falaise Pocket took place six weeks after the Allied landing in Normandy. From Aug. 12-21, 1944, German Army Group B, along with its subordinate units from Seventh Army and Fifth Panzer Army, was encircled and destroyed by Allied combined-arms teams. This decisive battle saw the swift movement of Allied

forces to the Seine River and beyond. Both sides displayed bold actions, innovative tactics and innumerable acts of personal bravery during a series of engagements that culminated in the liberation of Paris.

With this book, Yves Buffetaut concludes the Casemate Publication series on the Normandy Campaign. As with the previous volumes in this series, Buffetaut presents a detailed timeline of events beginning with Operation Epsom, a British operation designed to expand the Normandy beachhead by seizing the French city of Caen, and concluding with the drive to the Seine River and capture of Paris. In thumbnail fashion, the author addresses the June 1944 successes and failures seen by the American capture of the port of Cherbourg and the marginally fruitful Operation Charwood by the British 2nd Army.

By mid-July 1944, the Americans seized Saint-Lo while the British unleashed a massive aerial bombardment against Caen, followed by another armored thrust known as Operation Goodwood. Goodwood fell short of expectations. At the same time, the Americans launched Operation Cobra that smashed through German defenses and allowed them to roll into Brittany. LTG George S. Patton Jr. and his Third Army then drove across the Brittany peninsula. Late July saw two important tactical victories as American troops trapped elements of seven German armored divisions at Coutances, and British forces drove German armored units out of the Caen area. Overshadowing these massive German defeats was the attempted assassination of Adolph Hitler by a group of German officers.

As the author recounts, retribution against those involved in the failed effort to eliminate Hitler resonated across occupied Europe. Caught up in the whirlwind of conspiratorial implications, several notable German officers were either removed from command or committed suicide. Among these were Field Marshal Erwin Rommel, seriously injured in an aerial attack on his staff car in July, and his replacement as commander of Army Group B, Field Marshal Gunther von Kluge. The disruption of German

battlefield activities caused by these and other actions assisted Allied countermeasures.

With the Allies now poised to expand out of the Normandy beachhead, Hitler, against all military advice to the contrary, launched Operation Luttich. His objective was to sever the lines of communication from the Normandy area to Patton’s swift-moving forces who were then attacking toward the French city of Le Mans. All available German armor, with support from the Luftwaffe, attempted to seize the chokepoint at Mortain. The German effort was a total failure, as Allied troops – supported by a vast array of attacking aircraft – stymied, then destroyed, German forces.

Shortly thereafter, driving down from their northern location, Canadian and Polish forces attempted to link up with Patton’s Third Army, then moving toward Argentan. Reacting to this envelopment, the Germans resisted British-led efforts to close the gap between them and the Americans. At the same time, GEN Omar Bradley ordered Patton to advance no further than Argentan. What follows is described by Buffetaut in crisp detail as Allied aircraft, artillery and troop movements destroy German forces within the gap between Falaise and Argentan. By Aug. 25, Allied forces occupied Paris and the Normandy campaign was officially concluded.

This is a well-written account of a battle containing several applicable lessons for maneuver commanders. The development and employment of the combined-arms team by both British and American forces is amply demonstrated by the tactical victories achieved against German forces in the French hedgerow country. The innovative use of airpower as a supplement to ground forces by Patton, Bradley and Montgomery is thought-provoking and highly supportive of the fact that close communications between air and ground forces remains the key to victory.

Equally important in this battle was the role of intelligence, allowing commanders to act faster than the enemy. The Allies were, for example, well apprised of German intentions at

Mortain thanks to their code-breaking skills.

The author also fully explores the role of allies in a multi-national force. His description of the vital part played by the interaction of French, Polish, Canadian, British and American forces is well worth contemplating and examining.

Buffetaut is to be commended for bringing this battle to our attention. Maps, illustrations, biographical sketches and an impressive layout of period photographs make this a work that merits the attention of maneuver commanders seeking to either enhance or initiate an understanding of the concluding events of the Normandy campaign.

RETIRED COL D.J. JUDGE

Through the Valley; My Captivity in Vietnam by William Reeder Jr.; Annapolis, MD: Naval Institute Press; 2016; 238 pages; \$20.50 hardcover.

The Army defines resilience as the ability to grow and thrive in the face of challenges and bounce back from adversity. The embodiment of that definition lies in Bill Reeder's harrowing and, at times, almost unbearable account of survival as a Vietnam War prisoner of war (POW). In ***Through the Valley***, Reeder more than tells his story – he takes you by the hand to join him in the cockpit of his Huey Cobra gunship, then to walk with him as he retraces his agonizing 400-mile walk, one step at a time, while suffering a broken back, three forms of malaria and a rotting leg, and to experience his euphoria of laying eyes on the U.S. Air Force C141 Starlifter transport jet, their "freedom bird," sitting on the Hanoi runway in 1973.

Needless to say, I was spellbound with his story. I could not put this book down, reading it in one sitting, yet I found myself pausing often to wipe my eyes, for I was moved by his suffering, but more from those tender moments filled with profound acts of humanity and sacrifice of his fellow POWs that pulled him out of the arms of death's reaper.

Reeder answered his own call to duty,

volunteering and returning for his second tour to Vietnam. Reeder, on his first tour in 1968, flew classified missions in Cambodia and Laos as an OV-1 Mohawk pilot, ejecting once from his mortally wounded airship. By his second tour in 1971, he had transitioned to the AH-1 Cobra gunship, flying in support of Army of the Republic of Vietnam (ARVN) units in the Central Highlands.

With U.S. troop strength down to 75,000 and ARVN forces enjoying tactical success on the battlefield, Reeder felt that South Vietnam was winning and succeeding under Nixon's "Vietnamization" program to end U.S. involvement in the Vietnam War through a program to "expand, equip and train South Vietnamese forces." All that was shattered March 30 (Good Friday), 1972, when North Vietnam launched a massive invasion of South Vietnam that included 14 divisions and 26 separate regiments, including a significant number of tank formations.

In what became known as the Easter Offensive, North Vietnamese Army (NVA) objectives included seizing Quang Tri and An Loc, key hubs in the Central Highlands. The fighting was relentless and on a scale seldom seen throughout history. Suddenly, Reeder found himself in the middle of a battle of "Armageddon" proportions, with many missions leading to the slaughter of hundreds of NVA soldiers – with thousands more coming behind right behind them. Forty days later, while supporting an ARVN ranger battalion, Reeder was shot down in a flaming corkscrew. Somehow, he managed to crawl from the burning wreckage and escape. Severely wounded, he evaded the enemy for three days before capture.

Then began his ordeal in the jungle as a prisoner, with his days filled with interrogations, beatings or lying in the mud with his shredded legs locked in wooden stocks and bamboo cages. His physical condition worsening and the pain reaching unspeakable levels, Reeder tells how faith, hope and family gave him the inner strength to not give up. His patient and level description of surviving a 400-mile forced march that began with 27 other, mostly malnourished, anguished POWs

– which ended up claiming seven lives who succumbed to exhaustion, wounds and disease, but probably more so to a broken spirit – puts this book alongside other timeless classics of the POW experience like Nick Rowe's ***Five Years to Freedom***.

Once Reeder and the remaining POWs crossed into North Vietnam, they switched to trucks for transport along the Ho Chi Minh Trail, all the while dodging bombs dropped from U.S. warplanes. The reader learns about the infamous "Plantation" and "Hanoi Hilton" prisons. Reeder describes watching the massive B-52 strikes on Hanoi called the "Christmas bombings" that propelled the North Vietnamese to the peace agreement at the Paris Peace Accords. Along the way of Reeder's incredible journey, he spends time describing the importance of comradery with his fellow American and South Vietnamese POWs, demonstrating how that without them, he would have never made it.

Most importantly, he describes how a POW is faced with the struggle to maintain the will to live under the most abject conditions, resisting the temptation to surrender to death's peace. Reeder declares that "spirit" is the most important factor in survival. He goes on to say that a sense of humor helps maintain spirit, and in spirit lives hope. I found power in that message, not just for a POW, but for all human beings, as we set ourselves against life's challenges. ***Through the Valley*** contains no flaws nor boundaries in its appeal, reaching beyond just those in harm's way, military or otherwise. Reeder's unembellished and humble story of survival in the worst conditions is a strong testament to the power and resiliency of the human spirit.

RETIRED LTC RONALD T. STAVER

Countdown to D-Day: The German Perspective by Peter Margaritis; Haverton, PA: Casemate Publishers; 2019; 648 pages with photos and appendices; \$20.52 hardcover; \$9.99 Kindle.

Where else can you include such a diverse group of words as *panzers*,

Hitler, Rommel and *asparagus* but in a book on D-Day, the Allied invasion of Europe in 1944? **Countdown to D-Day: The German Perspective** could easily have been characterized as the Rommel roadshow for the shadow of the Desert Fox; Field Marshall Erwin Rommel could easily have overshadowed the material by force of personality. However, Peter Margaritis' depth of knowledge and his asides in the material help keep that a bit in check for the reader. For instance, it was interesting to see that Rommel took accor-dions with him to give out as morale-building tools on his visits.

What we see throughout the book is the German High Command's realization that the war in the West was probably not going to get any better. We see Field Marshall Gerd von Rundstedt, who is more interested in his roses and dining out than in the war (as he sees himself merely as a figure-head). Add into the mix that of Rommel, who is sent to energize the work on the Atlantic Wall – efforts caused as a reaction to von Rundstedt's report of the wall's dismal state of repair – and we have the makings of a poor command relationship. However, as Margaritis notes, this was one of the better-working German command relationships.

Through the course of the book – which is written as a detailed, day-to-day journal approach – the byzantine command relationships Adolf Hitler set up are shown to have impeded the efforts of Rommel and the German *Heer* to intelligently meet any Allied invasion. One could argue that Hitler, the student of history, learned the Roman lesson by not entrusting too much authority or power to any other person, who could then be used as a threat to the Führer's authority. What we see time and time again was the subservience to centralized decision-making and centralized execution that allowed commanders to simply do or not do as they wished – with many

choosing instead to enjoy the soft life of France with its wine and women as the Third Reich went up in flames. Re-reading Mark Reardon's book reviewed previously in the pages of **ARMOR** added to the overall feel for the material here in **Countdown**.

What is easy to overlook in the scope of material that Margaritis covers is the huge undertaking that was the construction of the Atlantic Wall. Although it is not within **Countdown's** scope to focus on it, that mammoth work comes across well. Even more so, though, is the state of the defenders. The Heer meant to throw the Allies back is no longer the Heer of Operation Barbarossa but one comprised of ill-trained youths, foreign "conscripts" – many of them unreliable Russian former prisoners of war – soldiers with various infirmities and an army going through the throes of demechanization. What the book notes repeatedly on Rommel's visits is that the soldiers are building and emplacing fortifications and not conducting training. As a result, little meaningful military training was conducted before the invasion.

There were no easy choices to make or compromises because, if the defensive shell was weaker, the Allies could easily brush aside any well-organized defense and swamp it at the point of invasion. Rommel understood better than his Wehrmacht counterparts from his time with the Afrika Korps the debilitating effect Allied tactical air had upon the ability to simply move.

One thing we don't always consider is that centralized decision-making – as in the personification of Hitler – doesn't always result in better planning **OR** decision-making. Margaritis uses countless examples from Rommel and von Rundstedt to show the conflicting, convoluted and layered political infighting within the military, as well as give the reader a glimpse of the Nazi leadership. This infighting had

an impact on how the Germans prepared for and reacted to D-Day. Preparing for the single most important event to the future of the Third Reich was so wrapped up in byzantine politics that it made Napoleon's failure to grow and school his marshals look like child's play. This thread runs implicitly throughout the book, and wisely Margaritis allows it to speak for itself. The German generals themselves referred to this as *Befehlschaod* (command by confusion). This certainly didn't allow for the exercise of initiative or *Auftragstaktik*. Margaritis emphasized the issue of how to fight the first 24 hours and the battle over command-and-control of the panzers, the only element of German military might standing between victory and defeat once the invasion came shore.

So is this book recommended? Let's just say this about **Countdown to D-Day**: it played havoc with my bedtime, as I honestly had trouble putting it down, for it was fascinating to be deep inside the mindset of the enemy facing us on that side of the Atlantic Wall. I can easily recommend this book for any World War II aficionado, be it for Rommel fans, students of D-Day history or the military-political side of the war in the West, or simply for the greater understanding the book imparts on the vast undertaking that was Fortress Europa. Any book that helps you see the other side of the hill from your enemy's mindset, their perspective and their own words might allow you in the future to better see the battlespace through your opponent's eyes. That seems like a win-win to me for future military leaders.

LTC (DR.) ROBERT G. SMITH

ACRONYM QUICK-SCAN

ARVN – Army of the Republic of Vietnam
DMZ – Demilitarized Zone
NVA – North Vietnamese Army
POW – prisoner of war

INDEX of 2019 ARTICLES AND AUTHORS

Articles by title

"Allied Armor in Normandy by Yves Buffetaut (book review)"; review by Judge, retired COL D.J.; Winter 2019.

"Ardennes 1944 by Yves Buffetaut (book review)"; review by Judge, retired COL, D.J.; Spring-Summer 2019.

"Battle Analysis: The Saga of OZ 77 in the Arab-Israeli War of 1973: A Small Armor Unit's Fight in a Large-Scale Combat Operation"; retired Kichen, LTC Lee F.; Fall 2019.

"Building Equipment Readiness in the Armored Brigade Combat Team Cavalry Squadron"; Horning, LTC John, Greenlee, MAJ Wade, Bailey, 1LT P. Andrew and Kaminsky, 1LT Dustin; Fall 2019.

"Cavalry/reconnaissance – a Different Approach to the Scout Squad for the Mounted Force"; Horning, LTC John, Kelly, CPT Jake, Andrade, SFC Brian and Ellis, SFC Brian; Fall 2019.

"Chief of Armor's Hatch: Armor School Ongoing Efforts"; Admiral, BG Kevin D.; Fall 2019.

"Chief of Armor's Hatch: Transitioning to Large-Scale Combat Operations"; Lesperance, BG David A.; Spring-Summer 2019.

"Chief of Armor's Hatch: We Must Be Masters of Our Craft"; Lesperance, BG David A.; Winter 2019.

"Deception - the Operation We Avoid"; Aleong, CPT Andre C.; Fall 2019.

"Deliberate Wet-Gap Crossings in Korean Theater of Operations"; Dion, LTC Robert; Fall 2019.

"First Day on the Eastern Front by Craig Luther (book review)"; review by Smith, retired LTC (Dr.) Robert G.; Fall 2019.

"Force Modernization of the Armored Brigade Combat Team"; Plummer, COL Dawson A., Rice, MAJ K. Derrick and Peek, CPT Horace H. V; Winter 2019.

"From Moscow to Stalingrad: The Eastern Front, 1941-1942 by Yves Buffetaut (book review)"; review by

Judge, retired COL, D.J.; Spring-Summer 2019.

"From the Screen: Reconnaissance Objective: Not a Physical Location"; Watts, CPT William, Lee, CPT Timothy and Winsted, CPT Bradley; Spring-Summer 2019.

"German Armor in Normandy by Yves Buffetaut (book review)"; review by Judge, retired COL, D.J.; Spring-Summer 2019.

"Get the Hell Out of Dodge: Techniques for Company-Level Alerts"; Brender, MAJ L. Burton; Spring-Summer 2019.

"Ghosts of Fallujah by Coley D. Tyler (book review)"; review by Wyman, COL Bill; Fall 2019.

"Gunner's Seat: NCOs: Setting the Condition for Victory!"; Muhlenbeck, CSM Kevin; Spring-Summer 2019.

"Gunner's Seat: Proficiency and Stability"; Muhlenbeck, CSM Kevin; Winter 2019.

"Gunner's Seat: Talent Management Needs to Be More Than Just Buzzwords"; Muhlenbeck, CSM Kevin; Fall 2019.

"History – Reconnaissance Pull in the Offense: A Mexican-American War Case Study"; Jennings, MAJ Nathan; Fall 2019.

"Improving Company Trains"; Russell, CPT Timothy G. and Blaschke, CPT Thomas; Spring-Summer 2019.

"In Defense of NATO – the NATO Reconnaissance and Security Strike Group: Regaining Operational R&S in European Command"; Orbon, MAJ Steve; Fall 2019.

"In Memory of Self and Comrades: Thomas Wallace Colley's Recollections of Civil War Service in the 1st Virginia Cavalry; edited by Michael K. Shaffer (book review)"; review by Holland, COL Joe; Spring-Summer 2019.

"Integration of Dismounted Reconnaissance Troop into an Armored Brigade Combat Team"; Boroff, CPT Alexander; Spring-Summer 2019.

"'Kachi Kapshida!' – Rotational Armored Brigade Combat Team Experience in Korea"; Adams, COL Steven J. and Garner, MAJ Nate; Winter 2019.

"Leader development – The Nature of Warfare: Has Clausewitz Maintained Relevancy?"; Cook, MAJ Chaveso, Slider, MAJ Charles and Wharton, MAJ Terron; Fall 2019.

"Lessons-Learned and Organizational Improvements: Saber Squadron in Exercises Saber Strike 16 and 18"; Moore, CPT Jared D.L.; Fall 2019.

"Low-altitude Mastery – Implementation of Quadcopter Unmanned Aerial Systems into Reconnaissance Platoons"; Broman, SPC Christopher; Fall 2019.

"Managing 0-100 Feet Above Ground Level: Aviation Employment and Airspace Management in the Decisive-Action Fight"; McCoy, MAJ Adam S.; Fall 2019.

"Masters of Mayhem: Lawrence of Arabia and the British Military Mission to the Hejaz by James Stejskal (book review)"; review by Heatherly, LTC Chris; Spring-Summer 2019.

"MOS 19M: the Mechanized Warrior"; Turkatte, Alex; Winter 2019.

"Mounted Infantry Brigade Combat Team Scout Platoons Struggle With Stealth"; Sikma, 1LT Brian; Winter 2019.

"Moving Cavalry Forward: A Summary of the 2019 Gainey Cup Competition"; Zang, CPT Patrick and Barta, LTC Jeff; Spring-Summer 2019.

"Named Area of Interest Development Needs Refined Process"; Watts, CPT William and Lee, CPT Timothy; Spring-Summer 2019.

"Operation Typhoon: The German Assault on Moscow, 1941 by Philippe Naud (book review)"; review by Judge, retired COL, D.J.; Spring-Summer 2019.

"On the Employment of Armor"; Fox, MAJ Amos C.; Winter 2019.

"Overcoming Semantics: How to

Deconflict the Fundamentals of Reconnaissance to Win at Platoon Level”; Zang, CPT Patrick; Fall 2019.

“*Pershing’s Tankers: Personal Accounts of the AEF Tank Corps in World War I*”; edited by Lawrence M. Kaplan (book review); review by Heatherly, LTC Chris; Spring-Summer 2019.

“Protection across the Domains: Electronic Warfare in the Armored-Cavalry Squadron”; Zhang, CPT Kevin and Grdina, CPT Michael; Winter 2019.

“Reconsidering Division Cavalry Squadrons Part III”; Jennings, MAJ Nathan; Winter 2019.

“Reconsidering Division Cavalry Squadrons Part IV”; Jennings, MAJ Nathan; Spring-Summer 2019.

“‘Rough-Cut CoAs’ and Other Ways to Modify Military Decision-Making Process for Constrained Planning Timelines”; Klein, MAJ Gary M.; Winter 2019.

“Soviet IS-3 ‘Stalin’ Heavy Tank: Importance of Getting Assessment Right”; Warford, MAJ James M.; Winter 2019.

“*Spearhead* by Adam Makos (book review)”; review by Heatherly, LTC Chris; Fall 2019.

“Swimming Russian Tanks Across Rivers”; Grau, retired LTC (Dr.) Lester W.; Fall 2019.

“The Black-Letter Law Behind the Silver Spurs: A Judge Advocate’s Perspective on Spur Rides”; Montazzoli, MAJ Matt D.; Spring-Summer 2019.

“The Case for a Medium Tank to Be Incorporated into the Joint Force”; Zollin, MAJ Jeremy; Spring-Summer 2019.

“The Division’s Role in Breaching Operations”; Chambers, MAJ John and Saxion, MAJ Steve; Spring-Summer 2019.

“The Fallacy of Logistics Dominance”; Michelena, MAJ Travis; Spring-Summer 2019.

“The Implications of Innovation in Space-Based Remote Sensing on Maneuver Warfare”; Townsend, LTC Brad; Fall 2019.

“*The Waffen SS in Normandy: June 1944, the Caen Sector* by Yves Buffetaut (book review)”; review by Judge,

retired COL D.J.; Winter 2019.

“Training Management: Old is New”; Smith, COL Stuart S.; Winter 2019.

“*Traumatic Defeat: POWs, MIAs and National Mythmaking* by Patrick Gallagher (book review)”; review by Heatherly, LTC Chris; Winter 2019.

“Understanding the Tempo of Reconnaissance”; Sitterley, CPT Nathan; Fall 2019.

“*Vitebsk: The Fight and Destruction of the Third Panzer Army* by Otto Heidkämper (book review)”; review by Heck, MAJ T.G.; Winter 2019.

“What Now? Rapid Decision-Making Synchronization Process: the Planning Tool You Didn’t Know You Were Missing”; Pitts, COL Esli T.; Winter 2019.

“12th Cavalry Regiment’s Early Contribution to Building Post-Vietnam Armored Force”; Rozman, Tom; Winter 2019.

Articles by author

Adams, COL Steven J. and Garner, MAJ Nate; “‘Kachi Kapshida!’ – Rotational Armored Brigade Combat Team Experience in Korea”; Winter 2019.

Admiral, BG Kevin D.; “Chief of Armor’s Hatch: Armor School Ongoing Efforts”; Fall 2019.

Aleong, CPT Andre C.; “Deception - the Operation We Avoid”; Fall 2019.

Andrade, SFC Brian, Ellis, SFC Brian, Horning, LTC John and Kelly, CPT Jake; “Cavalry/reconnaissance – a Different Approach to the Scout Squad for the Mounted Force”; Fall 2019.

Bailey, 1LT P. Andrew, Greenlee, MAJ Wade, Horning, LTC John and Kaminsky, 1LT Dustin; “Building Equipment Readiness in the Armored Brigade Combat Team Cavalry Squadron”; Fall 2019.

Barta, LTC Jeff and Zang, CPT Patrick; “Moving Cavalry Forward: A Summary of the 2019 Gainey Cup Competition”; Spring-Summer 2019.

Blaschke, CPT Thomas and Russell, CPT Timothy G.; “Improving Company Trains”; Spring-Summer 2019.

Boroff, CPT Alexander; “Integration of Dismounted Reconnaissance Troop into an Armored Brigade Combat

Team”; Spring-Summer 2019.

Brender, MAJ L. Burton; “Get the Hell Out of Dodge: Techniques for Company-Level Alerts”; Spring-Summer 2019.

Broman, SPC Christopher; “Low-altitude Mastery – Implementation of Quadcopter Unmanned Aerial Systems into Reconnaissance Platoons”; Fall 2019.

Chambers, MAJ John and Saxion, MAJ Steve; “The Division’s Role in Breaching Operations”; Spring-Summer 2019.

Cook, MAJ Chaveso, Slider, MAJ Charles and Wharton, MAJ Terron; “Leader Development – the Nature of Warfare: Has Clausewitz Maintained Relevancy?”; Fall 2019.

Dion, LTC Robert; “Deliberate Wet-Gap Crossings in Korean Theater of Operations”; Fall 2019.

Ellis, SFC Brian, Andrade, SFC Brian, Horning, LTC John and Kelly, CPT Jake; “Cavalry/reconnaissance – a Different Approach to the Scout Squad for the Mounted Force”; Fall 2019.

Fox, MAJ Amos C.; “On the Employment of Armor”; Winter 2019.

Garner, MAJ Nate and Adams, COL Steven J.; “‘Kachi Kapshida!’ – Rotational Armored Brigade Combat Team Experience in Korea”; Winter 2019.

Grau, retired LTC (Dr.) Lester W.; “Armor – Swimming Russian Tanks Across Rivers”; Fall 2019.

Grdina, CPT Michael and Zhang, CPT Kevin; “Protection across the Domains: Electronic Warfare in the Armored-Cavalry Squadron”; Winter 2019.

Greenlee, MAJ Wade, Bailey, 1LT P. Andrew, Horning, LTC John and Kaminsky, 1LT Dustin; “Building Equipment Readiness in the Armored Brigade Combat Team Cavalry Squadron”; Fall 2019.

Heatherly, LTC Chris, reviewer; “*Traumatic Defeat: POWs, MIAs and National Mythmaking* by Patrick Gallagher (book review)”; Winter 2019.

-----“*Pershing’s Tankers: Personal Accounts of the AEF Tank Corps in World War I*”; edited by Lawrence M. Kaplan (book review); Spring-Summer 2019.

-----“*Masters of Mayhem: Lawrence of Arabia and the British Military*

Mission to the Hejaz by James Stejskal (book review)"; Spring-Summer 2019.

-----**"Spearhead** by Adam Makos (book review)"; Fall 2019.

Heck, MAJ T.G., reviewer; **"Vitebsk: The Fight and Destruction of the Third Panzer Army** by Otto Heidkämper (book review)"; Winter 2019.

Holland, COL Joe, reviewer; **"In Memory of Self and Comrades: Thomas Wallace Colley's Recollections of Civil War Service in the 1st Virginia Cavalry**; edited by Michael K. Shaffer (book review)"; Spring-Summer 2019.

Horning, LTC John, Bailey, 1LT P. Andrew, Greenlee, MAJ Wade and Kaminsky, 1LT Dustin; "Building Equipment Readiness in the Armored Brigade Combat Team Cavalry Squadron"; Fall 2019.

Horning, LTC John, Andrade, SFC Brian, Ellis, SFC Brian and Kelly, CPT Jake; "Cavalry/reconnaissance – a Different Approach to the Scout Squad for the Mounted Force"; Fall 2019.

Jennings, MAJ Nathan; "History – Reconnaissance Pull in the Offense: A Mexican-American War Case Study"; Fall 2019.

-----"Reconsidering Division Cavalry Squadrons Part III"; Winter 2019.

-----"Reconsidering Division Cavalry Squadrons Part IV"; Spring-Summer 2019.

Judge, retired COL D.J., reviewer; **"Ardennes 1944** by Yves Buffetaut (book review)"; Spring-Summer 2019.

-----**"Allied Armor in Normandy** by Yves Buffetaut (book review)"; Winter 2019.

-----**"From Moscow to Stalingrad: The Eastern Front, 1941-1942** by Yves Buffetaut (book review)"; Spring-Summer 2019.

-----**"German Armor in Normandy** by Yves Buffetaut (book review)"; Spring-Summer 2019.

-----**"Operation Typhoon: The German Assault on Moscow, 1941** by Philippe Naud (book review)"; Spring-Summer 2019.

-----**"The Waffen SS in Normandy: June 1944, the Caen Sector** by Yves Buffetaut (book review)"; Winter 2019.

Kaminsky, 1LT Dustin; Bailey, 1LT P. Andrew, Greenlee, MAJ Wade and Horning, LTC John; "Building Equipment Readiness in the Armored Brigade Combat Team Cavalry Squadron"; Fall 2019.

Kelly, CPT Jake, Andrade, SFC Brian, Ellis, SFC Brian and Horning, LTC John; "Cavalry/reconnaissance – a Different Approach to the Scout Squad for the Mounted Force"; Fall 2019.

Kichen, retired LTC Lee F.: "Battle Analysis: The Saga of OZ 77 in the Arab-Israeli War of 1973: A Small Armor Unit's Fight in a Large-Scale Combat Operation"; Fall 2019.

Klein, MAJ Gary M.; "'Rough-Cut CoAs' and Other Ways to Modify Military Decision-Making Process for Constrained Planning Timelines"; Winter 2019.

Lee, CPT Timothy, Watts, CPT William and Winsted, CPT Bradley; "From the Screen: Reconnaissance Objective: Not a Physical Location"; Spring-Summer 2019.

Lee, CPT Timothy and Watts, CPT William; "Named Area of Interest Development Needs Refined Process"; Spring-Summer 2019.

Lesperance, BG David A.; "Chief of Armor's Hatch: Transitioning to Large-Scale Combat Operations"; Spring-Summer 2019.

-----"Chief of Armor's Hatch: We Must Be Masters of Our Craft"; Winter 2019.

McCoy, MAJ Adam S.; "Managing 0-100 Feet Above Ground Level: Aviation Employment and Airspace Management in the Decisive-Action Fight"; Fall 2019.

Michelena, MAJ Travis; "The Fallacy of Logistics Dominance"; Spring-Summer 2019.

Moore, CPT Jared D.L.; "Lessons-Learned and Organizational Improvements: Saber Squadron in Exercises Saber Strike 16 and 18"; Fall 2019.

Montazzoli, MAJ Matt D.; "The Black-Letter Law Behind the Silver Spurs: A Judge Advocate's Perspective on Spur Rides"; Spring-Summer 2019.

Muhlenbeck, CSM Kevin; "Gunner's Seat: Proficiency and Stability"; Winter 2019.

-----"Gunner's Seat: NCOs: Setting the Condition for Victory!"; Spring-Summer 2019.

-----"Gunner's Seat: Talent Management Needs to Be More Than Just Buzzwords"; Fall 2019.

Orbon, MAJ Steve; "In Defense of NATO – the NATO Reconnaissance and Security Strike Group: Regaining Operational R&S in European Command"; Fall 2019.

Peek, CPT Horace H. V, Plummer, COL Dawson A. and Rice, MAJ K. Derrick; "Force Modernization of the Armored Brigade Combat Team"; Winter 2019.

Pitts, COL Esli T.; "What Now? Rapid Decision-Making Synchronization Process: the Planning Tool You Didn't Know You Were Missing"; Winter 2019.

Plummer, COL Dawson A., Peek, CPT Horace H. V and Rice, MAJ K. Derrick; "Force Modernization of the Armored Brigade Combat Team"; Winter 2019.

Rice, MAJ K. Derrick, Peek, CPT Horace H. V and Plummer, COL Dawson A.; "Force Modernization of the Armored Brigade Combat Team"; Winter 2019.

Rozman, Tom; "12th Cavalry Regiment's Early Contribution to Building Post-Vietnam Armored Force"; Winter 2019.

Russell, CPT Timothy G. and Blaschke, CPT Thomas; "Improving Company Trains"; Spring-Summer 2019.

Saxion, MAJ Steve and Chambers, MAJ John; "The Division's Role in Breaching Operations"; Spring-Summer 2019.

Sikma, 1LT Brian; "Mounted Infantry Brigade Combat Team Scout Platoons Struggle With Stealth"; Winter 2019.

Sitterley, CPT Nathan; "Understanding the Tempo of Reconnaissance"; Fall 2019.

Slider, MAJ Charles, Cook, MAJ Chaveso and Wharton, MAJ Terron; "Leader Development – the Nature of Warfare: Has Clausewitz Maintained Relevance?"; Fall 2019.

Smith, COL Stuart S.; "Training Management: Old is New"; Winter 2019.

Smith, retired LTC (Dr.) Robert G.; **"First Day on the Eastern Front** by

Craig Luther (book review)”; Fall 2019.

Townsend, LTC Brad; “The Implications of Innovation in Space-Based Remote Sensing on Maneuver Warfare”; Fall 2019.

Turkotte, Alex; “MOS 19M: the Mechanized Warrior”; Winter 2019.

Warford, MAJ James M.; “Soviet IS-3 ‘Stalin’ Heavy Tank: Importance of Getting Assessment Right”; Winter 2019.

Watts, CPT William, Lee, CPT Timothy and Winsted, CPT Bradley; “From the Screen: Reconnaissance Objective: Not a Physical Location”; Spring-Summer 2019.

Watts, CPT William and Lee, CPT Timothy; “Named Area of Interest Development Needs Refined Process”; Spring-Summer 2019.

Wharton, MAJ Terron, Cook, MAJ Chaveso and Slider, MAJ Charles; “Leader Development – the Nature of Warfare: Has Clausewitz Maintained Relevancy?”; Fall 2019.

Winsted, CPT Bradley, Lee, CPT Timothy and Watts, CPT William; “From the Screen: Reconnaissance Objective: Not a Physical Location”; Spring-Summer 2019.

Wyman, COL Bill, reviewer; “*Ghosts of Fallujah* by Coley D. Tyler (book review)”; Fall 2019.

Zang, CPT Patrick and Barta, LTC Jeff; “Moving Cavalry Forward: A Summary of the 2019 Gainey Cup Competition”; Spring-Summer 2019.

Zang, CPT Patrick; “Overcoming Semantics: How to Deconflict the Fundamentals of Reconnaissance to Win at Platoon Level”; Fall 2019.

Zhang, CPT Kevin and Grdina, CPT Michael; “Protection across the Domains: Electronic Warfare in the Armored Cavalry Squadron”; Winter 2019.

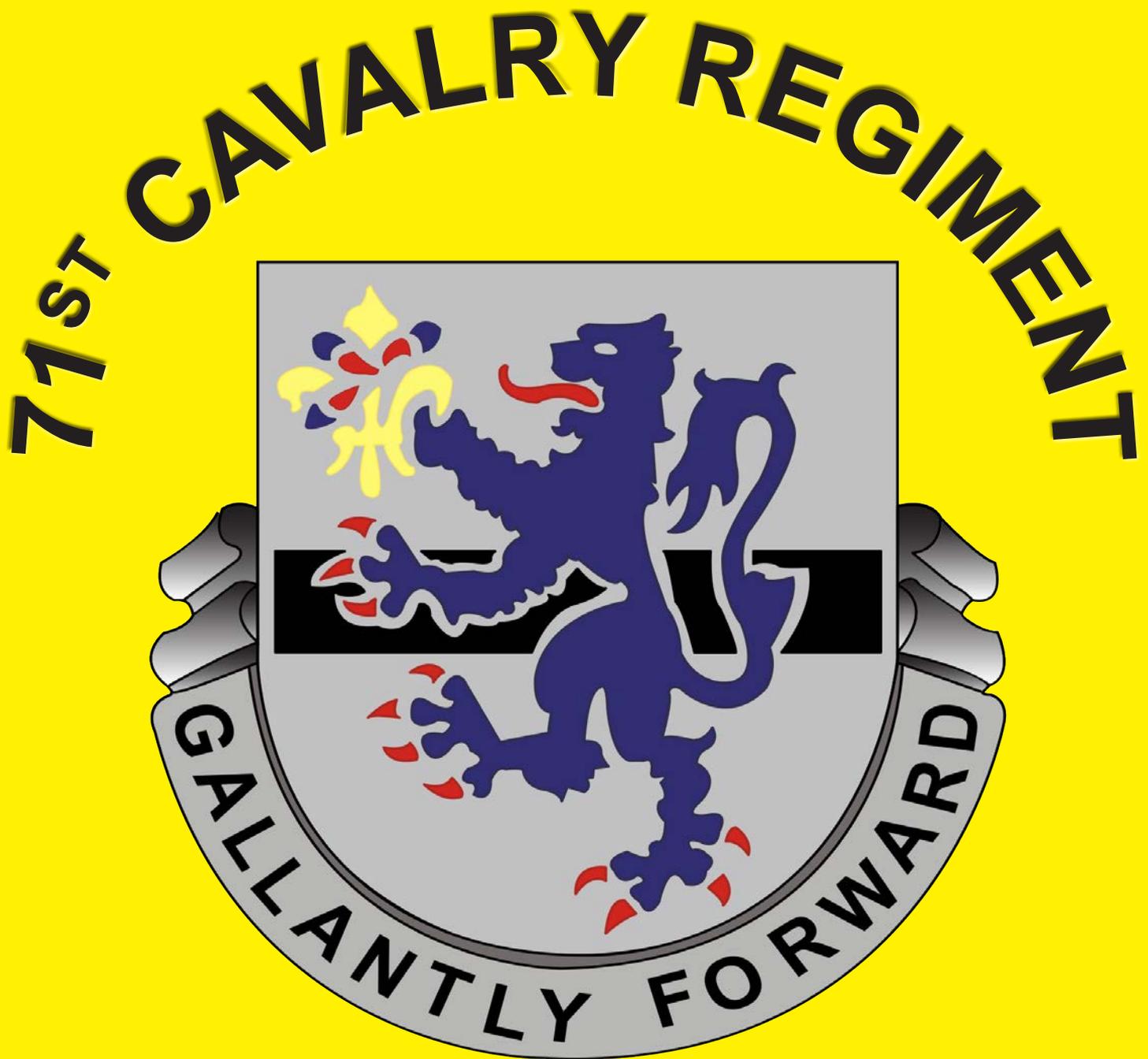
Zollin, MAJ Jeremy; “The Case for a Medium Tank to Be Incorporated into the Joint Force”; Spring-Summer 2019.



Send Us Your Manuscripts
ARMOR magazine’s manuscript suspenses for 2020:

- Spring 2020 edition: Feb. 28
- Summer 2020 edition: May 14
- Fall 2020 edition: Aug. 17

For planning purposes, **ARMOR** magazine suspenses are an average of 10-11 weeks before the edition is published.



The 71st Cavalry was originally constituted Dec. 3, 1941, in the U.S. Army as 701st Tank Destroyer Battalion. The unit was activated Dec. 15, 1941, at Fort Knox, KY. The unit saw action throughout World War II and earned campaign participation in Algeria-French Morocco, Tunisia, Naples-Foggia, Anzio, Rome-Arno, North Apennines and the Po Valley. The 701st was inactivated Oct. 29, 1945, at Fort Leonard Wood, MO. The unit was converted and redesignated Aug. 27, 1947, as 327th Mechanized Cavalry Reconnaissance Squadron and allotted to the Organized Reserves. It was again converted and redesignated March 22, 1949, as 327th Heavy Tank Battalion. On Nov. 17, 1950, it was inactivated at Ottumwa, IA, only to be converted and redesignated Feb. 27, 1951, as 701st Armored Infantry Battalion (AIB); concurrently withdrawn from the Organized Reserve Corps; allotted to the Regular Army and assigned to 1st Armored Division. On March 7, 1951, 701st AIB moved to Fort Hood, TX, for six years until it was inactivated Feb. 15, 1957, at Fort Polk, LA, and relieved from assignment to 1st Armored Division. In March 2004, 71st Cavalry was activated from newly assigned Soldiers as well as existing units from within the division. Eleven months after activation, 1-71 Cav deployed in support of Operation Iraqi Freedom IV. The squadron's distinctive unit insignia was originally approved for 701st AIB April 28, 1952. It was redesignated with the description and symbolism updated for 71st Cavalry Regiment Aug. 10, 2004.



Ride with the Armor & Cavalry



THE UNITED STATES ARMY ARMOR BRANCH IS THE COMBAT ARM OF DECISION.

We are the premier mounted maneuver force comprised of the best trained, best led, best equipped, and most lethal Tankers and Scouts in the world. Soldiers first, we are experts in the art of maneuver warfare; mounted and dismounted reconnaissance and security operations; and the employment of combined arms and joint capabilities on the battlefield.

Armor and cavalry troopers thrive in conditions of ambiguity, uncertainty, and complexity; comfortable away from the main body --- out front or on the flanks --- and decisive when leading it. We operate with a mission command mentality always seeking opportunities to seize, retain, and exploit the initiative; creating and preserving freedom of action for our force while denying the enemy options.

Armor and cavalry leaders combine the superior capabilities of our equipment with the ingenuity of our Troopers to find, fix, close with and destroy the enemies of our nation through combinations of mobility; precise, lethal, and overwhelming firepower; and devastating shock effect.

Armor branch is a team of teams ready to fight and win anytime, anywhere, under any conditions of battle.

FORGE THE THUNDERBOLT!

