ARMOR

Mounted Maneuver Journal

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FORGING A NEW PATH

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BG Kevin D. Admiral
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Armor School Progress

The U.S. Army Armor School (USAARMS) made great strides over the past 24 months along our lines of effort. Soldiers and leaders who train at our one-station unit training (OSUT), Armor Basic Officer Leader's Course (ABOLC) and our functional courses are more confident, proficient, disciplined and **Armor Ready** due to the efforts of the men and women in USAARMS.

We continued our efforts to develop better Armor and Cavalry Soldiers and leaders. The 194th Armored Brigade did a phenomenal job updating and modernizing the programs of instruction (POIs) for 19D and 19K initial-entry Soldiers. The 22-week OSUT is profoundly better than the 15-week 19D and 17-week 19K models. This transformation provides the force with better-trained Soldiers who are ready to contribute to their units on Day 1.

The 316th Cavalry Brigade updated POIs for ABOLC as well as the Scout and Cavalry Leader's Courses. The updates build leader proficiency through multiple sets and repetitions during hands-on instruction and increase confidence.

They also made significant improvements to the Master Gunner Course. It now provides learning content around the duties and responsibilities of a company master gunner and current live-fire doctrine. The course provides more opportunities to produce graduates as well. We overlapped courses and created re-entry points, which keeps students on track to graduate and return to their units ready to improve live-fire training programs. Candidates will have more opportunities to graduate the course and spend less time at Fort Benning.

In addition to the improvements to the Master Gunner Course, we created the Pre-Master Gunner Assessment Course. Divisions now have a standardized curriculum to prepare candidates for course attendance at Fort Benning, GA. We created modules with practical exercises to ensure the level of detail, method of testing, study habits and attention to detail are established well before attending the course. Also, battalions and brigades can choose specific classes from the curriculum and train soldiers (of any rank) based on knowledge gaps inside their organizations.

We also made gains in our efforts to develop a better mounted capability and future force. We updated and publish the new Tank and Scout Platoon Standing Operating Procedures; Field Manual 3-98, ***Reconnaissance Security Operations***; and Army Techniques Publication 3-90.5, ***The Combined-Arms Battalion***, and we published the ***Armored Training and Leadership Strategy***. These documents will improve Armor lethality and enable the Army to fight and win during large-scale combat operations.

We also started various modernization efforts that will affect our armored brigade combat teams (ABCTs) in the future. We enabled echeloned reconnaissance by designing the division cavalry squadron, armored cavalry troop and light reconnaissance company. We proposed a way to address a capability gap within the Army by designing the armor assault company, and our ABCT redesign will enable efforts to establish the division as the unit of action.

We also worked with the Fort Benning enterprise to improve the training area. The Northern Mounted Maneuver Training Area construction efforts are a 50-year plan to develop multipurpose training ranges that keep pace with advancements in mounted gunnery; this effort will create better maneuver training opportunities for Soldiers.

The COVID environment has not stopped us from telling the Armor story and advocating for the branch. Although we weren't able to communicate face-to-face, we leveraged multiple virtual platforms to conduct leader professional-development sessions

with colleges and universities as well as support branch-accession initiatives. This provided great opportunities to tell the Army story and build on recruiting efforts for the branch and the Army.

It has been a pleasure to serve as your 52nd Armor Commandant. We made remarkable advancements over the last two years, and I know USAARMS will continue this work while producing the best tankers and scouts in the world.

TREAT 'EM ROUGH!

Acronym Quick-Scan

ABCT – armored brigade combat team
ABOLC – Armor Basic Officer Leader's Course
OSUT – one-station unit training
PoI – program of instruction
USAARMS – U.S. Army Armor School

GUNNER'S SEAT

CSM Tony T. Towns
Command Sergeant Major
U.S. Army Armor School

This is My Squad – Forging a New Path!

The challenges facing our Army are vast, complex and never come with simple solutions. From modernization efforts to ensure superiority over any adversary, deliberate focus on training and leader development to build lethal formations that can deploy, fight and win, to investing in the lives of all our people and their families – we are committed to forging a new path!

These efforts cannot fall solely on the shoulders of senior leaders. They will require unwavering commitment from every echelon of the Army's total force. For nearly 246 years, our Army has answered our nation's call not only to defend her liberties and to be a beacon of hope globally, but to steward the Army profession -- understanding we represent the best of our nation. We must model the example for the people we serve. Yes, our challenges are difficult; however, there is something we all can do today to improve our Army – invest in your squad!

"This is My Squad (TiMS)" recognizes the importance of investing in our people above all else. Deeper connections, accountability and servant leadership are focus areas I feel are essential for TiMS to thrive.

GEN James McConville, the 40th Army Chief of Staff, said, "We win through our people, and people will drive success in our readiness, modernization and reform priorities. We must take care of our people." Taking care of our Soldiers starts with building trust with our Soldiers. How do we build trust with Soldiers within our squads? We must go beyond the nametapes sewn on their chests or what we see on a Soldier's record brief. Everyone has a unique story. Learning their story is truly rewarding and will open the door for deeper connections. Getting to know your squad is well-spent time that will have an enormous return on investment. These connections begin the building blocks of trust and teambuilding, and perhaps a deeper appreciation for our teammates.

Personal legacy is largely defined by the impact made in the lives of the people we lead. From the most stellar Soldier to the most challenged, they all deserve outstanding leaders, leaders committed to improve the lives of others both personally and professionally. Leadership matters, and the power of a connected leadership cannot be overstated.

As a steward of the profession, accountability is paramount to building a cohesive squad. What we accept big or small, directly or indirectly, positively or negatively, will have a lasting impact on the squad. Are we accounting for the training and resources our squads need to survive the crucible of ground conflict? Are we accounting not only for their physical, but mental, social and spiritual fitness? Are we accounting for their development, both personal and professional? Are we accounting for their families by ensuring they have the very best resources and support, deserving of the sacrifice they too make daily?

Perhaps the most important thing I have learned in 26 years of service is that Soldiering is an affair of the heart! We are trusted with the lives of America's sons and daughters. That trust extends to combat outpost, combat-training center, home station and everywhere in between, with no days off. Simply, servant leaders lead with empathy and compassion, create opportunity for all to flourish, treat people with dignity and respect, and ensure squad members have a deep sense of purpose and value. The Army we want tomorrow starts with investing in our squad today!

Home Remedy to Treat Issues with Combat-Arms Gender Integration: One Dose of Engaged Leadership and Two Doses of Education

by MAJ Demarius Thomas

The Women's Armed Services Integration Act – a U.S. law that passed in 1948 – enabled women to serve as permanent, regular members of the armed forces (Army, Navy, Marine Corps and then-recently-formed Air Force). Before this act, women, with the exception of nurses, served in the military only in times of war.

However large the act was as a first step, it severely limited the rights of women in the Army. Only 2 percent of any military branch could be women, and they could be involuntarily discharged if they were impregnated. It also limited the number of women who could become officers. Most significantly, it prevented women from commanding men or ever serving in combat.

Deborah Sampson

Throughout history, women would disguise themselves as men to serve in combat. Most notable is Deborah Sampson. She was an indentured servant who joined the Continental Army disguised as a man named Robert Shurtleff. She was able to keep her identity as a woman secret, even when she was shot during combat. She received wounds to her head and thigh. Sampson removed the musket ball lodged in her thigh herself for fear that her gender would be exposed.

She was ultimately discovered when she became ill during an epidemic, was taken to a hospital and lost consciousness. The physician wrote a letter to the unit's commander informing him of her gender; Sampson was honorably discharged as a result.

Change to rule

It took decades for the military's restrictions to change. The 1994 Direct Ground Combat Definition and Assignment Rule stated: "Service members are eligible to be assigned to all positions for which they are qualified, except that women shall be excluded from assignment to units below the brigade level whose primary mission is to engage in direct combat on the ground." In 2015 Secretary of Defense Leon Panetta rescinded this rule. The action removed all restrictions pertaining to positions women can or cannot hold; specifically, all combat jobs became open to women.

Figure 1. President Harry S. Truman signed the Women's Armed Services Integration Act in 1948.

The Army moved quickly to recruit women into its combat-arms branches. The Army provided opportunities for women in combat support as well as service and support jobs to voluntarily switch branches. The Army also initiated recruitment efforts to enlist women as new combat-arms Soldiers and attract officers from the populations of women attending service academies and Reserve Officer Training Corps programs across the nation.

Today, in the Army's combat-arms branches, there are about 1,197 women serving in the enlisted and officer ranks. While this is a profound accomplishment for the military and the Army, combat-arms branches are experiencing issues as the Army continues to integrate women. ***None*** of the issues, however, pertain to women's ability to perform as armor, infantry or field-artillery soldiers and leaders. Therefore, the issues can be solved easily through engaged leadership and education.

Engaged leadership (one dose)

The word *engaged* means to be greatly interested and actively involved. Engaged leaders step up, opting to proactively own solutions where others cannot or do not. They energize others, keeping people focused on a purpose and vision with contagious positivity.

Engaged leaders control the climate in their organizations. The organization can be as small as a team or as large as a division, corps or Army. If the climate in an organization is set for zero tolerance regarding sexism, harassment and bigotry, but encourages inclusion, trust and confidence for the

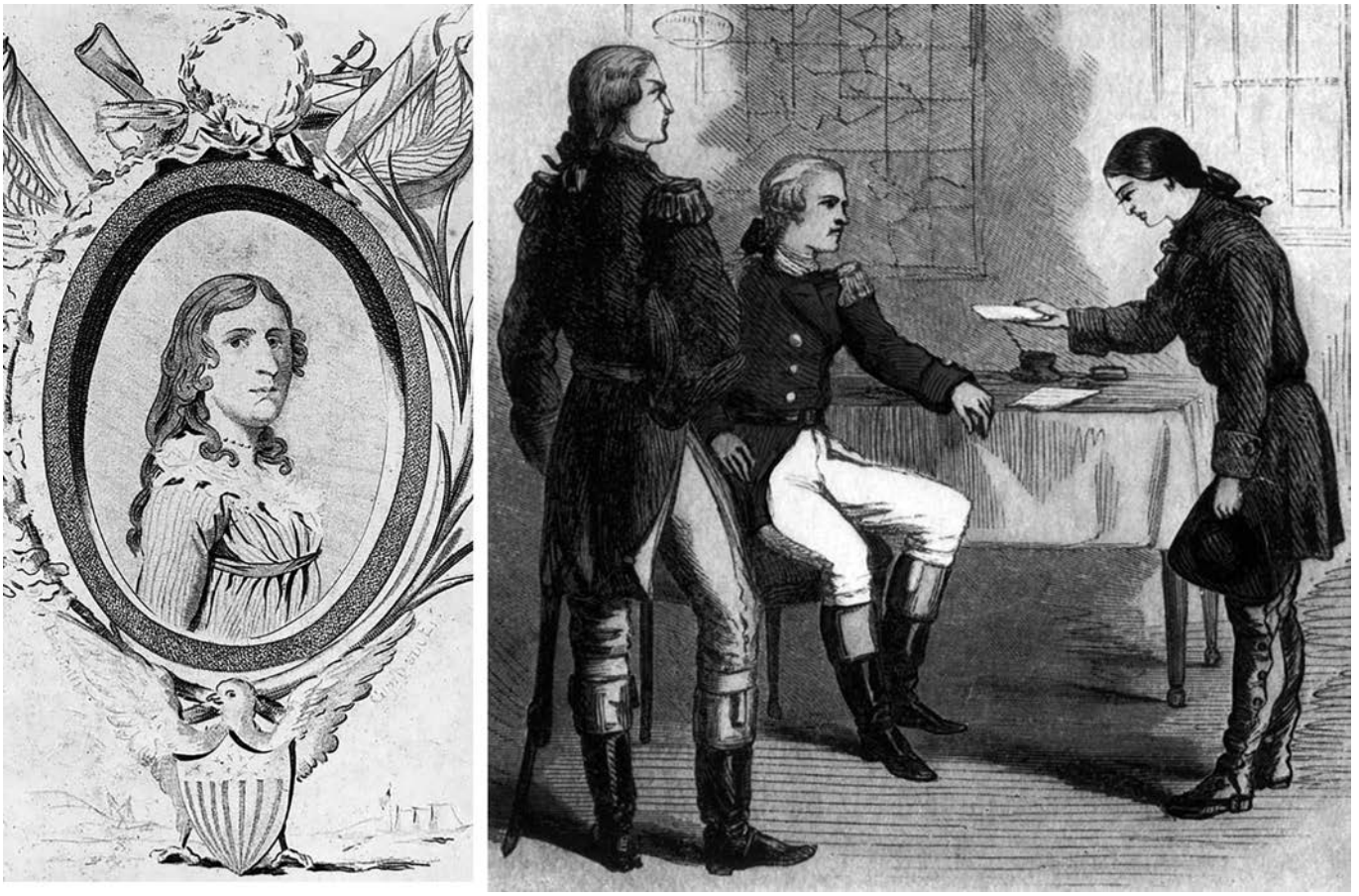


Figure 2. Left, portrait of Deborah Sampson (Dec. 17-1760 – April 29, 1827), who disguised herself as a man to serve in the Revolutionary War. The portrait was published c. 1797 as the frontispiece of *The Female Review: Life of Deborah Sampson, the Female Soldier in the War of Revolution* by Herman Mann. PVT Sampson served in the Light Infantry Company, 4th Massachusetts Regiment, from 1782-1783 and was wounded during fighting. Right, engraving of Sampson presenting a letter to GEN George Washington at his headquarters at West Point, NY. Sampson later caught a camp-wide fever, and the doctor treating her discovered her gender. After she had recovered, he sent her with a letter to her commanding officer, MG John Paterson, who sent her with a letter of his own to Washington. She was honorably discharged from the Army. *(Portrait source: Massachusetts Historical Society, http://www.masshist.org/database/viewer.php?old=1&item_id=359. The engraving is by George Graham from a drawing by William Beastall, which was based on a painting by Joseph Stone. Engraving of letter presentation is from the Library of Congress' collection.)*

women in the formation, the entire unit will emulate those ideas. The aforementioned only works if leaders at all echelons remain engaged and actively seek out and correct individuals whose actions are contrary to the organization's climate and the Army Values.

Engaged leaders must also reflect on their own actions. They must ensure they are not unintentionally isolating or marginalizing the women in their formations, and they must be cognizant of the urge to be overly cautious during interactions with the women in their organizations.

The following observation is from a woman serving in a combat-arms unit: "Everyone needs mentors, regardless of gender. A lot of male leaders tend to try and set up women leaders and soldiers with other women as mentors. This is not the correct answer. As a higher-ranking officer in our branch, we would prefer to learn from you vs. someone outside of our branch. Would you offer the same to a male officer?"

Another combat-arms woman said, "Just because we are women doesn't mean you have to treat us as a liability to your career. If you talk to your male leaders behind closed doors, you should be able to talk to us." This person also stated, "Commanders who will only talk with their women subordinates with the executive officer or another officer present to avoid 'rumors' typically causes distrust. If we are never allowed to speak to you in private, why would we go to you when we need to keep it on a need-to-know basis?"

Leaders must be engaged to avoid the aforementioned. These feelings and situations can be avoided by controlling the climate and maintaining self-awareness through continuous reflection.

Education (two doses)

Education is the second part of the antidote required to cure the issues with gender integration in combat-arms branches. There are two categories of people who require education: women entering combat arms (new enlistees and newly commissioned officers), and the Soldiers and leaders already serving in combat-arms units.

Women who attend one-station unit training and the basic officer leader course must be taught how to conduct hygiene in the field; field hygiene is a little different for women than it is for men, especially during longer field exercises (20-30 days). One woman serving in a combat-arms unit said, "Field packing lists might be uncomfortable to check for feminine products. Would you rather be uncomfortable for a split second or lose a Soldier from training? Soldiers sometimes forget to plan for these items, or they forget them just like a male Soldier could forget things."

Figure 3. 1LT Anna Hodge proudly displays her Ranger tab on graduation day. She was the 15th woman throughout the armed services to graduate from Ranger School and the first Ranger-qualified woman Sky Soldier for 173rd Airborne, Vicenza, Italy. *(U.S. Army photo)*

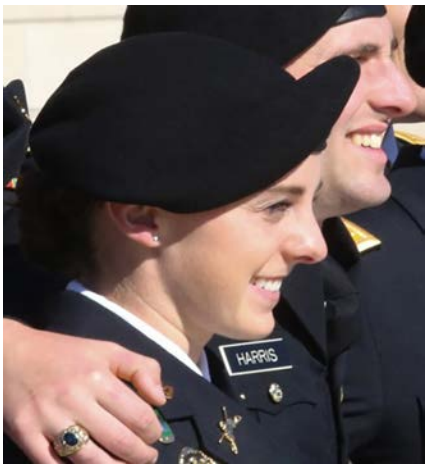
Another example of field-hygiene education is using the restroom in the field. Women who enter the Army as new trainees have never been to the field; they must be taught this fieldcraft. There will not always be a portable restroom available. For this reason, leaders must monitor women who are new to the Army during field exercises; dehydration can become an issue. One woman serving in a combat-arms unit said, "As a new Soldier, I would intentionally not drink enough or any water at all during field exercises. I did this because I was uncomfortable using the restroom in field environments."

In addition to the women who enter combat-arms branches, men serving in those branches must also be educated. Soldiers and leaders alike must become comfortable working with women and adapt their planning considerations during training events. One male leader said, "If one of my women platoon leaders didn't speak up at the National Training Center, she and the only other woman (officer) in their unit would have been segregated from their Soldiers and forced to sleep in a women-only tent at the [rotational-unit bivouac area]. I should have been the one to speak for them and ask approval for their integration in the male tent."

A woman serving in a combat-arms unit commented, "Don't make the field weird. During field problems, whenever I needed to change or use the bathroom, it would be a quick, 'hey I'm changing in the turret, don't let anyone on the tank until you see me again.' Or 'hey, I'm going to the bathroom on the right side of the tank.' My crew would do the same thing to give me courtesy."

The U.S. Army is the best and most lethal in the world, and the women in our combat-arms branches are doing a phenomenal job as Soldiers and leaders. If leaders remain engaged and the force is educated with regard to women in combat-arms units, we will maintain a healthy climate that embodies the Army's values.

MAJ Demarius Thomas is chief of the Armor Commandant's Initiatives Group at U.S. Army Armor School, Fort Benning, GA. His previous assignments include brigade S-3, 5th Armored Brigade, Fort Bliss, TX; squadron executive officer, 2nd Squadron, 13th Cavalry Regiment, Fort Bliss; battalion S-3, 1st Battalion, 67th Armored Regiment, Fort Bliss; and chief of operations, 1st Armored Division, Fort Bliss. His military education includes the Command and General Staff Officer College, Maneuver Captain's Career Course, Armor Officer Basic Course and Airborne School. MAJ Thomas holds a bachelor's of science degree in political science from Florida A&M University and a master's of business administration degree from Webster University. His awards include two awards of the Bronze Star Medal and four awards of the Meritorious Service Medal.



One of the first woman graduates of the Armor Basic Officer Leader's Course at Fort Benning, GA, celebrates with her classmates.

Figure 4. 19K one-station unit training trainees from Company B, 1st Battalion, 81st Armor Regiment, take a break during a turret training block of instruction. All 19K trainees receive an orientation to the different duty stations (tank commander, gunner and loader) inside the turret of the tank but receive thorough instruction pertaining to the duties of a tank loader. *(U.S. Army photo by 1LT Alexander Muzyka)*

Figure 5. 1LT Jessica Pauley, shown on an M2 Bradley Fighting Vehicle in March 2020, became the first woman infantry officer in the Idaho National Guard last year. As a platoon leader for 116th Cavalry Regiment's Company C, 2nd Battalion, she helped pave the way for junior-enlisted women to take combat-arms positions in her battalion. Now the "leaders first" requirement has been further modified to open even more combat units to women. *(U.S. Army photo by Crystal Farris)*

The British 1918 Campaign in Palestine: A Perspective for Multi-Domain Operations

by MAJ Kyle Trottier

In 1918 GEN Edmund Allenby led the British Egyptian Expeditionary Force (EEF) on a campaign of more than 400 miles in 36 days, leading to destruction of the Ottoman Empire and securing the British geopolitical position in the Middle East for decades afterward. What can future Cavalry and Armor formations learn from this campaign to be better postured to win a large-scale combat operation (LSCO) against a near-peer adversary in the conduct of multi-domain operations (MDO)?

Using the MDO's *compete, penetrate, dis-integrate,*[1] *exploit* and *re-compete* framework, it is first important to understand how the EEF used its mounted formations – supported by air, naval and irregular forces – to penetrate the German and Ottoman defense, then dis-integrate the adversary in depth.

Second, the EEF provides insight into the ways that commanders can use multi-domain deception to draw the strength of the adversary in one direction, creating a vulnerable seam by which mounted forces can penetrate.

Third, Allenby provides excellent examples of how to employ information operations to influence the battle of narrative and perception to strengthen the will of friendly forces and political authorities while degrading enemy morale and the will to fight.

Considered together, these examples provide ways for current Armor and Cavalry leaders to think about how to man, train and equip the force to win in future MDOs.

Facing the Ottomans

For nearly 600 years, the Ottoman Empire controlled Palestine, Egypt and Mesopotamia as part of the caliphate. Between 1805-1846, Mohamed Ali, the viceroy of Egypt, led his state through a period of modernization, including industrial, economic, political, social, military and education reforms.[2] During this period, British companies began to invest in Egyptian industries, especially agriculture.

This period can be defined as one of "great-power competition," where the British Empire ranged from Africa to India to the Caribbean and was competing against other world powers like Russia, Germany, France and the Ottoman Empire for geopolitical and economic primacy.

In 1869, the Suez Canal opened for traffic and became the great artery of the British Empire connecting Europe, Africa and Asia. The Suez Canal made commerce between India and Europe faster, more reliable and more affordable. Thus, whoever held this key terrain held significant leverage across multiple continents and could influence world economic affairs.

The outbreak of war in August 1914 saw Germany negotiating with the Ottoman Empire to enter the conflict on the side of the Central Powers. For the Ottomans, this was a way to restore the dominance of Egypt and the Suez Canal. For Germany, Ottoman control of the Suez was an indirect approach to draw British combat power away from Europe.[3]

The two sides agreed to form a combined army called the Yilderim (meaning "thunder"). The German army provided officers to command Ottoman battalions, divisions and corps, and to lead their staffs. They also provided modern military hardware and the technical experts for the implementation of such equipment.

From 1914 to 1916 the British, led by GEN Archibald Murray, were content with merely defending the Suez Canal.

In 1916, after the Yilderim conducted a series of attacks that failed to seize the Suez, the British went on the offensive. They determined "the best way to defend the Suez Canal, Egypt and the Empire was to establish a permanent defense in Palestine."[4]

By Dec. 21, 1916 the British had attacked and seized El Arish and the naval port in Rafa, securing all of the Sinai and the Suez Canal. But the Yilderim defeated two EEF frontal assaults to seize Gaza in March 1917, leading to a stalemate.

Following his failure to win the campaign, Murray was replaced by GEN Edmund Allenby. Allenby, a career cavalryman and veteran of mobile warfare in the Boer Wars, understood modern industrial warfare. His most recent posting, serving as commander of 3rd Army in France from 1915-1917, solidified his understanding of modern, mobile industrial warfare.

Upon assuming command, Allenby gained control of the XX and XXI Infantry Corps, a cavalry corps (Desert Mounted Corps, or DMC), an artillery corps and the Royal Air Force (RAF). Allenby also gained control of T.E. Lawrence's and Sherif Feisal's Arab army. Allenby quickly reorganized and retrained the EEF to conduct a rapid attack from Gaza to Aleppo, a distance of 435 miles. In doing so, Allenby leveraged MDO to defeat the German and Ottoman forces and destroy the caliphate. Allenby also secured the British Empire's geopolitical interests for decades to come.

The following sections explain Allenby's actions in greater detail.

Penetration and disintegration

Allenby's first action was the 60-day battle (Oct. 28-Dec. 31, 1917) often referred to as the Third Gaza Campaign. This operation ended with the seizure of the port of Jaffa and Ottoman General Headquarters in Jerusalem.

Following Third Gaza's success, Allenby took an operational pause. This paused was linked to the EEF's receipt of orders to send multiple units to Europe and the requirement for it to integrate replacements from other parts of the British Empire. During this period, the EEF staff and subordinate units planned and trained to conduct cross-domain maneuver, which included the integration and convergence of the RAF and DMC.[5] Together they

Figures 1 and 2. Competing empires. Figure 1 shows the powerful Ottoman Empire as of 1913, represented in green.

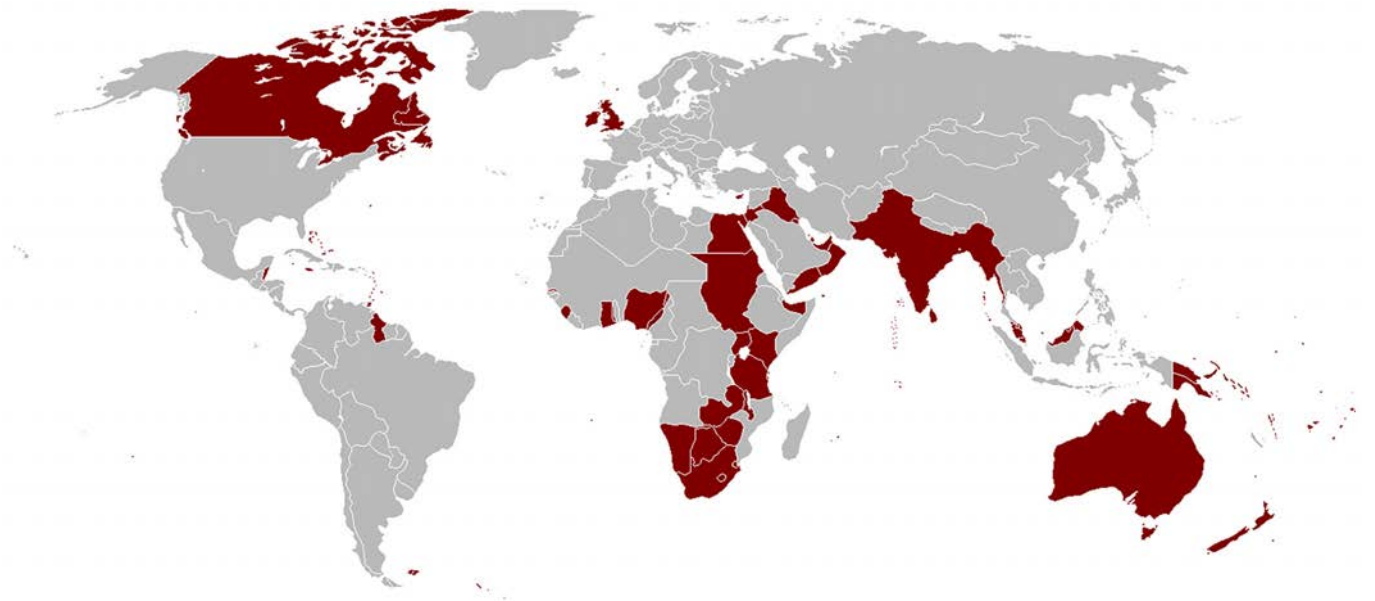


Figure 2. The British Empire at its territorial peak in 1921, shown in burgundy. British interests spanned multiple continents and sometimes conflicted with the Ottoman Empire and other European "great powers."

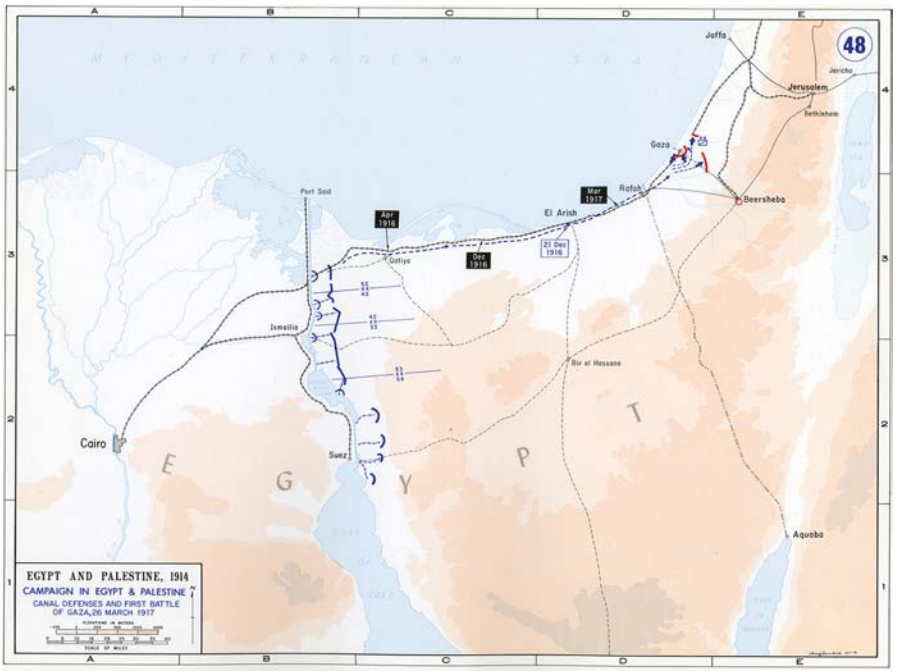


Figure 3a. The EEF's early campaign, pushing from the Suez Canal into Palestine, 1917. *(Map courtesy of the U.S. Military Academy Department of History; source: https://www.westpoint.edu/sites/default/files/inline-images/academics/academic_departments/history/WWI/WWOne48.jpg)*

would conduct rapid maneuver to exploit a position of relative advantage created through information operations and deception.

To penetrate the Ottoman defense, Allenby employed joint fires from British and French naval gunfire along the Mediterranean, as well as RAF bomber strikes targeting German headquarters in Nazareth. The focus of these strikes was to destroy German command-and-control (C2) nodes in Nazareth. The artillery corps suppressed Ottoman artillery with an overwhelming volume of fires.

With the successful suppression of German C2 and fires capabilities, the DMC unleashed 4,000 cavalrymen, who overwhelmed the German forces at El Affule, Beisan and Nazareth within 36 hours. The DMC seized the German headquarters in Nazareth in the early morning hours of Sept. 20, capturing more than 2,000 prisoners. As historian W.T. Massey notes, "The entry into Nazareth was such a surprise to the enemy that some members of Limon von Sanders' staff were captured in their pajamas."[6]

Throughout this operation, the RAF and DMC enjoyed a mutually beneficial relationship. The DMC often relied on the aerial reconnaissance and photography of the RAF to maneuver in areas beyond their map sheets.[7] The RAF, with air superiority, supported the campaign through the conduct of aerial fighting, bombing and reconnaissance. The convergence of RAF and DMC enabled a successful guard operation ahead of the XX and XXI Infantry Corps. That guard operation secured key lines of communication and prevented the enemy from disrupting the formation's tempo. The joint integration of reconnaissance and security operations was a key contributor to their rapid success.

Following the DMC's successful seizure of Nazareth, El Affule and Beisan, and the Arab army's seizure of Dera, the British took control of the Ottoman force's ground lines of communication. They set an anvil for the infantry and artillery to hammer against. The DMC's penetration and dis-integration of German and Ottoman C2 fires capabilities enabled Allenby's XX and XXI Corps to further destroy the Ottoman army.

Having obtained a position of relative advantage, the EEF exploited its penetration into German- and Ottoman-held territory and conducted a vigorous pursuit. This pursuit resulted in the seizure of Damascus and Aleppo Sept. 30, 1918, and Oct. 26, 1918, respectively. Furthermore, the campaign resulted in the surrender of the Ottoman Empire Oct. 30, 1918.

Deception

Field Manual (FM) 3-13.4, ***Army Support to Military Deception***, states, "When properly resourced and integrated, deception has the potential to deter or induce actions that are favorable to the force and can increase the success of friendly activity. Successfully planned deceptions give commanders the ability to act faster than the enemy can make decisions, creating positions of relative advantage."[8] Allenby used a massive deception to create favorable conditions for penetrating the Ottoman defense along the western coast. Allenby massed his army in the east, near Jericho, and made every indication that his plan was to attack along the Jordan River Valley.

However, one week before the attack, Allenby leveraged the intervening periods of darkness to displace four divisions – one infantry and three cavalry – from the area around Jericho to Jaffa. The three cavalry divisions left their tents, shelters, horse lines and camps untouched after the men ceased to occupy them.[9] They even erected extra shelters and emplaced props to look like people and horses. The result was a German aerial reconnaissance report to von Sanders (commander of the Yilderman) on the 17th that said: "Far from being any diminution in the cavalry in the Jordan Valley, there was evidence of two or three more squadrons."[10]

The ability to employ props to provide a visual indicator to enemy aerial reconnaissance reinforced the German belief that the main attack would be in the east along the Jordan River Valley and thus they weighted their main effort in those locations. Allenby played to the known bias of the German officers and gave every indication their intuition was right. That is, until he exploited this false notion by penetrating the German defense along the western coast line and seizing their headquarters while they slept.

The cross-domain integration of

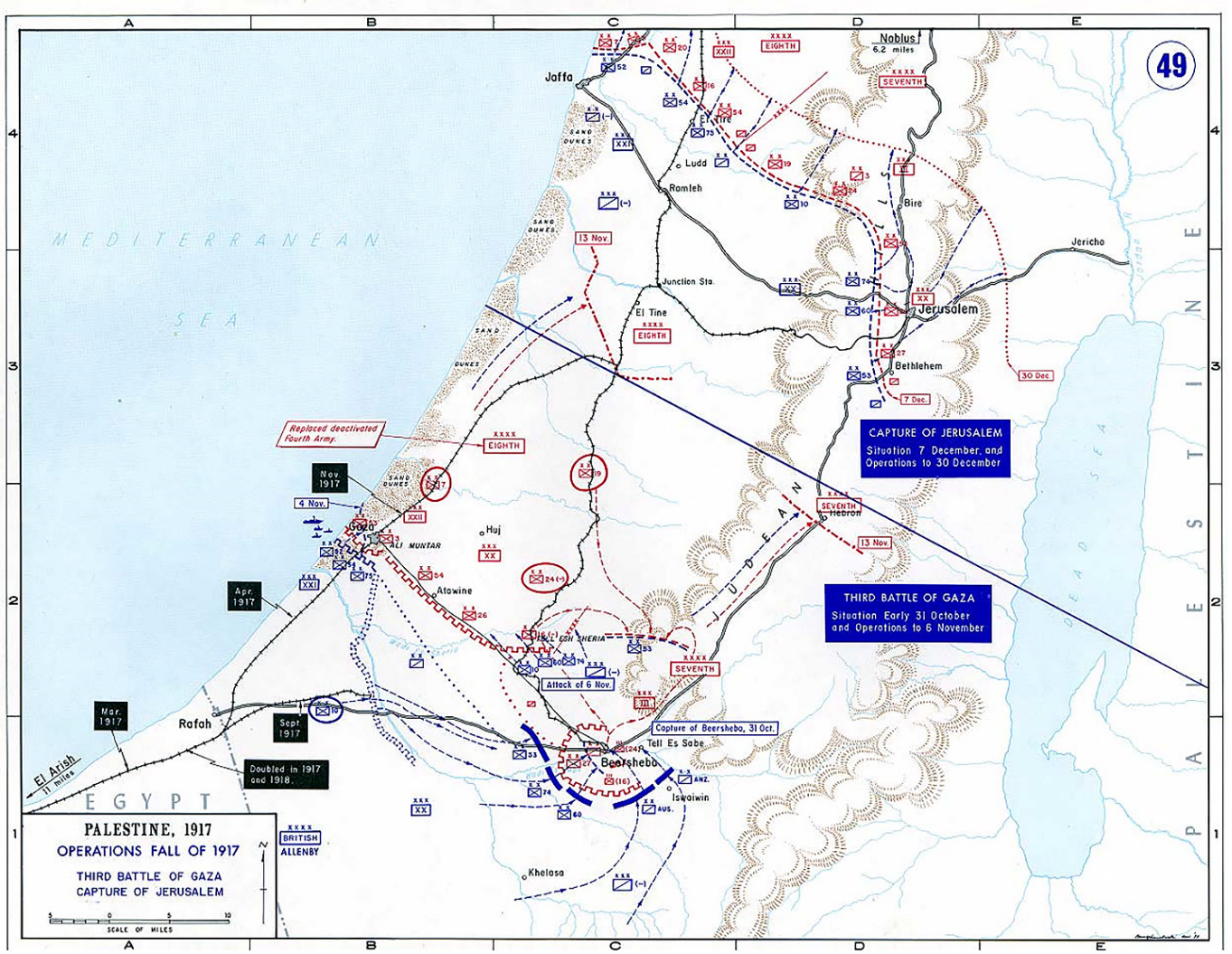


Figure 3b. British battles from Third Battle of Gaza to capture of Jerusalem, 1917. *(Map courtesy of the U.S. Military Academy Department of History; source: https://www.westpoint.edu/sites/default/files/inline-images/academics/academic_departments/history/WWI/WWOne49.jpg)*

deception created a temporal position of relative advantage the DMC would use to penetrate and then exploit the Ottoman defense.

Information operations

FM 3-13, ***Information Operations***, states that "conflict is fundamentally a contest of wills and information operations are intended to influence, disrupt, corrupt or usurp enemy or adversary decision-making and everything that enables it while enabling and protecting friendly decision-making." [11] Allenby and Lawrence understood this well.

Lawrence was keenly aware of the global audience and the need to demonstrate legitimacy of the Arab cause to continue receiving support from London. He later wrote, "The printing press, and each newly discovered method of communication favored the intellectual above the physical."[12] Allenby and Lawrence looked to exploit the technological capabilities of this era to favorably influence public perception in their favor.

Quick on the heels of each victory, Allenby and Lawrence generated press releases for broadcast across the entire British Empire. The influence of this was devastating to the Ottoman cause. The British owned all major printing publications and radio-broadcast companies in the Middle East, and they were all networked to other publications across the Empire. Thus, from London to Africa to India the British controlled the means to influence public opinion. It did so through newspapers like ***Al Mokattam,*** whose reputation was so high that during the war it was a deadly crime in the eyes of the Germans or Ottomans to possess a copy."[13]

As Ottoman morale dropped, German officers advocated flogging and many other overbearing or brutal forms of correction.[14] This created such animosity between the officers and their soldiers that "all German officers were to have a weapon on them at all times so as not to be in a defenseless position."[15] English propaganda contributed to degrade enemy morale by avowing, "The British were simply and solely carrying on the war against the Turks to drive the Germans from the soil of Islam."[16]

The facts that most of the EEF were Muslims from across the Empire and that Sherif Feisal's army joined the coalition legitimized this message and helped counter claims of another Crusade. Further, it bolstered active and

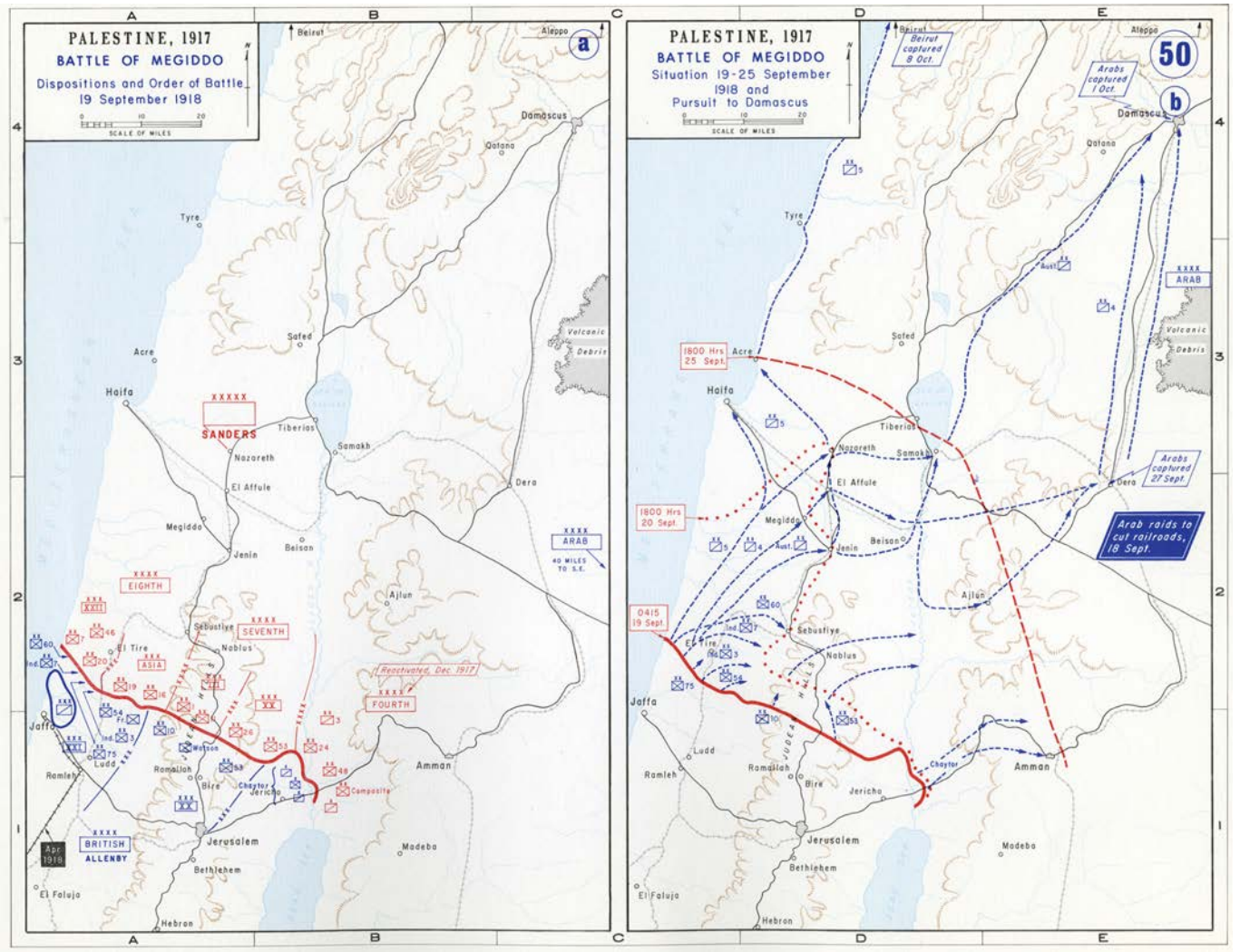


Figure 4. Penetration and dis-integration of Ottoman Empire. *(Map courtesy of the U.S. Military Academy Department of History; source: https://www.westpoint.edu/sites/default/files/inline-images/academics/academic_departments/history/WWI/WWOne50.jpg)*

passive support from the local populace and made it difficult for German soldiers to conduct any activities in public for fear of reprisal. As a result of coherent and well-structured information operations, Allenby won the strategic narrative and public perception against his foes.

To further the British narrative that the British were liberators to help free the Palestinians from the oppressive Germans, Allenby ensured that Muslim soldiers were always the first to enter a city. For example, upon seizing Damascus, all British forces established an outer cordon while the Arab army entered the city. In the case of Jerusalem and Nazareth, Muslim regiments from the Empire were the first to enter and make contact with local leaders. Even when Allenby entered Jerusalem, it was on foot to ensure it was not a grand or triumphant entrance of a conqueror.[17]

The result of months of focused information operations degraded the will of the enemy to fight, disrupted Ottoman decision-making cycles and preserved friendly combat power by ensuring local citizens and the global audience viewed their operation favorably. Like the successful deception operation, the timely and precise application of information operations helped create and preserve a position of relative advantage to enable the penetration and exploitation of the Ottoman defense. It also was a significant factor leading to the Ottoman surrender and enabled the British Empire to re-compete in great-power competition on favorable geopolitical terms within the Middle East for the next two decades.

Conclusion

From 1805 to 1914, the British and Ottoman empires were locked in great-power competition for control of the Middle East. When the Ottoman Empire allied with Germany, the competition escalated into LSCO. Allenby employed deception and information operations to create an opportunity for the EEF to penetrate and dis-integrate the Yildermen through the application of cross-domain maneuver. The decisive victory put the British Empire in a position to re-compete for decades under favorable political conditions. This way of thinking and operating is what MDO demands of future Armor and Cavalry leaders.

While MDO is primarily focused on defeating anti-access area-denial systems through the employment of lethal and non-lethal strike capabilities,

Figure 5. Australian light horsemen of the DMC. After the Third Battle of Gaza, Allenby wished to surprise Beersheba's defenders with an attack. One of the first steps in capturing the town was employing information operations to divert German/Ottoman attention elsewhere: Allenby sent out false radio messages prompting Turkish forces to think the British were going to attack Gaza. After that, one brave intelligence officer, COL Richard Meinertzhagen, rode up to the Turkish line, barely evading capture. In the fray, he dropped a bloodstained bag, smeared with horse blood, with fake military plans in it. The plans falsely described how the British force was on its way to capture Gaza. More radio messages threatening Meinertzhagen made up the Turkish army's mind: the British army was going to attack Gaza. Instead, the British went through with capturing Beersheba. As Allenby recalled, "The Turks at Beersheba were undoubtedly taken completely by surprise, a surprise from which the dash of London troops and Yeomanry, finely supported by their artillery, never gave them time to recover. The charge of the Australian Light Horse completed their defeat."

the Armor and Cavalry community must retain a credible force capable of penetrating and destroying key targets, including enemy long-range fires and air-defense artillery (ADA). Mounted formations provide viable alternatives to contested air, space or cyberspace domains.

Modernization efforts must not only continue to focus on mobility, protection and firepower for platform design, but must put significant consideration into ensuring platforms are simple, reliable and sustainable through contested lines of communication. True, exquisite technology can be a game-changer with regard to early identification of a threat and delivery of precision fires, yet all those technologies also make platforms harder to maintain – this tension must be balanced.

The limiting factor for ensuring the mounted formation can rapidly close large distances is a matter of sustainment. The DMC closed a 60-mile distance in 36 hours on horseback. That is roughly twice the distance of the Central Corridor at the National Training Center in 36 hours in a contested environment. The future mounted formation will need to be prepared to do this and more to destroy medium- and long-range fires and ADA targets.

Deception enabled Allenby to mislead German leaders into believing he would attack in the east. He produced conditions where joint fires struck to create the opening Allenby required to penetrate the enemy defense. Today's Armor formations also need decoys that can provide visual and signal replication. Whether Allenby in 1918 or Patton's fake army in England in 1944, decoys are a proven method of deception.

Expendable decoys could potentially absorb enemy long- and medium-range fire strikes in lieu of actual formations. This would enable the fires enterprise to then rapidly acquire and destroy enemy launch capabilities. Having the freedom to leave a replica formation and create false communications signatures creates temporal positions of relative advantage required to defeat a near-peer adversary and preserves combat power.

Information operations have proven throughout history to create advantages and opportunities for commanders to win battles. Today there are simply more mediums through space and cyberspace to send and receive information.

Allenby understood the importance of dominating the narrative on the local battlefield, with domestic audiences and with the greater international community. He worked aggressively to provide timely and accurate delivery of updates and publications to continually control the narrative.

Beyond that, MDO assumes future operations will not only be joint but multinational. Understanding the strategic impacts of every action is the responsibility of each leader. Humility to recognize who is the appropriate person or formation for specific missions, like

entering a city, will set conditions for a successful transition. In each case, before Allenby's EEF secured a key population center, he had a deliberate plan to transition civil authority to an Egyptian or Arab leader who would serve as the temporary governor until terms of settlement with the Ottoman Empire were reached.

This not only allowed his combat forces to more rapidly continue their attack north with secure rear lines of communication but also enabled the British to move to the fifth phase of MDO, "re-compete" under favorable conditions.

Allenby was able to arrange tactical actions in time, space and purpose to achieve a strategic goal. He won the tactical fight to enable political settlement and allow the British Empire to move back into a period of re-competition on favorable terms with world powers. For Armor and Cavalry leaders, it is important to have trained, fit and disciplined forces able to provide mounted-maneuver solutions to senior leaders in executing MDO.

Armor and Cavalry formations must have:

- The right platform that is readily maintained and sustained across large distances;
- Methods and tools for conducting deception operations to preserve the force and enable freedom of maneuver; and
- Intelligent and perceptive leaders who are able to help plan and integrate information operations to influence enemy or adversary decision-making while enabling and protecting friendly forces.

It is in these three ways Armor and Cavalry leaders can apply the EEF campaign of 1918 to future MDO in the 21st Century.

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Notes

[1] According to U.S. Army Training and Doctrine Command Pamphlet 525-3-1, ***The U.S. Army in Multi-Domain Operations 2028***, the usage of the term "dis-integrate" (vs. "disintegrate") has a specific meaning. Per a footnote in the document, "*Dis-integrate* refers to breaking the coherence of the enemy's system by destroying or disrupting its subcomponents (such as command-and-control means, intelligence collection, critical nodes, etc.), degrading its ability to conduct operations while leading to a rapid collapse of the enemy's capabilities or will to fight. This definition revises the current doctrinal defeat mechanism *disintegrate*."

[2] Helen A.B. Rivlin, "Muhannad 'Ali," ***Encyclopedia Britannica***; accessed Oct. 3, 2020, https://www.britannica.com/biography/Muhammad-Ali-pasha-and-viceroy-of-Egypt.

[3] Henry O. Lock, ***With the British Army in the Holy Land***, London: Roxburghe House, 1919.

[4] Ibid.

[5] ***The U.S. Army Functional Concept for Movement and Maneuver 2020-2040*** defines cross-domain maneuver as "the employment of mutually supporting lethal and nonlethal capabilities in multiple domains to generate overmatch, present multiple dilemmas to the enemy and enable Joint Force freedom of movement and action."

[6] William T. Massey, ***Allenby's Final Triumph***, London: Constable and Company Ltd., 1920.

[7] Ibid.

[8] FM 3-14.4, ***Army Support to Military Deception***, February 2019.

[9] Massey.

[10] Ibid.

[11] FM 3-13, ***Information Operations***, December 2016.

[12] T.E. Lawrence, ***Seven Pillars of Wisdom***, United Kingdom, 1926.

[13] Massey.

[14] Ibid.

[15] Ibid.

[16] Ibid.

[17] James E. Kitchen, ***The British Imperial Army In The Middle East***, London: Bloomsbury Academic Publishing PLC, 2014.

Acronym Quick-Scan

ABCT – armor brigade combat team
ADA – air-defense artillery
C2 – command and control
EEF – Egyptian Expeditionary Force
DMC – Desert Mounted Corps
FM – field manual
LSCO – large-scale combat operation
MDO – multi-domain operation
RAF – Royal Air Force

Mobile Gunnery Tower: Innovation in Non-Standard Range Operations

by SSG Brett Kuenzi

Many forward deployed units are confronted with difficulties executing qualification training on non-standard ranges of varying sizes and capabilities because the ranges are often not supported by a base or tower. A common question results among unit training planners: "How do we fairly and efficiently evaluate crews according to Training Circular (TC) 3-20.0, ***Integrated Weapons Training Strategy***, standards in an austere, non-standard environment?"

Bridging capability gap

Master gunners of Company C, 1st Battalion, 6th Infantry Regiment, 2nd Armor Brigade Combat Team (ABCT), 1st Armor Division, bridged this challenging gap in capability through innovation and use of the mobile gunnery tower (MGT). The MGT provides depth in training capability to units that need to conduct crew gunnery on ranges with no tower structure available.

Towers used on standard ranges are pivotal to operating targets and evaluating crews. So that master gunners and commanders have accurate and usable data, there must be a centralized operation center to control and evaluate training. This location is where scores are calculated for the vehicle-crew evaluators' (VCEs) after-action reviews (AARs), targets are controlled and observed, and throughput on the range is dictated. For armor, cavalry and mounted-infantry units executing gunnery training, this centralized operations center is called "the tower."

The goal for training of any scale is always Soldier and unit improvement in a safe and efficient manner. Gunnery AARs facilitate increased lethality and survivability for crews by providing feedback from master gunners and VCEs, who are trained stewards of their profession. The tower is the central location for data to be collected and analyzed by key members of an evaluation team as outlined in TC 3-20.31. These members include, but are not limited to, unit master gunners, VCEs, timers, target operators and commanders evaluating their Soldiers and crews.

Figure 1. SSG Brett Kuenzi, Company C, 1-6 Infantry's tank master gunner, uses a spotting scope to evaluate crew lethality. *(U.S. Army photo by SGT Leopoldo Valdez)*

Unfortunately, many non-standard ranges across U.S. European Command, U.S. Central Command and U.S. Pacific Command are not equipped with a physical tower or any sort of data-collection system such as field cameras and crew audio recording. In these situations, unit master gunners and commanders will typically use multiple vehicles to carry VCEs downrange in trail of the firing vehicle to evaluate crew performance for the AAR. A common issue with this method is the lack of an open and clear dialogue among evaluators, timers, the unit master gunner and, in many cases, a spotting vehicle. The result is rushed, inaccurate scoring that offers little to no usable feedback for Soldiers in the firing crew, and it hinders crew progression.

To solve this problem, master gunners of Company C, 1-6 Infantry, 2/1 ABCT, determined that a properly outfitted light medium tactical vehicle (LMTV) could potentially solve many issues. The idea progressed to the company-supply LMTV being fitted with a master control station (MCS), six full-function crew-communication stations and a loudspeaker. The LMTV's rear bed was fitted with two folding tables as workstations and a camouflage net overhead for shade. This configuration allowed the VCE, master gunner, target operator, timer and spotter to communicate uninterrupted through combat-vehicle-crew headsets while

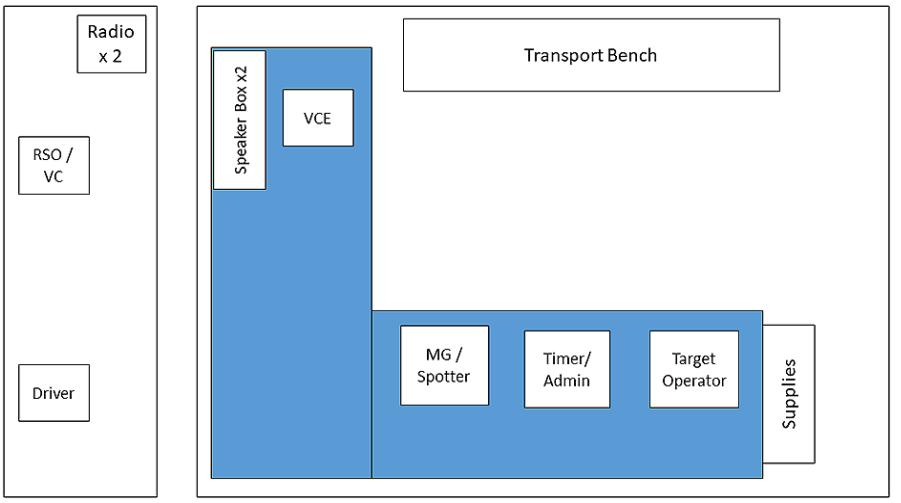


Figure 2. MGT setup aboard an LMTV. *(Graphic created by SSG Brett Kuenzi)*

simultaneously giving instructions to the firing vehicle.

Although the MGT was not able to provide every capability of a standard range tower (for example, nighttime lighting, thermal-camera capabilities and 12v power), it significantly improved the evaluation process for crew gunnery.

The MGT enabled the VCE team, the range-safety officer (RSO) and different echelons of leadership to maneuver close to the firing vehicle's position. Once in position, the MGT's versatility allowed the VCE team to give firing prompts, raise and spot targets, monitor the "jump" net (for crew fire commands, battle-damage assessments and throughput), record audio for AAR purposes, grade crew training and, if needed, address safety and maintenance issues on the spot.

During the day, master gunners used their spotting scope from the MGT to identify target-engagement accuracy and times. At night, the master gunners used tanks with VCE-trained tank commanders as "spotters" to identify when targets were successfully engaged and communicated in real time over the radio to the MGT.

In summary, the MGT provided the operational capabilities of a stationary tower used on a standard range in a non-standard range environment.

Another essential element of gunnery on both standard and non-standard ranges is throughput of crews to ensure all crews are trained in the time available. Throughput is maximized by reducing issues a crew has while downrange and keeping time spent correcting issues to a minimum. The MGT personnel's ability to follow firing crews downrange while directing training – coupled with co-locating all members of a VCE team – greatly increased the throughput of crews. With the MGT maneuvering relatively close to the firing vehicle, communication issues were minimal, weapons malfunctions could be diagnosed and corrected by the master gunner, and any safety issues could be quickly identified and corrected by the RSO.

Overall, crews spent an average of 30 minutes downrange from the occupation of the first battle position to being cleared off the range by the RSO.

Takeaway

While the MGT does not solve all the issues that surround conducting high-quality training on non-standard ranges, it does enable units to conduct training that better aligns with that conducted on standard ranges in the continental United States. The MGT can be configured for use as a trail vehicle for evaluators during platoon or company maneuvers and live-fire training. It also offers the basics of a red tactical-operations center, and the MGT can be covered for use in various weather conditions.

While Company C, 1-6 Infantry, was unable to solve all the issues surrounding the lack of an organic range tower, the unit was able to create a solid base of expeditionary-training capabilities using only company organic equipment and innovation. The MGT bridged the gap in capability between standard and non-standard ranges while enabling evaluations in accordance with TC 3-20.0.

SSG Brett Kuenzi is a section sergeant in 1st Platoon and is the company master gunner for Company C, 1-6 Infantry, 2/1 ABCT Task Force Regulars, Kuwait. His other assignments have included company master gunner, Company C, 1-6 Infantry, 2/1 ABCT, Fort Bliss, TX; battalion master gunner for 1-6 Infantry, Fort Bliss; section sergeant, 1st Platoon, Company C, 1-6 Infantry; and tank gunner, 1st Platoon, Company C, 1-6 Infantry. SSG Kuenzi's military schools include the Abrams Master Gunner School. SSG Kuenzi is a recipient of the Order of St. George Black Medallion.

Acronym Quick-Scan

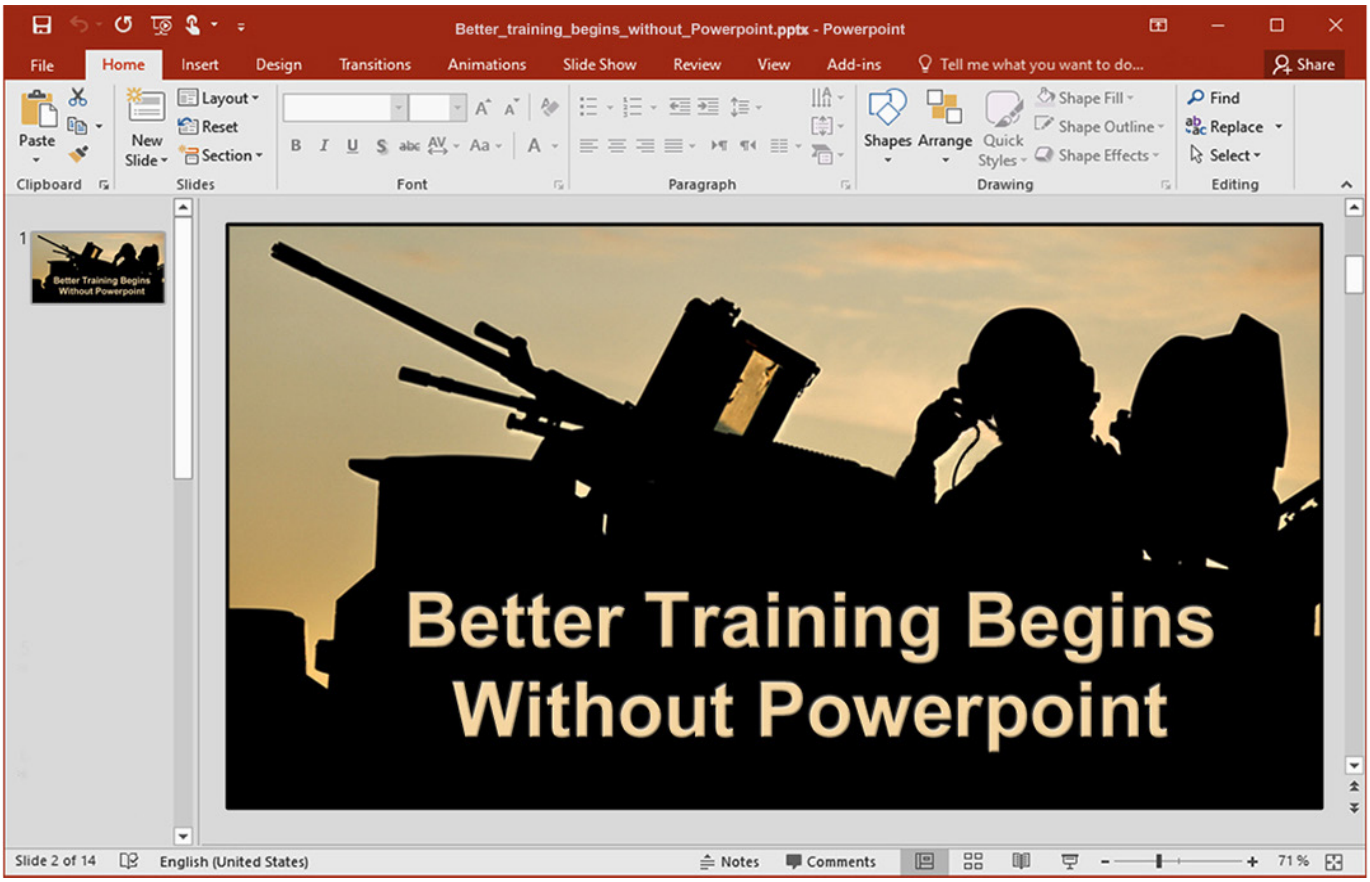
AAR – after-action review
ABCT – armor brigade combat team
LMTV – light medium tactical vehicle
MCS – master control station
MGT – mobile gunnery tower
RSO – range-safety officer
TC – training circular
VCE – vehicle crew evaluator

MGT parts list

Following are the resources required to make the MGT:

- Fully functional LMTV with operational communications systems;
- Advanced System Improvement Program radios (x 2);
- MCS;
- Full-function crew stations (x 6);
- These crew stations' connection cables (x 7);
- Speaker box/cables (x 2);
- Gunnery script and admin tracking binders (scores);
- Spotting scope or binoculars (M22);
- Voice recorder (x 4);
- Folding table (x 2);
- Folding chair (x 5); and
- Tarp and bough or camouflage net for cover.

Figure 3. Target operator station, crew-communication stations and VCE stations setup in the MGT. *(Photo by 1LT Jena Ladenburg)*



by COL Joseph E. Escandon

Some Army experiences remain with you for life. For Army officers who served as company commanders during the 1990s and early 2000s, one such experience may be the quarterly training brief (QTB). Many of today's generals and colonels earned their spurs, and scars, in this arena. The briefs shaped our leaders into expert trainers and our Army into a highly lethal force.

Back in the day, the QTB was part commanders' dialogue, part check on learning, and most importantly, an experience that developed leaders into master trainers. The brief could be uncomfortable for a company commander, as he had to articulate an assessment of his mission-essential task list (METL) priorities and effective use of time and resources, all while communicating confidence that the plan was doctrinally sound. In effect, each commander had to convince the brigade commander that his unit-training plan (UTP) was worthy of approval.

The brigade commander's job was to ensure that the dialogue between commanders was at the graduate level of training. This ensured an effective UTP, but more importantly, it served as a critical professional-development experience for subordinates.

The result was a contract between commanders. Surviving this crucible meant company commanders earned ownership of their UTP. It was theirs to execute, lead and assess. When change was required, they were responsible for convincing superiors of the need. Brigade and battalion commanders had responsibility to support the training plans of their subordinates and, most importantly, to protect those plans. If they could not, their responsibility was to adjust priorities and then own the risk. This system built a high level of trust and cohesion at echelon.

In a recent article, GEN Paul E. Funk II, commanding general of U.S. Army Training and Doctrine Command (TRADOC), argued for the need to go "back to the future" by regaining mastery of another hallmark of the pre-war Army: training management. Among senior leaders, there is little doubt that the Army must improve the force's ability to manage training according to these tried and true processes. Nonetheless, there remains a problem that must be addressed before this imperative is able to achieve the desired results. Company-level commanders must be taught how to think about how to train, or more appropriately, how to think about the art of training. This skill is sorely lacking among our current field- and company-grade officers and our senior noncommissioned officers (NCOs).

Unfortunately, both current doctrine and experience in operational assignments fail to address the capability gap. Without an appreciation and understanding of the art of training, commanders cannot engage in an effective commanders' dialogue, nor can they implement the principals of training management. Understanding the problem and addressing it with the correct solution will require a paradigm shift in how commanders conduct discourse and the tools they employ to ensure success.

Highway to 'back to the future'

GEN Funk expressed the concern of many Army senior leaders: the need to return unit-training management (UTM) to its previous level of proficiency and effectiveness. He argued that this degradation is directly linked to the use of the Army Force Generation (ARFORGEN) model.

The demands of the Global War on Terrorism directed a readiness model (ARFORGEN) that effectively stripped us of our proficiency in UTM. It dictated top-down training so that brigade combat teams (BCTs) could meet the required gates for certification and deployment within the allotted time.[1]

In effect, ARFORGEN created an environment and a culture that significantly reduced a key pillar of effective training: leader experience.[2] Today's mid-level and junior leaders either do not use, or ineffectively employ, training-management doctrine and tools. Inexperience also contributes to a lack of "temporal discipline," which squanders training management's most valuable resource: time.[3]

GEN Funk highlighted the fact that keystone training-management tools, such as the long-range training calendar and the training schedule, are not employed or adhered to as they once were.[4] Hence, units are not executing the highest quality training, thereby impairing readiness. He further noted that the requisite doctrine is well established, and training management occupies considerable time in various programs of instruction in TRADOC's leader professional-development courses.[5]

GEN Funk assesses that the real problem is centered on building competence and experience in the operational force.[6] In other words, unit commanders need to apply and enforce the doctrine, as practical application in the operational force is the key to success. Senior leaders recognize this shortfall and continue to engage leaders across the Army about the problem.

Unfortunately, the "back to the future" narrative has generated varying levels of skepticism and fatigue among junior leaders. Engage them in candid dialogue and you may glean that they have grown tired of hearing about their inadequacy when it comes to training management. This leaves senior leaders perplexed as to why the younger generation does not understand the importance of UTM. Why can't they seem to grasp the criticality and inviolability of the training schedule?

This critical question should immediately be followed by another question: Why is this so? My experience as both an infantry battalion and infantry BCT commander tells me that it is a lack of trust. Unfortunately, I often heard junior leaders question the value of training schedules: "Why spend all that time and effort to build a training schedule when it is just going to change?"

For senior leaders, this is absolute heresy! We grew up in an environment where changes inside the six-week lock-in required approval by the brigade commander. It was also an environment where senior leaders were the guardians of "temporal discipline." Unfortunately, over many years this atrophied, partly due to the requirements of back-to-back deployments.

Our ARFORGEN culture valued being able to do it all, and hence the training calendar became elastic. This was further reinforced by doctrine, which noted that "commanders aggressively train to overcome institutional obstacles that the Army's operational and personnel turbulence present."[7] If the Army aims to unburden company commanders, their rucksack packing list should not include bearing the burden of unnecessary institutional obstacles, persistent turbulence and an unfaltering "can do" culture.

Don't need roads; we need bridge

This underlies the root cause of the UTM problem. Cognitive frames built by varied experiences has left several generations of Army leaders talking past each other. Today's junior leaders, especially majors, lieutenant colonels and senior NCOs, are a product of one environment, the ARFORGEN environment. That is the base of their Army experience.

Generals, colonels and senior command sergeants major are the product of a different environment. They began their careers in an Army at peace, focused on training and training management. As junior leaders they did not have to contend with ARFORGEN, continuous combat deployments and the imperative to find a way to accomplish every task, regardless of time and resource constraints.

Senior leaders realize the effects of ARFORGEN and are committed to changing the paradigm. Unfortunately, today's battalion commanders and their subordinates do not have a second mental frame upon which to lean. For them, getting "back to the future" requires a cognitive leap of faith and a bridge to trust.

While my command experience resonates with GEN Funk's overall assessment, I firmly believe that before we tackle the issue of enforcing good training-management practices, we must start by building trust through the medium of the commanders' dialogue. Doctrinally, these forums are "truly dialogues and intended as points of discussion between the two commanders."[8] They serve to identify and make key decisions, approve training plans and commit resources.

Although not specifically stated, commanders' dialogues are key to developing subordinates. This keystone engagement between commanders must focus on building experience, not with the science of training, but with the art of training.

Company-level commanders generally are not challenged to use critical and creative thinking skills to solve the problem of training. Basically, they do not know how to think about how to train. This is not their fault, as ARFORGEN removed that requirement, and they never gained the requisite experience.

Ultimately, company commanders are the critical link for effective Army training. They not only apply training management, but they teach and enforce it at echelons below the company. This will also require some adjustments to doctrine, as our current doctrine does not enable the art of training.

Problem of training

The training logic chart in Army Doctrinal Publication (ADP) 7-0, ***Training***, states that the purpose of training is to "Prepare Soldiers and units for conducting decisive action, guided by mission command and the following principles, processes and procedures."[9] ADP 7-0 lists four principles of training: (1) Train as you fight; (2) train to standard; (3) train to sustain; and (4) train to maintain.[10]

Training, like all operations, is executed through the operations process – plan, prepare, execute, and assess – using the procedures associated with UTM.[11] Achieving the purpose and applying the principles of training generates the problem of training, which is how to achieve and sustain training proficiency, given "limited time, resources and competing requirements."[12] Combined, these factors create a complex challenge for commanders. If UTM is the operational approach for solving the problem of training, its ability to do so is worthy of careful examination.

First, it is important to note that the Army does not possess a definition for training management. Therefore the term is inorganic to Army doctrine and can only be interpreted through examination of its key components.

Army training doctrine, as stated in ADP 7-0, "is founded on the concept that unit training is a logical extension of the Army's operations processes."[13] Hence, the process of planning, preparing, executing and assessing extends to training, as noted in the training logic chart.

The word "management" is defined as "the process of dealing with or controlling things or people."[14] Training management, then, is the control of training through the management of planning, preparing, executing and assessing. Tools or procedures such as training schedules, the Combined Arms Training Strategy and the Eight-Step Training Model enable leaders to effectively manage training.

While it is necessary for leaders, especially commanders, to manage the complicated aspects of training, solving the complex problem of maintaining proficiency, using the scarce resource of time and balancing risk requires leading change by applying both science and art. Science, defined as "a systematically organized body of knowledge on a particular subject," is applied to the problem in terms of experience, process and procedure to manage the complicated aspects of training.[15]

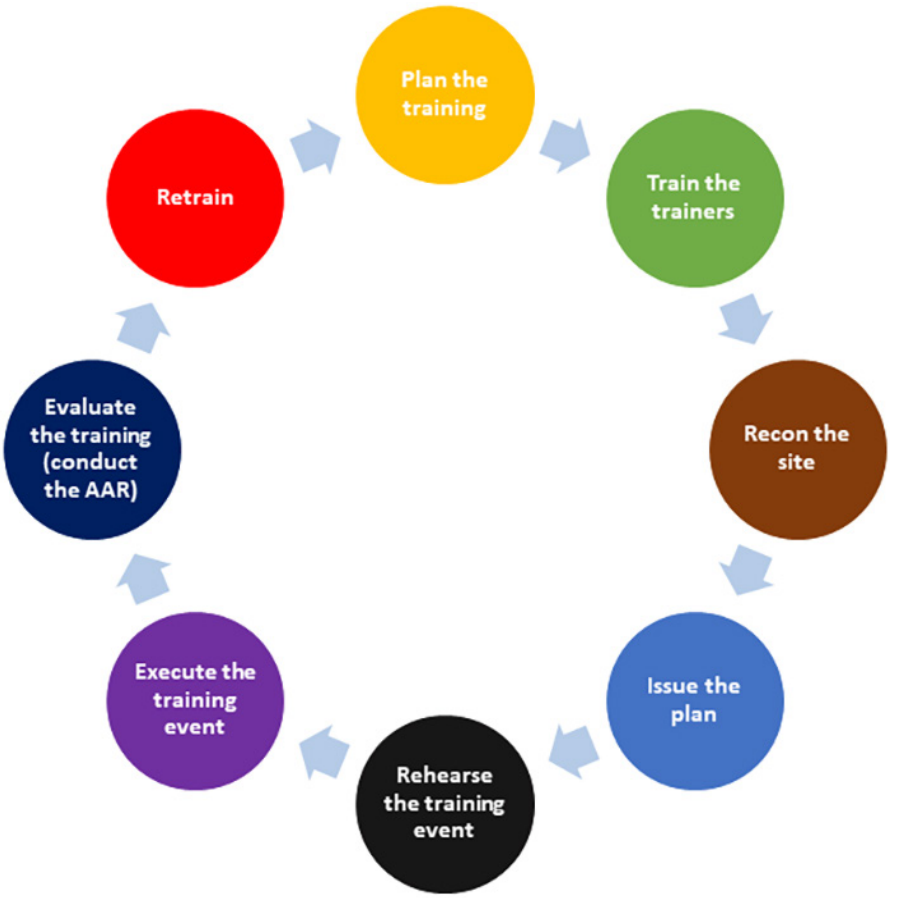


Figure 1. The Eight-Step Training Model.

For example, the Eight-Step Training model exemplifies using process to account for the complicated aspects of scheduling and resourcing training.

Art, on the other hand, is required to deal with the complex nature of training. Art is defined as "works produced by human creative skill or imagination."[16] This is the realm of the commander, and something that only the commander can do, as he/she attempts to train to standard, usually in an environment bereft of dedicated open, or white, space.

Complexity can be found in balancing training with a multitude of administrative requirements, assessing how to maintain proficiency when time will only allow for a leader professional-development session, or maximizing multi-echelon training without creating an environment that tries to do too much and fails to train to appreciable standards.

The commander's use of creativity and imagination to train in an environment that requires Soldiers and units to be ready to fight tonight is well beyond the scope of training management. It resides in the realm of the art of training or thinking about how to train.

Framing art of training

While training doctrine does not prescribe or describe the art of training, we can lean on training's linkage to the operations process and operational art to refine our understanding. Operational art is codified in Army doctrine, and it is defined as "the cognitive approach by commanders and staffs – supported by their skill, knowledge, experience, creativity and judgment – to develop strategies, campaigns and operations to organize and

employ military forces by integrating ends, ways and means (Joint Publication 3-0). Operational art applies to all types and aspects of operations. It integrates ends, ways and means while accounting for risk."[17]

Operational art applies to all operations, of which training is one. Hence, the term can be used to develop a framework for the art of training, its components and functions. Operational art seeks to answer these questions:

- What conditions, when established, constitute the desired endstate (ends)?
- How will the force achieve these desired conditions (ways)?
- What sequence of actions help attain these conditions (ways)?
- What resources are required to accomplish that sequence of actions (means)?
- What risks are associated with that sequence of actions and how can they be mitigated (risks)?

These same questions can be adapted and applied for use by company commanders with regard to how to train. More importantly, they serve as the framework for effective dialogue between commanders.[18]

Shortcomings of training doctrine

Army training doctrine is captured in two key documents: ADP 7-0 and Field Manual (FM) 7-0, ***Training in a Complex World***. Unfortunately, both of these manuals reflect the top-down culture of ARFORGEN and reinforce GEN Funk's view that leaders were denied the ability to gain experience with training management because they "were handed a task list and resources, and told when and where. …"[19]

Leaders were also denied the ability to learn the art of training. Operational art is employed through the operations process, particularly in the activities of *understand, visualize, describe, direct, lead* and *assess*. This is where commanders seek to understand the problem and employ critical thinking and creativity to develop a solution.

ADP 7-0 addresses training through these lenses, but in a very limiting way, reinforcing the top-down model. According to ADP 7-0, a commander achieves *understand* by reviewing "the next higher commander's training guidance to determine the tasks and weapons to be trained."[20] Similarly, commanders *visualize* "how their units should conduct training based on their understanding of the next higher commander's training guidance."[21]

This is further codified in FM 7-0 as top-down guidance and bottom-up feedback.[22] While commanders must understand intent one and two levels up, these descriptions limit their role to simply understanding the plan of their boss and executing accordingly. This does not emphasize the subordinate commander's role. While FM 7-0 limits initiative, it nonetheless, and illogically, attempts to remain nested with mission-command philosophy, citing the need for commanders to promote "freedom of action" and "encourage subordinates to take action, accept prudent risk to create opportunity and seize the initiative."[23]

Regardless of this mixed message, company commanders absolutely need to understand their role in thinking about how to train. If they search ADP 7-0, fortunately they will find a section that advocates for the commander as central to unit training, just as in the operations process.[24] This section directs the commander to develop a training plan based on his/her conduct of a task review, determination of objectives and development of a strategy.

Interestingly, these are the elements of operational art and therefore the art of training. The activities of *understand*, *visualize* and *describe* are how the commander contributes to the fight at his/her level. Company commanders will never be able to participate in effective dialogue with their superior commanders if they understand their role as simply one of nesting and executing the plan of a higher echelon, and thereby they will never be able to execute effective training management. After all, the job of a commander is to support two levels up but to also do what his/her own unit requires.

Finding overlap and commonality is key. As GEN Funk points out, commanders need to learn how to leverage other people's training.[25]

Both doctrine and common wisdom tell us that experience weighs greatly in training management. Building that experience comes from the practice of training management in operational units. While TRADOC can provide the basic building blocks of doctrine and education, these tools need to be applied in actual practice. To understand how that practice is developed, it is worthwhile to examine how most battalion QTBs are executed because they are the starting point for training management. They are also the primary vehicle for commanders' dialogue, and as such, they reveal much about the level to which commanders think about how to train.

QTB as commanders' dialogue

While commanders' dialogues can be conducted at many key points such as training meetings and evaluations, the QTB remains the primary vehicle. Generally, QTBs retain the same basic format, with the battalion commander briefing his/her training plan, followed by each company commander briefing the company plan.

The primary method for the briefing is PowerPoint, with each commander generally provided five slides. The agenda for each briefer follows a basic agenda:

- The first slide usually covers the unit METL, and it provides an assessment for each task and a projected assessment for the end of the quarter. In many cases, there is a bulletized list of training events that will enable the unit to improve its overall rating of trained, partially trained or untrained.
- The second slide usually presents the unit's training calendar in a bar-graph-like picture that outlines the training plan in big blocks over large time horizons.
- A third slide is normally set aside to highlight the centerpiece of that quarter's training such as squad live-fires, an air-assault operation or sustainment field-training exercise.
- The fourth slide provides an overview

of the proficiency of key individual tasks such as marksmanship, physical fitness and other critical skills.

- The last slide is usually reserved for the unit leader professional-development program. Sometimes it's specifically designated for the unit's senior NCO to outline the NCO-development program.

While the format and agenda of the QTB have not significantly changed over several decades, the quality and focus of the dialogue between commanders has greatly degraded. Largely the result of ARFORGEN, it is further exacerbated by the use of PowerPoint.

Over the years, the ability of company commanders to articulate an understanding of their METL assessment, of the training problem to be solved, and their visualization and description for how they will organize training has appreciably diminished. In the trained and ready aspects of the ARFORGEN process, units typically reached a fully trained status in their mission-essential tasks before deploying.

Subsequently, subordinate echelons seemed to reach the same assessment as their higher echelon. Given that all training stemmed from a centralized plan, it was logical for the assessments to be the same, although it really became a self-fulfilling prophecy.

Centralized planning and a time-constrained environment also resulted in a parallel degradation of the ability of company commanders to produce detailed training plans. This meant that, over time, a generation of company commanders gained neither experience nor the professional development required for how to think about training.

As training in ARFORGEN was executed in a highly time-constrained environment, so was the QTB. This issue was further exacerbated by the use of slides, which Annex G of FM 7-0 prescribes as the medium for the brief.[26] Given the nature of centralized METL assessments, as previously described, the METL slide often failed to generate a serious discussion between commanders. In fact, company commanders became accustomed to delivering talking points aimed at what their superiors wanted to hear instead of discussing risk and its mitigation.

Also, training plans could be, and often were, produced right before the QTB. Subsequently, they tended to be purely conceptual, with the subsequent detailed planning either overcome by events or not planned at all. The resulting plans were then at the mercy of a time-constrained, task-saturated environment.

QTBs centered on PowerPoint and conceptual planning pose significant risk, not only to the effective execution of training but also to a rich commanders' dialogue that forces commanders to understand and build experience with the art of training. Ultimately, fixing the QTB requires ditching PowerPoint.

Changing paradigm

As currently structured, the QTB neither enables effective commanders' dialogue nor a deeper focus on the art of training. This not only impedes the professional development of junior leaders, but it ultimately stifles the Army's ability to improve the qualitative aspect of UTM and overall readiness. Energizing company commanders to start applying the art of training requires a significant paradigm shift, which entails changing the nature of the environment.

Key to affecting this change is substantively revising the QTB from a product-centric format to a format that evaluates the ability of company commanders as master trainers. Key evaluation criteria includes the employment of critical and creative thinking, the use of detailed planning and the nesting of training plans. Such an environment will produce true discourse among commanders, resulting in desired outcomes such as the establishment of well-understood priorities, the effective use of time and resources, and the development of effective multi-echelon training. Finally, higher level commanders can underwrite risk and enter into a true contract with their subordinate commanders, thereby restoring trust.

As a BCT commander, my objective was to change the current paradigm. To achieve the outcomes previously described, I determined that the first and most important step in leading change was to remove PowerPoint from the QTB. This was decisive because the removal of slides focused commanders on the outcomes previously described, while at the same time ensuring that they did not lean on what has become not only an inhibitor of training but a crutch.

In my original concept I wanted to change the format as well as the physical environment. Therefore, each QTB started with a combat-focused physical-training event aimed at framing the QTB as a team-building event. Although I hoped to execute each QTB at a field-training site, time constraints often resulted in the use of conference rooms. While the effort to change the environment was not completely successful, the removal of PowerPoint still achieved the intended effect.

The next step was to find tools to not only replace the slide deck but to force commanders to think about training in the intended manner. The solution was using the Army Design Methodology (ADM).[27] Contrary to conventional wisdom, ADM is not for use solely by echelons above the tactical level. It can, and should, be used by all commanders to solve problems.

To focus on the art of training, I directed that company commanders use ADM to structure their problem of training and explain their solution. I wanted them to seriously examine their METL assessment in terms of where they were (current environment) and where they wanted to be at the end of the quarter (future environment).

Next, I wanted them to identify the problem to be solved to achieve the desired future state. As our doctrine notes, the problem is defined as "achieving and sustaining training proficiency," [given] "limited time, resources and competing requirements."[28]

Finally, I wanted commanders to develop an operational approach, or a concept, for how they proposed to structure training to achieve the objective. In doing so, they had to consider the training guidance from higher-level commanders as well as activities that are generally viewed as

training distractors, such as maintenance, property inventories and readiness activities. Of course, all of these are, and should be considered, training.

While the outputs of ADM can be displayed on PowerPoint slides, generating truly effective commanders' dialogue requires two key ingredients. First, brigade and battalion commanders must have a deeper understanding of the thought behind a company commander's training plan. This understanding is achieved when company commanders clearly articulate answers to key questions. For example:

- Has the company commander conducted the necessary level of detailed planning to make his/her training plan feasible?
- Does the plan reflect priorities and not try to do everything?
- Does the plan account for all tasks that the unit must execute such as readiness requirements, taskings, etc.?

Secondly, senior commanders must be able to evaluate their own understanding of the environment based on what their subordinates communicate. In this way senior commanders keep themselves accountable for their own plans.

- Are the BCT priorities understood?
- Do the BCT and battalion training plans provide ample time and resources for companies to focus on the basics?
- Has the BCT commander designated who owns which fights (training and administrative requirements), and shaped those fights so subordinate commanders can achieve success?

To shape the environment to enable commanders' dialogue, I required subordinate commanders to show their homework in writing. Prior to a QTB, the battalion commander and each company commander were required to write a memorandum (five pages for battalion, three pages for company) that used the ADM to outline their quarterly training plan. Each element also produced a detailed training calendar (in Microsoft Excel format) that provided the specifics of their plan, thereby showing their effective use of time and their logical progression for achieving their objectives.

Prior to the QTB, I reviewed these products and was prepared to discuss each unit plan, preparing specific questions aimed at identifying shortfalls but also highlighting effective approaches. In this way, I provided each company commander with tailored professional development to advance his/her understanding of the art of training and guide him/her to becoming a master trainer.

Build it; they will come

So what were the results? Did this strategy achieve the desired output? This approach had a rocky start, as the new paradigm was unfamiliar for all, and it took some time to produce the desired result. After the first year I assessed that considerable work remained to remove the effects of ARFORGEN. Even after a couple of iterations without slides, company commanders continued to communicate their plans in snappy talking points, focusing on what they thought the boss wanted to hear as opposed to articulating their understanding of intent (i.e., training guidance) two levels above, presentation of their problem of training to be solved, and finally, their approach to solving the problem. In terms of METL, the assessment usually resulted in a "trained" in every task, regardless of whether that was even achievable. Training plans remained bereft of detail.

In the second year, things began to change appreciably as a result of the requirement for commanders to display their writing, cognitive and persuasion skills. Combined with a robust commanders' dialogue and a focus on professional development, company commanders began to show they understood their unit's true level of proficiency, where the unit needed to improve and how they planned to solve the problem. Commanders also displayed the ability to identify what they were not able to reasonably accomplish. They began to acknowledge that they could not do it all, what they saw as the critical tasks, where they had to accept risk and what they could do to mitigate that risk. Subsequently, detailed planning began to improve. Most importantly, company commanders began to take ownership for their training.

This experience revealed that a generation of Army leaders were not challenged, let alone trained and developed, to think about the problem of training, and then to own that problem through the use of art and science. In combat or a field-training exercise, we expect company commanders to solve tactical problems through critical and creative thinking. We should expect the same for their approach to training.

The mission of senior leaders, then, must be to provide an environment that sets the conditions for company-level commanders to have ownership of their training, build a base of expertise and train their subordinates to think about how to train and employ the tools of UTM. Unit training management will only be embraced in a priority-focused environment that facilitates management. This means eliminating the ARFORGEN culture that valued "doing it all."

Fortunately, Army senior leaders recently provided new strategic direction through the ***Action Plan to Prioritize People and Teams***. This directive seeks to "reduce [operational tempo] … and reduce requirements to provide leaders additional time to invest in their people."[29] This includes reviewing readiness policies, manning and prioritizing training plans focused on building proficiency at the company-and-below level. Most importantly, the guidance's ultimate objective guidance is "aimed at achieving trust throughout the chain of command."[30]

Developing commanders in the art of training will generate the kind of discourse that will restore trust. All senior leaders need to do is build an environment and a culture that enables company-commander ownership of training. Effective UTM will follow.

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G-3, Train, Advise, Assist, Command-East, Afghanistan; and commander, 1st Battalion, 87th Infantry Regiment, 1st BCT, 10th Mountain Division, Fort Drum, NY. COL Escandon's military schools include Ranger School, Jumpmaster Course, Air-Assault Course, Combined-Arms Services and Staff School, Countering Weapons of Mass Destruction (CWMD) Adviser Course and the CWMD Planner's Course. He has a bachelor's of arts degree in history from the University of Arizona, a master's degree in public administration from the Harvard Kennedy School of Government, a master's degree in strategic studies from U.S. Army War College, a master's degree in military art and science (MMAS) for theater operations from U.S. Army School of Advanced Military Studies, and an MMAS in general studies from the U.S. Army Command and General Staff College.

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Acronym Quick-Scan

ADM – Army Design Methodology
ADP – Army doctrinal publication
ARFORGEN – Army Force Generation
BCT – brigade combat team
CWMD – Countering Weapons of Mass Destruction (Adviser Course)
FM – field manual
GPO – Government Publishing Office
METL – mission-essential task list
MMAS – master's degree in military art and science
NCO – noncommissioned officer
QTB – quarterly training brief
TRADOC – U.S. Army Training and Doctrine Command
UTM – unit-training management
UTP – unit-training plan

‘The Armor Will Stand’

by CPT Adriano Santiago Garcia

The end of the Cold War in 1989 gave birth to a lot of prophets, spouting different speeches, but in the end, all drew the same tragic conclusion: Be aware; the main battle tank’s time was finished.

First the prophets said that tanks were not useful in non-war operations. The Balkans’ operations in Bosnia-Herzegovina (1992-1995) and Kosovo international forces (1999) proved them wrong.

Two other instances of the prophets being wrong were when they claimed that armored forces couldn’t survive military operations in urban terrain (MOUT) and when they concluded that the use of “kamikaze” air drones during the Nagorno-Karabakh conflict meant a new death sentence to armor weapons.

The armored force also has its internal critics. It’s not difficult to find inside the armed forces people who agree with the prophets’ conclusions, but they base them only on statistics and academic knowledge.

The answer is to be a “troupier.” In Sir B.H. Liddell Hart’s book ***The Rommel Papers***, Liddell Hart detailed how the German field marshal divided commanders into two categories: office-chair soldiers and “troupiers.”

Figure 1. Looking to and through the battlefield.

Figure 2. Nagorno-Karabakh drone sight.

Chair soldiers look on war as a purely intellectual problem; they demand energy and drive only from the troops (not themselves) and blame others for their failures.

Troupiers also have knowledge, but the dust on their boots gives them experience and energy to fight smartly to preserve their troops as a mission objective’s first imperative.

This article’s objective is to present the most practical things for young “troupiers” to use for thinking, planning and executing during tactical armored operations. It will also give some principles for an armored task force’s success.

What’s not possible to change

The armored forces are, since the end of World War I, the tip of the spear of every regular operation due to their three main characteristics: mobility, firepower and protection.

However, although this “golden triangle” looks like an invincible combination, there are more and more opportunistic hunters in the way, whose simple objective is to shoot and disappear, creating friction among and damage to U.S. troops, and lowering their morale.

Troupiers must recognize that in an irregular battle scenario, the use of improvised explosive devices like mines, cars or vests – and now the already mentioned explosive flying drones – are the hunters’ desperate attempts to hold back armored (especially tanks) movements.

Mitigating this desparation may lie in task-organization. Despite the so-called weak spot of armored task forces, the solution is inside their own combat organization and resides in the tank/rifleman combination. But it's not a new problem. For example, CPT José Pessoa, a Brazilian tanker who served in the French army's 40 Dragoon Regiment during World War War I, observed (even at that early stage of tank combat) that a rifleman needed close protection tied to the advance of tanks.

Support combat organization

We'll now look at a combat structure for a headquarters and logistics company in an Brazilian armored task force. We have these organic platoons:

- Company headquarters section;
- Battalion headquarters platoon;
- Heavy mortar platoon, 120mm;
- Light reconnaissance platoon;
- Anti-tank platoon;
- Command-and-control platoon;
- Logistics platoon;
- Maintenance platoon; and
- Medical platoon.

Combine the support elements with more four companies – two companies of tanks and the other two of armored rifleman – and it's enough strength to reverse the "weak spot" situation and strike fear in the threats.

Air defense

It's easy to see that this proposed combat structure is without organic air protection:

- Not coordinating who is in charge of your troops' air defense and making needed liaisons – or even asking to receive these troops into your direct command – will be a death sentence before your operations begin.
- To make the air shield thicker, it's important that the crew of at least one Infantry Fighting Vehicle (IFV) in each rifle platoon keeps their eyes on the sky.
- Each armored company also needs a support platoon equipped with two light-machinegun teams, two rocket-launcher teams and two 81mm mortars that can provide fire and smoke cover very close to the action, increasing security.

In his memoirs, Rommel wrote that the differences between the Eastern and Western Fronts, and one with the most emphasis, was total air domination at the Western Front.

Key elements in planning

Turning from bulwarking a unit's success through task-organization, we consider the principles of war. The principles of war are philosophical precepts learned in military academies and – combined with tactics, techniques and procedures (TTPs) – create the basis of planning.

With multiple threats and the irregular battlefield, the following principles must be in sync with the planning work:

- A clear view of your objective;
- Security for your logistics and maintenance elements as well as for your armored forces; and
- Simplicity or consolidation to your objective.

'Looking through' terrain

A task force is far removed from the concepts of "silent" and "covered" movements because of the vehicles' sizes and their engines' roar. But some mitigation can be done.

For example, the Germans exploited darkness to move during World War II in their counterattack against the Normandy bridgehead.

The evolution of night-vision goggles and thermal-vision equipment is increasing ways to conduct regular operations in the night, as Operations Desert Storm (1991) and Iraqi Freedom (2003) proved. The downside of this capability is that this kind of camera or binoculars, once a privilege for very wealthy forces only, is becoming more accessible every day in cellphones or in military surplus, arriving in the wrong hands daily.

- Before heavy machines set tracks on the ground, it's absolute necessary to obtain the most accurate information about the terrain. But don't make the mistake of using charts and satellite pictures only; studying these will enable you to understand only 10 percent of the environment. Not putting eyes on the ground can be your troops' downfall.
- Of course, to recon the objective area, special-forces operatives will be needed. Since this isn't available in the task force's proposed structure, combine the use of the recon and anti-tank platoon; this will clear the path until the line of contact.

Other principles:

- A simple plan and use of combat TTP will be the core of the execution to take the objective.
- Observation of the rules of engament, checking the temperature of public opinion and

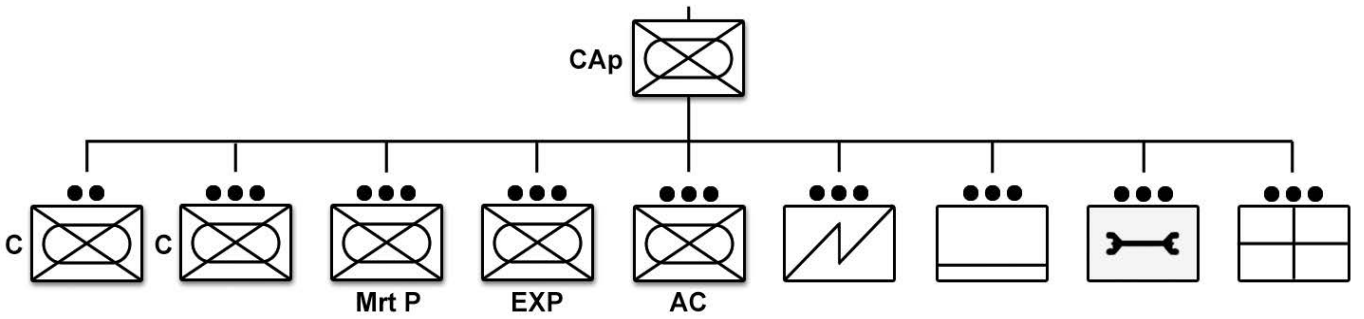

Figure 3. Headquarters and logistics company in Brazilian armored-battalion task-force organization.

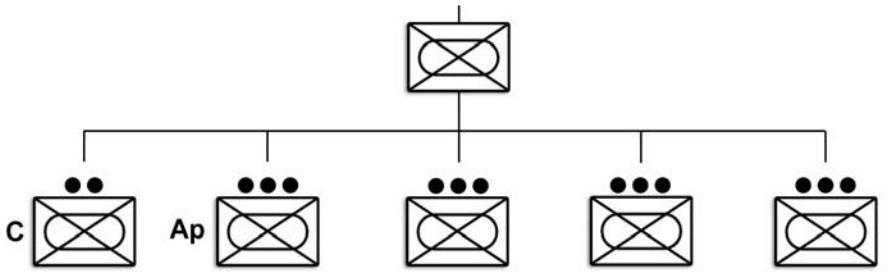

Figure 4. Armored rifle company in the Brazilian armored-battalion task-force organization.

psychological-operations members' directives are no longer only a "high-boots" subject.

- The armored leader must understand that collateral damages occur from organic weapons, or just because tanks, IFVs and armored personnel carriers can destroy vehicles and property like a hot knife through butter.
- It's also very important to locate in terrain the place to create a diversion attack so as to lead the enemy to the wrong conclusion as to where and what are your intentions.

So know the boundaries of the operations and apply the rules, and this will save you and your soldiers from facing later tribunal situations.

Integrate

Troops, companies and platoons have natural interaction due to their missions and to achieve success. Logistics and maintenance are not so closely integrated, but logistics and maintenance must have modular structures integrated into the combat pieces.

More principles:

- Most of the time, machines will be limited due to mechanical problems.
- Supply elements need to be under the iron umbrella, so optimally, logistics will facilitate the conduct of operations after the objective's occupation.
- It's common to keep combat trains at a relative distance; this is deemed safer from enemy artillery or guerrilla actions. But getting these structures closer to the combat pieces they support can be a managed risk if the troop assumes an offensive mentality.
- Use of indirect fire of medium and heavy mortars will push enemy resistance back, allowing penetration to a forward area to secure the objective and get your supply closer.
- In MOUT actions, long supply corridors will be an attractive target to opportunistic hunters, as happened during Thunder Run toward Saddam Hussein's palace/citadel in Baghdad.

Consolidate

There will be three critical activities to be made to consolidate the objective:

- The first one will be to prevent the counterattack by putting observation posts close enough to see the nearer compartment or district (so this will be a task mostly for tankers or riflemen).
- The second is clear the objective and resupply as fast as you can, giving accurate reports to the high command about status.
- And finally, evacuate injured Soldiers by using the recon platoon as a scout for medical vehicles to the rear area.

Conclusion

The armored forces' doom was long predicted by specialists even before its history began in 1917. However, armored forces are facing a reshaping opportunity for the machines – but not to the concept itself.

It is very possible in the near future that unmanned tanks will work in cooperation with lighter-weight vehicles and the existent big boys.

The two operations in Iraq proved that in open-field or MOUT scenarios, the armored task force still is the key to secure the ground and advance.

There are no secrets to achieve victory – just hard, serious training planning and self-critical thinking, always trying to understand how the enemy will exploit your weaknesses and overcome your troops.

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Figure 5. Command center linked up with recon platoon.

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).

Acronym Quick-Scan

IFV – Infantry Fighting Vehicle
MOUT – military operations in urban terrain
TTP – tactics, techniques and procedures

Future U.S. Marine Corps Tank Support

Joseph Ledbetter, heavy mobile equipment operator lead, uses a Caterpillar 988 tractor to move a divested M1A1 Abrams tank into position for loading and shipping via rail to Anniston Army Depot, AL, at railway operations on the Yermo Annex of Marine Corps Logistics Base Barstow, CA, Aug. 12, 2020. In line with the new Force Design 2030 released by commandant of the Marine Corps, GEN David H. Berger, thousands of tanks will be divested and sold to the Army, while the USMC realigns its focus on smaller, lighter, more mobile equipment. *(U.S. Marine Corps photo by Laurie Pearson)*

by U.S. Marine Corps
CPT Joseph G. DiPietro

I am blessed to have spent the last five years working with and leading young U.S. Marine Corps (USMC) tankers. I was certainly disappointed to learn the Marine Corps would no longer own tanks, but I understand the reasoning. I would have preferred to see the Corps keep two tank companies either at Twentynine Palms, CA, or in the Reserve, but I also understand the most dangerous threats in the world and what is required to win in those environments.

I served three years as a platoon commander, executive officer and company commander at 1st Tank Battalion, 1st Marine Division, at Twentynine Palms. I was also honored to serve as an instructor at the U.S. Army's Armor Basic Officer Leaders Course (ABOLC), the entry-level school for both Army and Marine Corps tank officers. My experience working with Army tankers provided me a new perspective on tank employment. That assignment has led me to care almost as much about Army tankers as I do Marines, and I want to use this perspective to secure a healthy future for these units to integrate.

Many of the arguments against the new force design that I have heard or read involve tanks in the second Battle of Fallujah or Operation Phantom Fury. Many of my Marines and leaders fought in that historic operation. Tanks were vital to the success of Operation Phantom Fury, and I am willing to bet that any Marine who fought in the Battle of Marjah or Operation Moshtarak would have loved heavy armor in support.

The issue now is that, similar to the aforementioned examples, there will come a moment when the Marine Corps must supplement the Army in unified land operations. Without the main battle tank, these future operations could lead to significant increases in casualties.

Assuming the force design does not change with regard to tanks, there are some questions for the Joint community to figure out as a service if land operations last longer than expected, or if we enter a fortified urban area within the littorals.

1. What becomes our primary support force unit in a combined-arms breach?
2. What does the process look like to acquire U.S. Army tank support?
3. How do we close with the enemy if aviation and indirect fire are unavailable?

The Amphibious Combat Vehicle could be the future answer to Question 1, but until the Marine Corps integrates it into the Marine Air-Ground Task Force (MAGTF), we are left with amphibious-assault vehicles and light-armor vehicles to serve as our primary direct-fire suppression. Neither are designed for that heavy task. The big-picture answer to Question 3 will come over time through practice and

Figure 1. U.S. Marines with 2nd Tank Battalion, 2nd Marine Division, track through tank trails on Camp Lejeune, NC, July 27, 2020. For nearly 80 years, 2nd Tank Battalion left the tank lot and would return after combat or training operations. This time, the tanks will not return. After serving 2nd Marine Division for more than three quarters of a century, 2nd Tank Battalion will deactivate in accordance with the future redesign of the Marine Corps. *(U.S. Marine Corps photo by LCpl Patrick King)*

trial-and-error, but having worked with the Army for the past few years, I have some general guidelines and topics to consider that could answer Question 2, which simultaneously answers Questions 1 and 3.

Relationships

The first thing to consider is the relationship between units. One of the best parts of being a small community like the USMC tank community was is the ability to work with multiple units throughout the Marine Corps. In my three years with 1st Tank Battalion, I worked with 11 infantry battalions in various capacities. These relationships allowed multiple infantry units to understand their tank attachment's standing operating procedures (SOPs) and tactics, techniques and procedures (TTPs). This understanding led to more efficient training.

Without having an organic tank unit, Marine infantry units will now have less exposure to and experience with Army tank units, which could potentially lead to less efficient training when they are able to conduct Joint exercises. A useful publication to combat this unfamiliarity is Marine Corps Warfighting Publication 3-12, ***Tank Employment***. This publication provides a gaining infantry unit knowledge of the modified table of organization and equipment (MTOE) for a Marine Corps tank unit, as well as its TTPs and SOPs. If an Army-Marine Corps team updates tank employment to reflect Army tank unit TTPs, SOPs and MTOE data, a gaining Marine Corps infantry unit could at least have a sample of the Army unit's background prior to conducting exercises or operations.

The next step to building that relationship is to determine which Army units would attach to which Marine Corps units and connect the leaders of those teams. The earlier Army tank-platoon leaders, company/troop commanders or battalion/squadron commanders can coordinate with gaining USMC commanders, the more organized the transition will be and the more efficient training will become.

Once the initial relationships form, these units could then begin training. Although no Army tank units are co-located with Marine Corps infantry units, there are some within a few hundred miles of each other which can facilitate relatively easy training. For example, Fort Stewart, GA, is only 400 miles from Camp LeJeune, NC; Fort Irwin, CA, is only 140 miles from Marine Corps Air-Ground Combat Center (MCAGCC), Twentynine Palms; Fort Polk, LA, is 220 miles from 4th Marine Division Headquarters in New Orleans, LA.

In addition to location considerations,

the Marine Corps and Army both offer unique training opportunities to further enhance this joint endeavor. On the Marine Corps side, MCAGCC hosts the integrated training exercise that an Army tank unit can take part in (given logistical coordination). On the Army side, Fort Irwin is home to the National Training Center, and Fort Polk is home to the Joint Readiness Training Center. Both training centers can accommodate USMC infantry units to train alongside Army tank formations.

One of the glaring differences between USMC and Army tankers is the lack of knowledge and desire to work alongside dismounted infantry. The ability for a Marine Corps tank unit to support an infantry clearance of a contested urban environment, or to provide continuous suppression on a fortified trench system, is what our Marine Corps community prided itself on for decades. When I introduced these concepts to my ABOLC classes during situational-training exercises, most of the Soldier-instructors were puzzled at best. This is not a slight on Army tankers. I believe they are very good at what they do as a branch, but they do not train tank-infantry integration like MAGTF did.

Army tank units will also benefit from combined-arms training with the Marine Corps, as their fire-support coordination capabilities differ from those of USMC tank units. Army fire-support officers would benefit greatly by working with USMC fire-support coordination centers in training prior to any live-combat situations, and having a capable armored fire-support team is a significant asset to MAGTF.

Logistics of training

The next consideration is the logistics of this training and future operations. The first logistics concern is money. Who will pay for the transportation, training, ammunition and such for exercises and operations? Having an organized and tested maintenance structure would prove extremely efficient, especially if this relationship takes place in-country.

Army and Marine Corps Global Combat Support Systems must communicate to ensure the maintenance process does not slow down between branches. For example, Army tank companies are structured with two vehicles the Marine Corps does not currently field: the Bradley Infantry Fighting Vehicle and the M113 Personnel Carrier.

Another logistical aspect to consider is how to best transfer ammunition and weapons, physically and administratively, because the Marine Corps will no longer carry 120mm ammunition or weapons specific to the M1A2 Abrams. Therefore, the Marine Corps will also have to plan for transportation overseas, or determine what forward bases to request Army tanks from within each combatant command.

To supplement that, Army tank units should consider training for amphibious operations, including use of the tank fording kits. Joint leaders also cannot forget the tactical logistics challenges that come with this relationship; the Marine Corps and Army must determine refuel capabilities and requirements with a tank unit attaching.

I am not the one to answer a lot of these questions, but these challenges require significant coordination and could become greatly limiting to future operations if we are not prepared.

Communications

The last consideration here is communications. First, will radio cryptology match from branch to branch, unit to unit? I imagine that depends on where each unit gets its communication keys. However, if the unit applies different keys, gaining Marine Corps units need to have the proper communications tools to ensure an efficient transition.

Another difference from USMC to Army tanks is the overall radio capacity of the vehicles. Marine Corps tanks were all fitted for a radio supplement kit, which allowed more radios to function on the platform. Nearly half of Army tanks carry only one radio. I imagine they each have the capacity for more radios, but that is a question I would want answered before my infantry unit started to maneuver through a city alongside a main battle tank.

Finally with regard to communications, I want to know if the radios and frequencies each platform uses can work between units. If an Army tank unit attaches without the same communications abilities, its presence would be nearly useless.

These communication considerations are all tasks the joint community should train and practice, so these questions should have answers prior to the execution of live scenarios.

The purpose of this article is to save the lives of Marines who will one day benefit from the integration of Army tank support. The earlier the Joint community answers the questions posed here, the more prepared our young warfighters will be to combat the peer threats around the globe. Let us take the time now to plan and prepare for this Joint concept before it is too late. Let us execute this relationship before our Marines and Soldiers are caught in an unfamiliar situation when it matters most.

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Acronym Quick-Scan

ABOLC – Armor Basic Officer Leadership Course
MAGTF – Marine Air-Ground Task Force
MCAGCC – Marine Corps Air-Ground Combat Center
MTOE – modified table of organization and equipment
SOP – standing operating procedures
TTP – tactics, techniques and procedures
USMC – U.S. Marine Corps

1st Security Force Assistance Brigade Adviser Successes in Colombia

by CPT Ryan Mumma and MAJ Gregory Royse

Maneuver adviser teams (MAT) 1313 and 1322 partnered with foreign security forces to increase their capacity to combat narco-trafficking while deployed to South America during the summer of 2020.

Both teams focused efforts on intelligence and asset management. In regard to asset management, one of the notable successes MAT 1313 experienced was the identification, plan, training and certification in implementing the Vallon Metal Radar 2nd edition (VMR2) Minehound. MAT 1322 also experienced success advising on the medical evacuation (medevac) process and rotary-wing-asset management.

Both teams' efforts enhanced their partner forces' survivability, consequently increasing counter-narcotic productivity.

MAT 1313: VMR2 Minehound

As MAT 1313 began to understand the counter-narcotics operational cycle, we realized our partner forces were faced with many challenges. For instance, during eradication operations, our partner forces are challenged with civilian protests, protected areas (national parks), enemy activity consisting of small-arms fire, improvised explosive devices (IEDs) and stringent legal parameters. Out of all these challenges, MAT 1313 zeroed in on IEDs.

First MAT 1313 assessed our partner force's current tactics, techniques and procedures (TTPs) for counter-IED measures. Understanding these TTPs enabled us to identify where we needed to focus our efforts.

From our initial assessment, we observed that our partner forces had four VMR2 Minehounds, but they were not implementing them during eradication operations. Our engineer adviser asked why the Minehounds were not being used. The response he received was that the VMR2 Minehound does not provide the necessary capability.

Upon further investigation, MAT 1313's engineer adviser discovered that the Spanish-translation manual our partner force had didn't accurately depict the equipment's full capabilities. The translation also stated that the piece of equipment could only penetrate a couple of centimeters into the ground. However, the Minehound offers many more capabilities than the translation said it had, including three of detection (metallic, ground-penetration radar and command wire), all which would greatly enhance counter-IED productivity for our partner forces.

After explaining to our partner force that there was a misunderstanding about the capabilities of the Minehound, our partner force expressed excitement in integrating this piece of equipment into combat operations. Our engineer adviser and his counterpart worked together to develop realistic training and a system to certify our partner-force personnel on this piece of equipment.

With the enemy becoming more resourceful with how and where they emplace IEDs, the training had to be focused on ensuring that the

Figure 1. SGT Catlin Poshard instructs Colombian soldiers on the proper techniques for the VMR2 Minehound. The equipment was used during counter-narcotics operations in La Macarena, Meta, Colombia, in August 2020. The Minehound offers many capabilities, including three forms of detection (metallic, ground-penetration radar and command wire). *(U.S. Army photo by SGT Khalil Allen)*

equipment's full capabilities were being used. It was also extremely important that the training instill confidence in the partner force's soldiers so they would trust that the Minehound really works. Reinforcements such as identifying metallic items like triggers and switches, nonmetallic items like oil jugs and water bottles, and thin-gauge copper wire created this confidence.

After the training plan was developed, our partner force identified the teams who would receive the equipment and training. Throughout the training, our partner force ensured each Soldier properly used and employed the VMR2 Minehound. Once the partner-force commander certified the teams, the next step was to identify the location for the teams and Minehounds to operate.

Working with our partner force to determine where to employ this asset, we advised that the teams and counter-IED equipment be committed to supporting the two major eradication operations. Our partner force agreed that employing these assets in these areas would be the most advantageous due to the high volume of IEDs the eradication platoons were facing. Before our team left South America, our partner force was planning to employ these teams and counter-IED equipment.

Once these assets arrive at their specified locations and integrate with platoons conducting eradication operations, MAT 1313 believes these capabilities will enable our partner force to more efficiently and effectively identify IEDs.

MAT 1322: medevac

Team 1322 deployed to work directly with a Colombian joint task force (JTF), consisting of all branches of the partner nation's military. Both the 1st Security Force Assistance Brigade (SFAB) team and the Colombian task force worked diligently to improve counter-narcotics operations between the two countries.

While one of the JTF platoons was conducting eradication operations in a coca field, a Colombian soldier encountered an IED and sustained life-threatening injuries. The injured Colombian soldier was evacuated to the initial health-care facility (the nearest unit aid station). This initial level of care was used to stabilize the injured soldier before evacuating him to the facility that offered the required specialized level of care.

Once the soldier was stabilized enough for transport, attempts were made to initiate his transfer using helicopters. However, due to detrimental weather conditions, the JTF was unable to secure his transfer for the needed medical attention because helicopters are more susceptible to adverse weather conditions than fixed-wing aircraft. The task force provided the injured soldier's care overnight while waiting for the weather to improve. More attempts to transfer the soldier the next day were also unsuccessful because of continued adverse weather.

The JTF medical officer reached out to Team 1322's medic for advice and assistance. After becoming familiar with the situation, the Team 1322 medic advised the task-force medical officer to use the evacuation process rehearsed two weeks earlier, which included the use of fixed-wing aircraft to Bogotá. This evacuation process was intended for the evacuation of an American Soldier who became injured or ill and needed advanced medical assistance.

Both Team 1322 and the Colombian JTF had rehearsed using the more stable fixed-wing aircraft that was not as dependent on calmer weather to move a simulated casualty more expediently to Bogotá. The medic for Team 1322 advised the JTF medical officer to implement this procedure to transport the injured Colombian soldier as well. The JTF medical officer immediately followed the rehearsed protocol and was able to secure the needed medical treatment for the wounded soldier in Bogota.

As a result of these actions, this Soldier's life was saved and no further issues occurred. Also, the actions taken by the 1322 medic demonstrated to the JTF medical officer and the JTF staff the U.S. team was there to work with them (as a team) to improve the Colombian military. This interaction solidified the JTF's perception that 1st SFAB was there to collaborate and strengthen the mission.

MAT 1313's and MAT 1322's efforts while advising the partner nation's security forces had both operational- and strategic-level impacts. Operationally, our partner forces were able to increase survivability as well as

Figure 2. SSG Richard Davies provides advice and assistance to Colombian-army medical personnel during the medical evacuation of an injured soldier at Tumaco, Nariño, Colombia, in July 2020. This soldier was injured during counter-narcotics operations. MAT 1322's advice and assistance allowed the Columbian soldier to be evacuated to higher care, and it likely saved the soldier's life. *(U.S. Army photo by Santiago Mantilla Villa)*

operational tempo. Strategically, this enabled our partners to enhance their overall counter-narcotic productivity.

Experiences such as these are examples of the type of future engagements adviser teams may face while deployed to work with foreign security forces.

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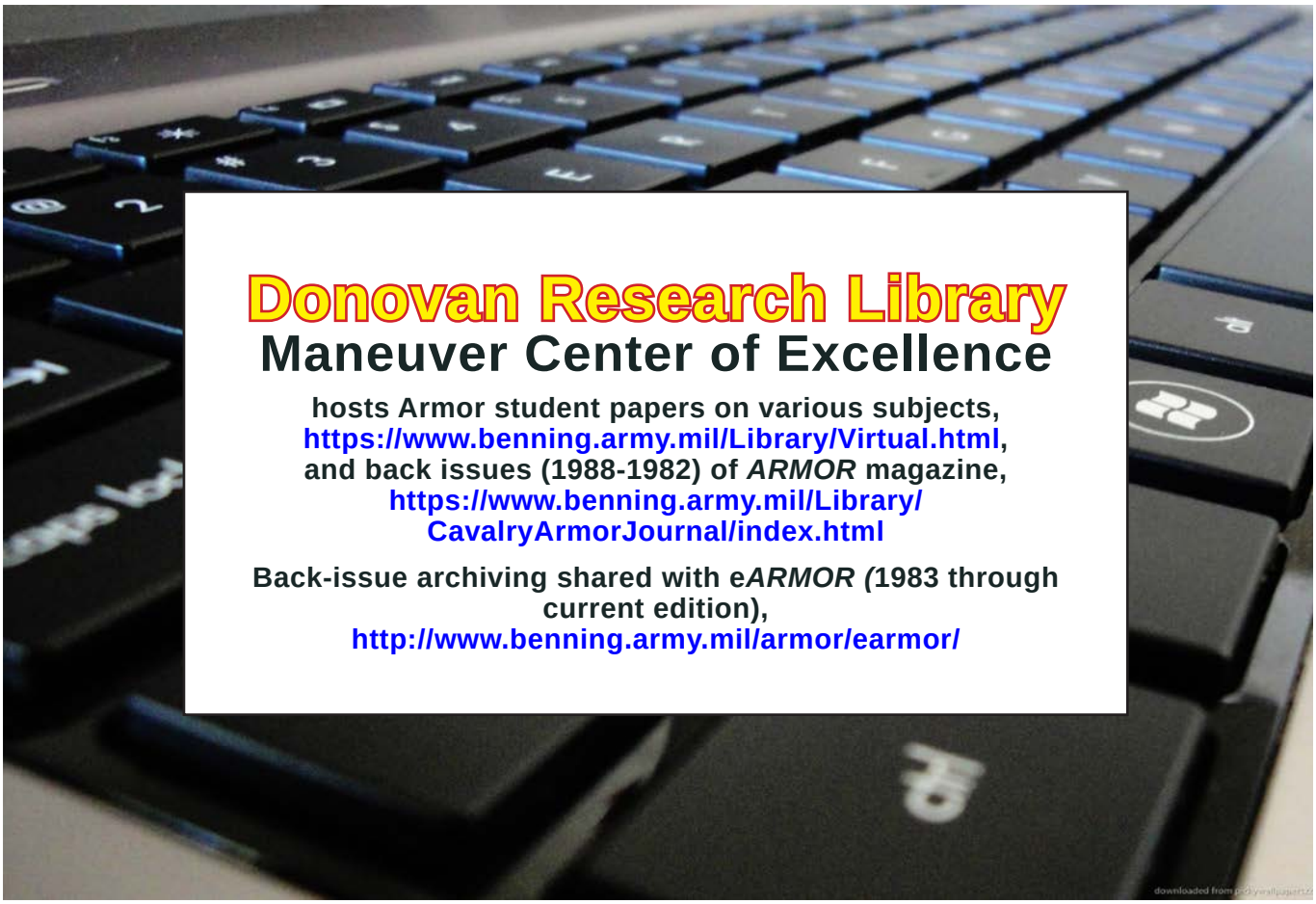
MAJ Gregory Royse is the rear-detachment commander, 1st SFAB, Fort Benning. His previous assignments include team leader, MAT 1322, 3-1 SFAB; operations officer, 3-1 SFAB; commander, Troop A, 3-1 SFAB; and operations officer, 5th Battalion, 73rd Cavalry Regiment, 3rd Brigade Combat Team, 82nd Airborne Division, Fort Bragg, NC. MAJ Royse's military schools include the MAT Academy, Joint Firepower and Control Course, Advanced Situation Awareness Basic Course-A, Intermediate Level Education and the Airborne Course. He has a bachelor's of science degree in management of information systems from East Carolina University and a master's of arts degree in international relations from Webster University. MAJ Royse's awards include the Meritorious Service Medal with oak-leaf cluster and the Bronze Star Medal with four oak-leaf clusters.

Acronym Quick-Scan

ABCT – armor brigade combat team
IED – improvised explosive device
JTF – joint task force
MAT – maneuver adviser team
Medevac – medical evacuation
SFAB – security-force assistance brigade
TTP – tactics, techniques and procedures
VMR2 – Vallon Metal Radar 2nd edition



The S-3 and the Electromagnetic Spectrum

by MAJ Bradford S. Dooley

Observation posts for Able and Baker troops are set in the squadron's screen line. The only contact reports coming from the scouts are random, single-shot impacts from the enemy's artillery; however, they fall harmlessly between the Baker screen line and the brigade's defensive main effort. Scouts report no sign of enemy personnel or drones. The only visual contact so far was one civilian van moving north to south along a local road, but it was away from any of the designated named areas of interest. The identifying scout assessed it as civilians leaving the area.

Satisfied with the lack of activity, the S-3 maintains his position behind Able and initiates radio silence for the screen line. Charlie Troop comes up on the net to notify the S-3 they had occupied and cleared a position for the forward command post (CP).

The S-3 responds to Charlie 6: "We are enroute to your position, coming from the west on Route Yankee. Please respond with entry point and marker." As the driver took over the communication with Charlie 6 on its troop net, the S-3 confirmed that the squadron commander was aware of the recent communications. The squadron commander's driver picked up, saying he was on Joint Capabilities Release (JCR) equipment with Division but gave the thumbs up to proceed. The communication broke up, and the squadron commander's driver came back up, saying, "Sorry, those impacts are getting closer to our position behind Baker, but we are coming your way."

The S-3's two vehicles arrive at the forward CP around 5 p.m. local, and he gets out to do a face-to-face with the Charlie Troop executive officer. The executive officer pointed out established gun positions from his troop's 3rd Platoon, and then he took his 2nd Platoon farther southwest of the CP and Able positions to link up with the rest of Charlie and his troop commander. The location's concealment was great, and it was impossible to find without the executive officer's escort.

As the executive officer left, the S-3 reminded him of the random artillery behind Baker. The executive officer replied, "Sir, you are a little behind. The last couple of rounds seem to be moving closer to the rear of Alpha's positions." The S-3 did not think much of the statement and started establishing radio systems. The S-3, per standard operating procedure, prioritized frequency-modulation (FM) communication with brigade's forward CP and the fires net to confirm radio communications before the squadron commander arrived.

The squadron commander arrived sometime around 10 p.m., and by that time the random artillery impacts were occurring closer to the forward CP's position behind Alpha. The S-3 greeted the squadron commander immediately: "Sir, we have clear communications with all the troops and brigade on FM. There's still no form of contact aside from seeing the civilian van in front of both Baker and now Alpha's screen lines. No enemy movement or drone activity. Also, the fires net is tracking the shift of impacts, and the squadron executive officer is ready for the hand-off of command back to the forward CP."

The squadron commander gave the confirmation for the hand-off of the CP to the forward CP position. The S-3 quickly turned and updated the squadron and brigade on FM communications, and the squadron commander sent a message through his JCR to the squadron executive officer to be prepared to jump the CP. In that moment another round hit within 200 meters of the forward CP, so the S-3 grabbed the fires net and demanded counter-battery support. Then, 30 rounds of artillery struck the forward CP immediately after the transmission.

Today's enemies do not always need drones, human scouts or satellites to exploit a unit's vulnerabilities. Instead, passive observance of the electromagnetic spectrum (EMS) allows the identification and tracking of our systems and equipment, similar to a unit's physical presence on terrain except at much greater distances. In the opening scenario, a brigade combat team's cavalry squadron created first contact not through visual or audible means, but miles closer to the friendly CP due to the propagation of waves coming from communication platforms.

Everything a unit brings into an area emits some form of signal. The more communications, computers and systems a unit adds, its signature increases. More importantly, just a collection of multiple systems at low power levels allows an enemy scout to identify the difference between a troop-level CP running two radio nets vs. a squadron or brigade running four or more radio nets. This can all be done without committing physical forces in range of direct-fire weapons.

Operation officers, or S-3s, design their unit's scheme of maneuver toward an objective based on an analysis of terrain and the enemy's capabilities. Using this outdated understanding, considerations related to EMS come most often after the design of the scheme of maneuver to emplace retransmission locations or confirm line-of-sight for communication, simply as an enabler such as artillery fire.

Unfortunately, this line of thought is too narrow because the S-3's understanding of EMS does not simply enable the unit's maneuver; instead, the EMS is terrain and a unit's maneuver depends on the S-3's understanding and continuous awareness of a unit's effect with, interaction in and use of EMS.

Against peer and near-peer threats, U.S. ground forces can no longer expect to communicate freely, either by voice or data transmission. In the last two conflicts, battalions and brigades planned and executed maneuver operations without having to consider EMS and, more importantly, they did not have to account for the threat's capability to exploit a unit's signature. On today's battlefield, however, a unit's ability to effectively conduct maneuver starts by seeing EMS during intelligence preparation of the battlefield (IPB). It becomes continuous with enabled scouts, and EMS is only efficient with an integrated communications plan that prompts physical movement.

IPB

An S-3's understanding begins in IPB. During the portion of "defining the environment," the typical build during mission analysis constructs a modified combined obstacle overlay (MCOO) that identifies terrain features that already exist and are difficult to change during a mission.[1] This portion is the first entry point to understanding EMS.

An EMS layer in the MCOO allows the unit to recognize what signatures already exist in the environment before the unit arrives. To do this, a unit needs the capability to see the spectrum on a frequency range of zero to 30 gigahertz.

Also, this capability must occur before the unit enters the battlespace. The EMS MCOO allows the S-3 and the S-6 to make initial assumptions for potential maneuver operations by identifying unique unit emissions to mitigate in the environment and existing emissions for potential camouflage. Currently the military's existing technology to conduct this capture includes Fusion Analysis and Development Effort for Multi-Intelligence Spatial Temporal Toolsuite, Raptor X and other emerging systems.

The initial signal capture in time only answers the first step of IPB. However, an S-3 must have an idea of how to evaluate the threat and the unit's potential EMS maneuver. The capability needed for this step is to identify communication-degradation locations that, combined with the initial capture or MCOO, allows assumptions toward the threat's electronic warfare (EW) situational template.

The Systems Planning Engineering and Evaluation Device (SPEED) will model radio and jammer effects in the identified EMS environment.[2] Often this is used by the unit S-6, and it is currently one of the systems readily available to units.

The S-3's influence at the beginning of this analysis is critical to the success of EMS being included in the IPB process. Most of the work conducted at this point in mission analysis falls on the unit's S-2 and S-6. However, it is the S-3's responsibility to define the unit's area of operation and, more importantly, area of influence under the commander's intent.[3] If an understanding of EMS is not included in this phase, the S-3 will be unable to define the full picture of the maneuver space during course-of-action development.

Continuous observance of EMS: enabled scouts

The next step is for the S-3 to confirm and ensure a continuous understanding of EMS. The S-3s at both the

battalion and brigade level use scouts to confirm or deny intelligence after the second warning order or after being tasked in Annex L of the brigade order.[4] A recommendation is to form a team with both scouts and EW Soldiers (military occupational specialties 19D and 17E) to create the ability to analyze the spectrum in real-time while conducting physical reconnaissance.

Annex L will task the enabled scouts to recon threat in coordination with the intelligence-collection matrix, and the S-3 can use Appendix 12 of Annex C in the warning order to task enabled scouts to observe the friendly units' interaction with the spectrum.[5]

Taking the analysis from the combination of the EMS MCOO and SPEED, scouts can confirm or deny detection of unit signature for the entire communication plan. The unit can then adjust the scheme of maneuver to an understanding of risk for implementing an environment-specific communication plan. The analysis combined with the scouts' physical reconnaissance results in a deliberate communication plan where the unit only uses the communication systems it needs. Also, EMS scanning scouts will help define the actual transition between each communication platform based on friendly triggers as the unit moves through the area of operations.

The existing systems a unit can use to enable its scouts for passive observance of the EMS include the Prophet, portable systems that are components of the Prophet, Versatile Radio Observation and Direction (VROD) / VROD Modular Adaptive Transmit and, depending on the unit, some of the other organic radars (Q36, Q53 and Sentinel).

The concept of passive observance means the system does not emit any signals that identify it to the threat and only receives existing signals in the environment. However, as a good scout knows, this must be continuous, so the S-3 must ensure that the unit's scheme of maneuver specifies this task to those assets to reassess the unit's EMS footprint during specified parts of the battle. Also, the threat's reaction to our influence on the environment will trigger decisions and communication changes that will affect the deliberate plan and follow designed contingencies for communication and maneuver.

Integrated comms: emission forces movement

Finally, an S-3's understanding of EMS creates an integrated communication plan with the scheme of maneuver. The difference between how units currently operate and how communication should be implemented is the size of the communication plan and the integration of physical movements, CPs and subordinates with communication.

In recent years, units designed their physical maneuver plan with little consideration of their communication, which reflected their most recent experiences fighting insurgencies. Furthermore, these experiences socialized our forces to a specific type of fighting that allowed atrophy with historic communication training and skills instead of evolving those capabilities, as they would against a near-peer threat.

After the scheme of maneuver for a mission or movement to an objective is designed, a primary, alternate, contingency and emergency (PACE) communication plan is designed separately and introduced to the planning process as only an enabler. In modern operations, the S-3's planned physical movement of Soldiers and equipment must be in concert with the frequencies of every signal each element will emit, the power levels of those signals and where within EMS elements' emissions are easily identified or potentially camouflaged.

The PACE plan implemented for the last 10 years also fails to answer the need for maneuver through EMS. Against a peer or near-peer competitor, units need to have multiple primaries deliberately planned to transition from one to the other based on risk analysis, the existing EMS and specific need for phases of the operation. The alternate, contingency and emergency portions of a unit's PACE plan should only initiate in response to a threat's interference and only be used temporarily until the unit can get back to the deliberately designed primary plan.

Also, the robust PACE plan necessitates an awareness of the differences among voice communication, data transfer, unit internal communication and external communication. At the battalion and brigade levels, voice communication cannot be functioning on the same platform as data transfer, or vice versa, because one action by the enemy to remove a single platform or frequency eliminates multiple levels of a unit's PACE with a single action.

The next update to the S-3's understanding of PACE is that physical movement is interdependent of communication. The S-3 must know that instances like the issue of an updated operation order or a unit being engaged will require not just a deliberate change in the unit's primary communication but also a maneuver of subordinates units and the CPs, and a command-and-control handoff between CPs. Planned events like an update to the operation order sent over the network with large amounts of data increases a unit's signature. More importantly, a subordinate unit engaged kinetically requires increased communication from a CP for fires support, subordinate tracking or resupply, all of which increase signature.

Similar to the structuring of a robust PACE plan, the brigade/battalion CPs' and tactical CPs' movements require deliberate planning within the unit's operation. This means that a large signal emission for an order/information update or a command response to troops in contact triggers an immediate shift in the PACE plan and the CP's command hand-off. The deliberate planning of emission and physical maneuver allows changes based on friendly known actions instead of reaction-based maneuver controlled by the threat.

The interdependent physical movement of CPs, command transition and communication scheme will not remove all signatures on EMS or alter a threat's capability to force changes; however, it increases the time needed by the threat for analysis and

refinement to exercise its targeting process.

Takeaway

The S-3's success on today's maneuver battlefield depends on a strong and continuous understanding of EMS that results in a communication plan integrated into the scheme of maneuver. Currently units have a consistent equipment capability shortfall to observe EMS.

However, technology is both advancing and expanding to battalions and brigades. Until this is complete, an S-3 at both of these echelons must ensure that the needed outside support and internal training of tactics, techniques and procedures of EMS integration exists before entering an operation. Otherwise, as technology increases the capability to observe EMS faster and consistently, units will continue to make the same failures in emission control, just with more sophisticated equipment.

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Notes

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Acronym Quick-Scan

AWG – Asymmetric Warfare Group
CP – command post
EMS – electromagnetic spectrum
EW – electronic warfare
FM – field manual
FM – frequency modulation
IPB – intelligence preparation of the battlefield
JCR – Joint Capabilities Release
MCOO – modified combined obstacle overlay
O/C/T – observer/coach/trainer
PACE – primary, alternate, contingency and emergency
SPEED – Systems Planning Engineering and Evaluation Device
VROD – Versatile Radio Observation and Direction (system)

Figure 1. The Battle of Pea Ridge, AR. The 3rd, 6th, 9th and 27th Texas Cavalry Regiments, Texas Cavalry Brigade, all participated in this engagement. *(Art by Kurz and Allison, public domain, created late 1800s. Image is available from the Library of Congress' Prints and Photographs Division under the digital ID cph.3b52835)*

Shaping the Fight: Operational-Level Cavalry in the Civil War

by MAJ Nathan Jennings

The U.S. Army adopted brigade combat team (BCT) modularity and began to divest itself of forceful reconnaissance and security (R&S) capabilities at division and corps levels in 2003. While each BCT now organically owns a light, Stryker or armored-cavalry squadron designed to enable fire and maneuver in close areas, commanders at higher warfighting echelons – where intermediate commands connect tactical actions to strategic aims – have realized the emerging need to fight for information and facilitate freedom of maneuver with increased operational reach.[1]

This realization, harkening back to powerful cavalry formations that shaped battlefield conditions with specialized capabilities in the Civil War, World War II and the Persian Gulf War, has catalyzed exploration of ways to mitigate the pressing capabilities gap.[2]

Given the current realities of the Army's fiscal constraints, options for enhancing the abilities of divisions and corps to proactively and forcefully influence operational outcomes have centered on doctrinal solutions rather than on creating new organizations. According to Field Manual (FM) 3-98, ***Reconnaissance and Security Operations***, potential mitigations must "provide flexibility, adaptability and depth to the maneuver commanders" while "synchronizing and integrating lethal combined-arms teams to seize, retain and exploit the initiative based on relevant understanding of the situation."[3]

Commands at the operational level, which are once again focusing on deterring and defeating peer threats in large-scale combat operations, are accordingly experimenting with options for creating tailored combined-arms task forces to meet the increasingly urgent requirement.

This dilemma finds ready precedent in previous American wars of mass and scale that required development of specialized forces to enable a modernizing scope of fire and maneuver across large areas of operation and even entire theaters. The creation and outsized impact of the Texas Cavalry

Brigade in the Civil War in particular offers a compelling example where engaged field commanders identified a pressing capabilities gap in the Confederate Army's order of battle and created a powerful mounted formation specifically to conduct R&S functions at the operational level. Comprising four aggressive and well-armed cavalry regiments under a mobile brigade headquarters, the Texan horsemen fought from 1862 to 1865 as a vanguard, rearguard and strike force for several Confederate field armies as they vied for control of the strategically vital Trans-Mississippi region.[4]

The Texas Cavalry Brigade consequently conducted an array of tactical enabling functions surprisingly similar to their motorized and mechanized counterparts in the 21st Century. Assessed in the context of the rising of great-power competition, the brigade's actions as an operational level R&S force – both mounted and dismounted – remain relevant as senior U.S. Army commands embrace the requirement to proactively shape battlefield conditions through echeloned and multi-domain information collection.

As described by GEN Mark Milley, 20th Chairman of the Joint Chiefs of Staff, it means once again creating capabilities that can "think, direct and act at speeds the enemy cannot match" while aiming to "disrupt, penetrate, disintegrate and exploit the enemy's anti-access systems and bring their fielded forces to operational paralysis."[5]

Modernizing cavalry

The cataclysmic Civil War evolved as an epic proving ground for the rapidly modernizing role of horse cavalry in 19th Century warfare. As the North and South each mobilized armies across multiple theaters to decide the political issue of secession, unprecedented requirements for contested information collection, distributed security operations and even shock assault created an operational dilemma for senior commanders: should they disperse cavalry regiments to provide individual infantry brigades with close-support capability or consolidate them into larger mounted brigades and divisions to act as corps and field army-level reconnaissance and strike assets? This question reflected an enduring discussion on cavalry

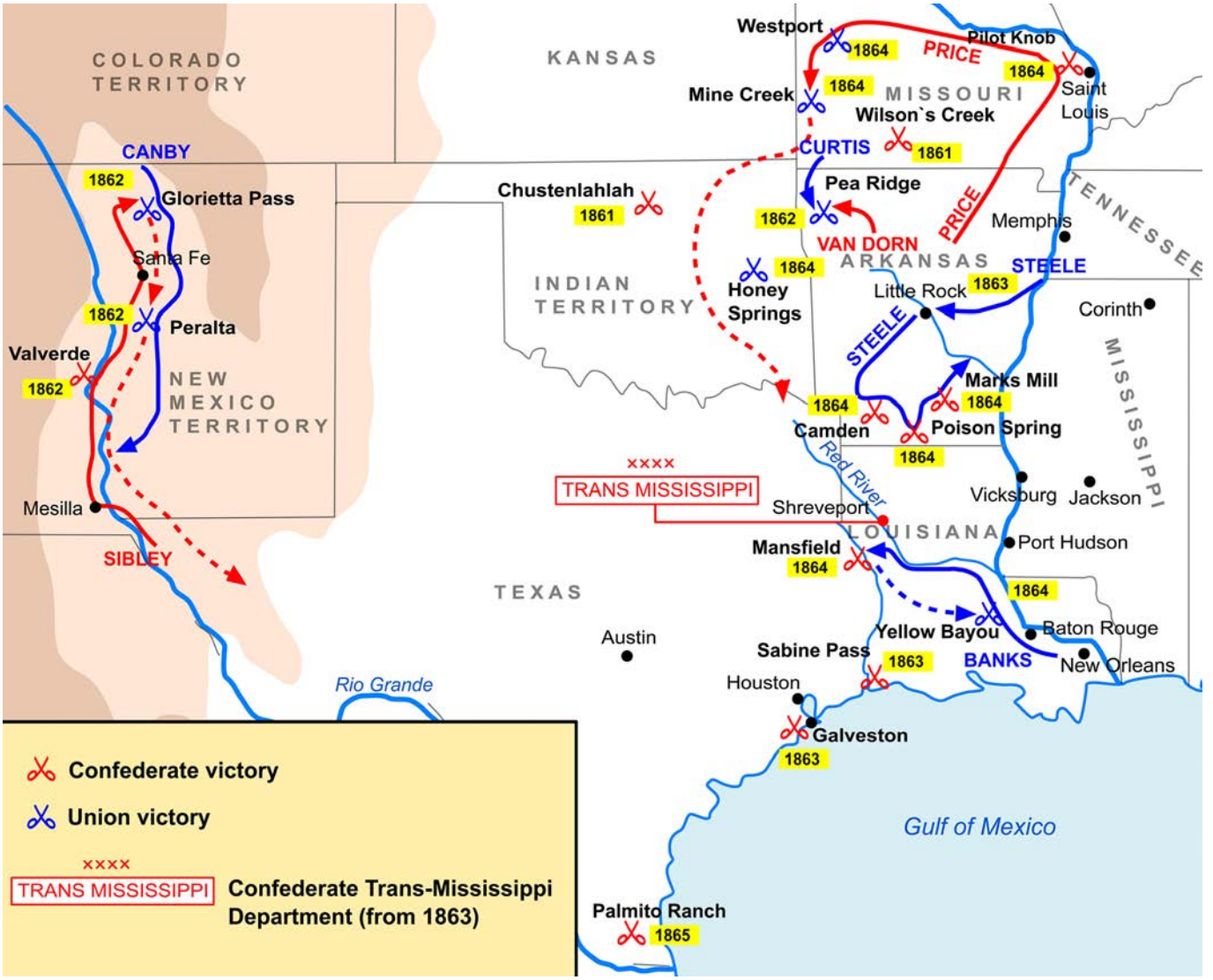

Figure 2. Map of the Trans-Mississippi Theater during the U.S. Civil War, featuring major battles. *(Public-domain map by Andrei Nacu)*

employment that had vacillated between decentralized and massed employment of expensive horse units since antiquity.[6]

Not surprisingly, given the U.S. Army's antebellum prioritization of the infantry, artillery and engineer branches, Union and Confederate commanders initially adopted the first option. They generally regarded cavalry as an expensive, time-intensive development that required exceptional resources to train into a robust force. GEN Winfield Scott, as the most influential flag officer prior to the Civil War, had cultivated the belief that American cavalry should be economized and limited.

Most commanders at the brigade, division and corps echelons consequently employed their mounted capacity in detail to support infantry brigades and regiments. Though there were early exceptions of "brigaded" cavalry such as Henry Sibley's brigade in New Mexico and James McIntosh's brigade in Arkansas, most mounted units throughout 1861 and most of 1862 maneuvered as attached companies and regiments.[7]

However, by 1863 the strategic perception, and appreciation, of the operational utility of more powerful mounted formations had evolved. Confederate GEN Thomas Hindman, commanding forces in the Trans-Mississippi Theater, initiated fundamental changes in his R&S organization in October 1862 when he created a corps of 6,600 soldiers comprised of mounted and dismounted units.

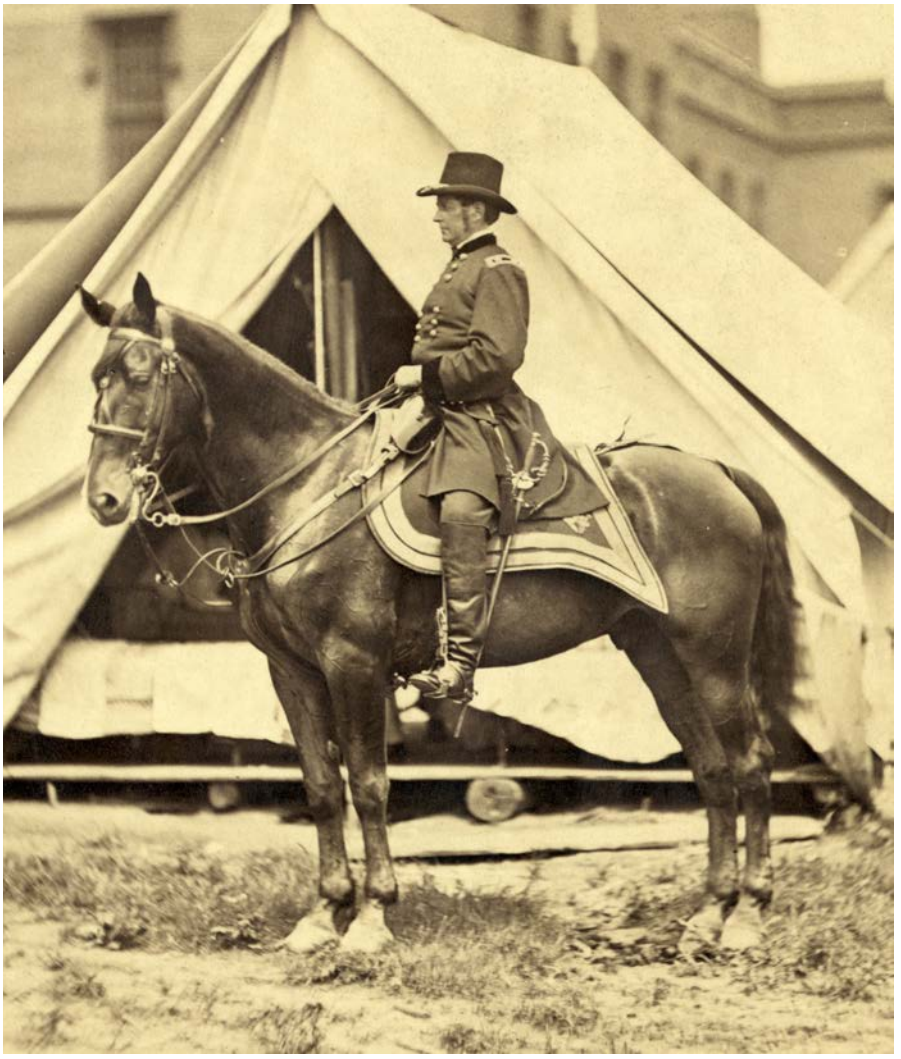

Figure 3. Famed Civil War-era photographer Mathew Brady took this shot of Union GEN Joseph "Fightin' Joe" Hooker in his campground. *(Public domain, photograph taken in 1863. Image is available from the Library of Congress' Prints and Photographs Division under the digital ID ppmsca.19394)*

Field commanders across the South and North soon embraced the concept of highly mobile strike, reconnaissance and guard brigades consisting of two to six mounted regiments. By the close of the second year of the war, LTG Nathan Bedford Forrest, one of the Confederacy's most effective cavalry commanders, had demonstrated the tactical utility of cavalry brigades during the Confederate retrograde from Shiloh, which built on the tactical success of his audacious raid on Union-held Murfreesboro.[8]

In the Continental East, a similarly inspired realignment of cavalry resources eventually culminated in the formation of the Army of the Potomac's massive and initially underemployed corps of cavalry, consisting of three divisions, 40 regiments and more than 12,000 cavalrymen. Benefiting from the massive resources of the industrialized Northern states, this corps operated as perhaps the single largest consolidated mounted-arms organization in North American history at that time.

The Federal transition developed belatedly, in part, as a response to the confounding effectiveness of GEN J.E.B. Stuart's Cavalry Corps of the Army of Northern Virginia, which peaked at 9,000 men across seven aggressive mounted brigades. Throughout 1862 and 1863, the famed Southern cavalry influenced campaign outcomes at iconic places like Bull Run, Antietam, Fredericksburg, Chancellorsville and Gettysburg as the outnumbered Confederates sought to outmaneuver and defeat Northern opponents.

COL Wesley Merritt, a New Yorker who commanded the Army of the Potomac's reserve cavalry brigade during the Gettysburg Campaign of 1863, recalled the North's seminal transition after enduring two years of Southern cavalry superiority: "It was then that we commenced practicing the lessons which the enemy had taught us. From the day of its reorganization under [MG Joseph "Fighting Joe"] Hooker, the cavalry of the Army of the Potomac commenced a new life."

Confrontations between Confederate and Union cavalry formations

subsequently culminated at the chaotic Battle of Brandy Station June 9, 1863, when 11,000 Union cavalrymen defeated 9,500 Confederate mounted soldiers in a massive engagement.[9] The inconclusive battle, where Union cavalry demonstrated their growing confidence and skill, ended as the largest purely cavalry confrontation of the Civil War.

In the Trans-Mississippi Theater to the West, a similar transition occurred, albeit on a lesser scale, as Southern and Northern armies vied for control of vital waterways and rail networks across the expansive Western Theater. Throughout Autumn 1862 and early 1863, the Confederate Army organized many of its disparate horse regiments into unified cavalry brigades to allow increased capacity to shape battlefield conditions ahead of main-body elements. The newly "brigaded" units included four Texas brigades commanded by Sul Ross, William Parson, William Bradfute and Tom Green respectively; an Arkansas brigade led by William Carroll; and two Missouri brigades under officers named Joseph Shelby and M.J. White.

Hindman, seeking to expand Confederate capability at the operational level, also formed 1st Cavalry Division, Army of the West, under GEN John Marmaduke, which included mounted brigades from Texas, Arkansas and Missouri.[10]

Texas Cavalry Brigade

Of all the mounted units that fought in the Civil War, the Texas Cavalry Brigade, consisting of the 3rd, 6th, 9th and 27th Texas Cavalry Regiments, attained one of the most instructive combat records of the conflict as they enabled critically needed maneuver at higher echelons. The unit first organized in November 1862 with the first three regiments comprising 10 companies each, and the last regiment fielding 12. The men, who arrived with various degrees of previous U.S. Army, Texian Army, Texas Ranger and local militia experiences from across the volatile Southwest frontier, hailed from 23 predominantly rural counties across central and northern Texas.

Known for its most famous commander, former Texas Ranger and future

Figure 4. Lawrence Sullivan "Sul" Ross, commander of Texas Cavalry Brigade, in the 1860s. *(Unknown photographer, public domain; original photograph is in the Texas Collection at Baylor University)*

Texas governor Lawrence "Sul" Ross, the brigade would demonstrate a unique tactical versatility on both sides of the Mississippi River throughout a series of exacting campaigns.[11]

The requirement for the establishment of the Texas Cavalry Brigade in the Trans-Mississippi Theater arose in Autumn 1862 as Union successes catalyzed demand for a mobile mounted division. The Confederacy's Army of the West, after suffering a devastating defeat at Corinth, MS, Oct. 4, 1862, directed MG Earl van Dorn, a former officer of 2nd U.S. Cavalry Regiment, to unite several mounted brigades in a desperate effort to cover the army's northern flank. The command also hoped that such a fleet, powerful mounted force could execute deep raids against Northern infrastructure to disrupt Union plans to invade the South.

Described in modern Army doctrine as "a brigade-level, force-oriented mission that protects the division or corps main body from detection or engagement by enemy forces," this assignment would include the Texas Cavalry Brigade and showcase its mobility and firepower.[12]

On Dec. 21, 1862, Van Dorn's mounted division, now including the Texan horsemen, conducted a daring raid against the Union Army depot at Holly Springs, MS. As a central logistical distribution point for the North's advance, the destruction of the town's rail infrastructure and much-needed provisions delayed GEN Ulysses S. Grant's impending attack on Vicksburg.

1LT George Griscom, adjutant for the Texas Brigade's 9th Regiment, described how they "charged the town with a long wild yell and took the garrison by surprise." He then recounted how Federal cavalry offered the only resistance and "the 9th being in front of (the) brigade was ordered to charge them."

The Texans then decisively won the engagement when they dismounted and charged the defenders. The audacity of the attack resulted in the capture of 75 trained mounts with critically needed cavalry equipment.[13]

This action catapulted Texas Cavalry Brigade to national fame. In military terms, it demonstrated the potential of massed horsemen possessing an unmatched combination of mobility, firepower and operational reach to cover its parent army's flanks and, if need be, conduct lightning raids against vulnerable points along enemy lines.

As veterans of their state's volatile Rio Grande Frontier and students of Comanche raiding methods, Texan officers often proved adept at planning and executing audacious cavalry actions.[14] Similar to how volunteer Texas Rangers had enabled the U.S. Army's invasions of Mexico between 1846 and 1848 with enhanced information-collection ability, Texas cavalry in the Civil War proved adept at conducting reconnaissance, screen, raid and attack actions in support of larger Confederate Army maneuvers.

The Texans distinguished themselves again March 5, 1863, after conducting a year of hard-fought R&S activities in Mississippi. Again working under Van Dorn's direction, they executed a series of deep raids into Union-held Tennessee intended to relieve pressure on the Confederate flank. In one particularly successful instance where they again proved their value, the brigade

attacked, and eventually defeated, a large U.S. cavalry force at Thompson's Station, TN.

Still with 9th Texas Regiment, Griscom recalled how the Federals repulsed their first assault when the brigade was "compelled to fall back." After regrouping behind a set of raised railroad tracks, the Texans "reformed and again advanced to the top of the hill in good order." However, the Confederates, who were attacking into well-aimed carbine and musket fire, once again stalled and fell back to the rail line.

Persistence pays off

The lieutenant then described how a third and final assault, now completely dismounted and fortuitously synchronized with a flanking attack under Forrest, overwhelmed the defenders. Sensing victory, the brigade "reformed under galling fire and again advanced to the hill top when COL [John Wilkins] Whitfield in the rear of a battery asked if the 9th could go any further, to which the men with one voice replied in the affirmative."

With flanking forces under Forrest now attacking behind the enemy's position, the surrounded Union soldiers finally surrendered."[15] Griscom noted that they captured "five regiments of infantry with their field and staff officers numbering about 2,300 prisoners." The 9th Texas, taking the brunt of the Union fire, suffered three killed, three mortally wounded and 15 wounded. As with so many previous Civil War contests, bloody persistence had won the day for the South.

These actions further emphasized the Texans' range of tactical versatility as a consolidated cavalry brigade with ability to fight dismounted. Whether fighting mounted or assaulting as shock infantry, they had demonstrated aptitude for employing superior mobility to outfight and outflank Union defenders.

The brigade's utility at Thomson Station resembled similar actions in previous conflicts along Texas's expanding borders. In those clashes, soldiers had typically ridden to the point of enemy contact and then dismounted for assault against highly lethal and fast-moving Comanche warriors. These maneuvers as dragoons or mounted infantry, while not new in post-Napoleonic warfare, maximized approach speed to unleash repeating and precision fire against unprepared defenders.

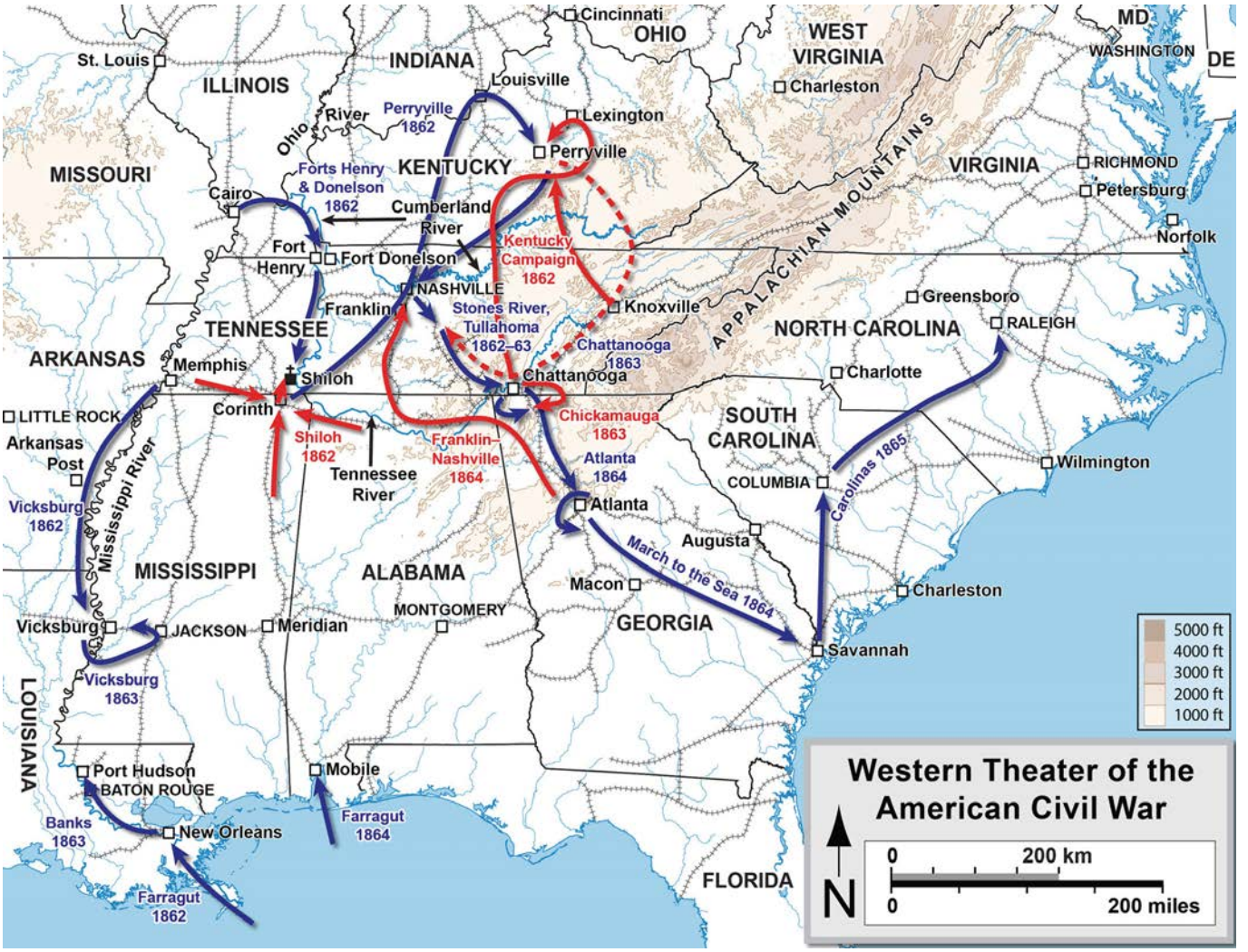

Figure 5. Western Theater overview, 1861-1865. Color key: red = Confederacy; blue = Union. The Texas Cavalry Brigade's action in the Western Theater was in battles such as Corinth, Franklin-Nashville and Atlanta. *(Map by Hal Jespersen, www.cwmaps.com; licensed under Creative Commons Attribution 3.0 Unported license)*

Texas Cavalry Brigade Civil War engagements

3rd Texas Cavalry: Battle of Wilson's Creek (1861), Battle of Chustenahlah (1861), Battle of Pea Ridge (1862), Siege of Corinth (1862), Battle of Iuka (1862), Battle of Corinth (1862), Holly Springs Raid (1862), Battle of Thompson's Station (1863), Atlanta campaign (1864), Battle of Nashville (1864).

6th Texas Cavalry: Battle of Chustenahlah (1861), Battle of Pea Ridge (1862), Siege of Corinth (1862), Battle of Corinth (1862), Battle of Hatchie's Bridge (1862), Holly Springs Raid (1862), Battle of Thompson's Station (1863), Atlanta campaign (1864), Franklin-Nashville Campaign (1864).

9th Texas Cavalry: Battle of Round Mountain (1861), Battle of Chusto-Talasah (1861), Battle of Pea Ridge (1862), Siege of Corinth (1862), Battle of Corinth (1862), Battle of Hatchie's Bridge (1862), Holly Springs Raid (1862), Battle of Thompson's Station (1863), Atlanta campaign (1864), Battle of Franklin (1864), Third Battle of Murfreesboro (1864).

27th Texas Cavalry: Battle of Pea Ridge (1862), Siege of Corinth (1862), Battle of Iuka (1862), Battle of Corinth (1862), Holly Springs Raid (1862), Battle of Thompson's Station (1863), Atlanta campaign (1864), Battle of Franklin (1864), Battle of Nashville (1864).

The culmination, and crucible experience, of the brigade's wartime service occurred in Summer 1864 in Georgia following five months of hard patrolling, screening and raiding throughout the Yazoo River Valley of Tennessee. From May 25 to June 5, Ross' men fought constantly and daily as they guarded the flanks of the Army of Tennessee, Confederate States of America, as it attempted to contest GEN William Sherman's fateful and destructive march on Atlanta. Throughout this trying period they averaged at least one skirmish per day, participated in several significant battles and generally attempted to preserve the beleaguered Confederate army's cohesion and freedom of maneuver. Unfortunately for the exhausted Texans, larger Union cavalry formations defeated them twice as their ranks suffered from severe attrition and logistical privation.[16]

The Texas Cavalry Brigade, after three years of continuous fighting against an improving Union adversary, completed its battle record in Tennessee by once again conducting raids, reconnaissance tasks and covering actions to allow the remaining Confederate forces in the region to avoid a decisive defeat by superior Federal forces. Throughout November and December 1864, now riding severely fatigued horses and suffering the effects of months of sustained combat, the Texans lost about 100 men while capturing more than 500 prisoners and nine Union battle standards. However, despite the hardships, the diminished brigade managed to destroy two logistical-rail trains and seize almost 50 supply wagons in a last, desperate attempt to slow the inexorable Union advance.

In a final action, the brigade covered the Confederate retreat from Nashville, TN, as the rebellion collapsed in defeat.[17]

The battle-weary Texans surrendered to the Union Army May 4, 1865, at Jackson, MS, after three years of hard riding and fighting across the American South. With its commander, Sul Ross, away in Texas to recruit replacement soldiers, COL Dudley Jones of 9th Regiment supervised the ceremony and the signing of parole documents a week later. This final administrative action ended an instructive wartime performance that foreshadowed the potential for powerful, echeloned mounted forces to shape tactical outcomes on modernizing battlefields.

From Arkansas to Georgia, and despite costly attrition and hardship, the combined efforts of Texan horsemen in the 3rd, 6th, 9th and 27th Texas Cavalry Regiments had provided indispensable reconnaissance, security and assault capability to a succession of Confederate armies as they fought for an increasingly unattainable strategic victory.[18]

Shaping future fights

Though occurring in a different century and unique conflict setting, the example of how Civil War units like the Texas Cavalry Brigade performed at the operational level remains relevant almost 200 years later as the U.S. Army prepares for potential confrontations of larger scope and scale. As the institution trains, organizes and positions to deter and, if need be, fight near-peer adversaries in Eastern Europe, East Asia and the Middle East, its intermediate commands will likewise require echeloned information-collection and counter-reconnaissance ability to proactively shape battlefield conditions.[19] Similar to how "brigaded" cavalry in the Civil War enabled higher commands by covering their movements and disrupting enemy initiative, contemporary divisions and corps will need tailored and dedicated combined-arms teams to fight forward and facilitate their own freedom of maneuver.[20]

In this expeditionary context, the creation and employment of dedicated R&S capability at higher echelons can incorporate insights from predecessors that conducted similar missions in past conflicts. In the example of the Civil War, the Confederate Army quickly realized the increased importance of shaping conditions in forward areas in an era of rapidly modernizing warfare that featured larger battlefields and interconnected theaters. Seeking to mitigate an unforeseen capabilities gap, Southern commanders allocated scarce resources to create specialized reconnaissance forces that could provide the time and space required to enable main-body maneuver. Building on success, they then maximized the unique capabilities of cavalry brigades by employing them as economy-of-force assets that allowed timely concentration of infantry and artillery at critical decisive points.

This type of echelonment, which enabled large-scale maneuver at the operational level, remains relevant as the U.S. Army explores the challenges of projecting control and influence against adversaries who are featuring

increasingly effective standoff capabilities. As described in U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-3-1, ***The U.S. Army in Multi-Domain Operations***, the evolving operational environment requires the institution to create formations that "possess the capacity, endurance and capability to access and employ capabilities across all domains to pose multiple and compounding dilemmas on the adversary."[21]

Similar to how both Confederate and Union armies devised solutions to maneuver problems in their time, senior commands in the 21st Century will likewise be required to create teams that are optimized to collect information, deny the same for adversaries and facilitate cross-domain convergence in forward areas.

This imperative reflects an enduring debate about how armies elect to resource, or mitigate against, the creation of dedicated R&S forces at the operational level. It represents familiar tension between organizing the order of battle for greater capacity to assertively shape deep areas, or increased availability of main-body forces to converge fire and maneuver at decisive points. However, regardless of resource distribution, U.S. Army divisions and corps will require access to powerful reconnaissance teams with advanced cross-domain capabilities as they seek to extend operational reach across expanding frontages and depths.[22]

If units like the Texas Cavalry Brigade demonstrated the enabling impact of echeloned forces in past wars, continued adaptations in the 21st Century, born of necessity, will undoubtedly require similarly inspired shaping efforts to ensure future battlefield success.

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Acronym Quick-Scan

BCT – brigade combat team
FM – field manual
R&S – reconnaissance and security
TRADOC – (U.S. Army) Training and Doctrine Command

The Russian Army and Maneuver Defense

by Dr. Lester W. Grau and MAJ Charles K. Bartles

In the practice and application of historical analysis, the Russian General Staff closely examines details of past conflicts – noting what they learned and even unlearned – to keep their military science and training forward-looking. Maneuver defense is one of those lessons.

Russia's strategic defense

Russia and the Soviet Union fought successful major wars using strategic defense and withdrawal. Russia defeated Napoleon by initially conducting a strategic defense and multiple withdrawals, followed by decisive counterstrokes.[1] Up to his invasion of Russia, Napoleon's strategy proved superior to that of his enemies and his operations were primarily offensive. Napoleon was often successful in surrounding an enemy army or defeating it in one decisive battle and then occupying its capital city and taking charge of the country.[2]

Russia defeated Napoleon's invasion by losing battles, yet maintaining and rebuilding its army throughout successive retreats. As the army retreated, the Russians set fire to their own crops and villages, leaving scorched earth behind. Napoleon seized Moscow, yet Russia still refused to surrender and soon flames consumed Moscow. Napoleon had reached his culminating point, and his supply lines stretched to breaking. Russia was fighting a strategy of "war of attrition," whereas Napoleon was fighting a strategy of "destruction."

A Russian "inverted front" grew in Napoleon's rear area as guerrilla forces attacked Napoleon's already inadequate supply columns and eroded his fighting strength. There were two types of guerrilla groups. The first were volunteers who took up arms against the enemy and had no affiliation with or support from the Russian government. Theirs was a popular "people's war," even though some of these guerrillas were little better than opportunistic highwaymen and freebooters. There was little coordination between the Russian ground forces and the "people's war" guerrillas.

The second type were government-paid, -led and -equipped cavalry and Cossack forces formed into "flying detachments" of up to 500 uniformed or non-uniformed combatants who worked in coordination with the army and attacked the enemy flanks and rear.[3] Both types of guerrillas were important in the war, but the need for central control was obvious.

Figure 1. A 1920 painting depicts Napoleon's retreat from Moscow.

The Russian army refused to provide Napoleon with the opportunity for a decisive battle that would fit his strategy of destruction. Napoleon began his withdrawal from the ashes of Moscow Oct. 16, hoping to beat the Russian winter. He did not. Napoleon abandoned his army as it disintegrated and froze. Some 27,000 soldiers of the original 500,000-strong Grand Armée survived.

In October 1813, the coalition of Russia, Prussia, Austria and Sweden defeated Napoleon's reconstituted army at Leipzig. Just before the Battle of Leipzig, Wellington's army defeated the French army in Spain and Portugal and then crossed into France. The Russian army constituted part of the occupation force in Paris.

Their attrition strategy of fighting battles and retreating while reconstituting their force and sapping the enemy strength, coupled with a strong series of counterstrokes, worked. Russia had traded space for time, drawing Napoleon deep into Russia, overextending his supply lines over Russia's muddy, often-impassable roads and launching counterstrokes at the opportune time.

The Soviet Union did not intend to defeat Nazi Germany in this fashion, but after bungling the initial period of war, they inadvertently emulated Tsar Alexander I by fighting a retreat all the way to Moscow while building the forces for a series of counterstrokes. This time, Moscow held while the German effort culminated and their supply lines stretched to breaking. The muddy roads and "inverted front" of

Figure 2. As irregular cavalry, the Cossack horsemen of the Russian steppes were best suited to reconnaissance, scouting and harassing the enemy's flanks and supply lines.

Moscow-controlled guerrillas complicated an already difficult German supply effort.

After Kursk and Stalingrad, the Axis alliance was on the defensive and the operational counterstrokes of the Red Army drove the invaders out of the Soviet Union and Eastern Europe. The Red Army constituted both the initial, and later part of the Allied occupation force in Berlin, deep within the Soviet Occupation Zone.[4]

Russian maneuver defense

Maneuver defense [манёвренная оборона] is a tactical and operational form of defense whose goal is to inflict enemy casualties, gain time and preserve friendly forces with the potential loss of territory. It is conducted, as a rule, when there are insufficient forces and means available to conduct a positional defense.[5]

This differs from the U.S. concept of the mobile defense, which "is a type of defensive operation that concentrates on the destruction or defeat of the enemy through a decisive attack by a striking force. It focuses on destroying the attacking force by permitting the enemy to advance into a position that exposes him to counterattack and envelopment. The commander holds most of his available combat power in a striking force for his decisive operation, a major counterattack. He commits the minimum possible combat power to his fixing force that conducts shaping operations to control the depth and breadth of the enemy's advance. The fixing force also retains the terrain required to conduct the striking force's decisive counterattack."[6]

This differs from the Russian concept in that the Russians do not intend to permit the enemy to advance to counterattack. They intend to contest the enemy and reduce his forces without becoming decisively engaged. Russian maneuver battalions and brigades conduct maneuver defense, whereas the United States considers mobile defense as a corps-level fight.[7] In future conventional maneuver war, continuous trench lines, engineer obstacles and fixed defenses extending across continents, as occurred in Europe in World Wars I and II, will not occur. According to Russian military guidance, the maneuver defense, eventually leading to a positional defense, will be their primary defense and will be conducted by the maneuver brigades as their base formation.[8]

Maneuver defense occurred in medieval Russia but was realized as a new form of combat action near the closing of World War I.[9] The first extensive use of maneuver defense occurred during the Russian civil war[10] and was due to a variety of equipment, political and geographic factors. The uneven distribution of weapons from World War I, the uncompromising goals of the Reds and the Whites, and the expanse of the territory on which the war was fought were far better adapted to this dynamic, mobile form of combat, unlike the continuous trench-line warfare of Western Europe during World War I.

During the Russian civil war, several echelons using unprepared lines and engineer obstacles initially conducted maneuver defense. In a short time, however, it sometimes evolved to include positional defenses, coupled with active counterattacking forces that conducted flanking attacks and encirclements. Daring cavalry raids into the rear of the enemy often distracted the enemy during necessary withdrawals to new lines or positions.[11]

During the mid-war period, Western theorists such as J.F.C. Fuller discussed future war in terms of combined arms and new weapons such as the tank, airplane and radio. The Russians had actual practical experience in this new theoretical maneuver war that their Western counterparts lacked. Granted, large horse-cavalry formations played a much larger role than the few existing tanks present in the Russian civil war, but the scale and scope of the fighting in Russia incorporated the vision of that future combat. Victory would belong to the state that could concentrate superior forces to overwhelm an enemy at a particular location and could rapidly maneuver against flanks, penetrate positions and encircle forces to destroy a thinly spread enemy.[12]

The Red Army's 1929 field regulations used the term подвижная оборона [*mobile defense*] in Article 230: "Mobile defense takes place when the combatants do not defend to the end, rather slip away from the enemy and move to a reinforce a new defensive line when the operational concept is that it must sacrifice a portion of territory to gain necessary time and protect the lives of the force."[13]

The follow-on 1936 and 1939 field regulations provided recommendations for the preparation and conduct of mobile defense. The 1936 field

regulation envisioned two possible mobile defense maneuvers. With the first, two defensive lines would leapfrog through each other; in the second, a strong rear guard would cover a single retreating line. The 1939 field regulation slightly modified the 1936 guidance by discussing what conditions may precede initiating a mobile defense and what steps could be taken to strengthen the defense.

The 1941 field regulation changed the term to маневренная оборона [*maneuver defense*]: "The maneuver defense includes the conduct of a series of defensive battles leading to successive designated lines, synchronized with short surprise counterattacks. The maneuver defense forces are included in the coordinated maneuver of the force using fires and the broad employment of all types of obstacles."[14]

The Germans invaded the Soviet Union June 22, 1941. The Soviet tried to organize counterstrokes while they were retreating or were being enveloped. They failed. Initial positional defenses crumbled, nor could the Soviets organize a maneuver defense before it was overrun. The Wehrmacht reached the Mozhaisk defenses outside Moscow by Oct. 13, 1941. The Mozhaisk defenses were a hastily constructed series of four lines of undermanned defensive positions.

General of the Armies Georgy Zhukov issued a special directive: "In the event that it is impossible to check the enemy offensive, transition to a maneuver defense."[15] A list of necessary planning steps and considerations followed this directive. The Germans attacked through the end of October and ground to a halt. The Soviets conducted maneuver defense in some sectors, upgraded and reinforced their other defenses, and stopped the second German offensive conducted Nov. 15 to Dec. 5; the Red Army slowly began their own counteroffensive Dec. 5. The operational-level maneuver defense had evolved. Divisions and regiments mainly conducted tactical-level maneuver defense.

'To the death'

Despite the Red Army's success using maneuver defense, it disappeared from the 1948 field regulations. The ongoing concept of the *unified defense* [единой оборона] precluded such a variant to positional defense. After Stalin's death in 1953, the debate over the conduct of land warfare on the atomic battlefield began. Soviet ground-force structure dramatically changed as battalions became smaller, completely motorized or mechanized, lost their organic direct-fire artillery and received T-55 tanks with lead liners to soak up the radiation. Unfortunately for the motorized rifle soldiers, their personnel carriers and trucks had no such lining, although initial planning involved driving over nuclear-irradiated zones in the attack.[16] Defense would be temporary and positional.

A lively debate began within the ground forces, positing that maneuver defense was optimum for the nuclear battlefield. Marshal of the Soviet Union R. Ia. Malinovskiy, commander of Soviet Ground Forces, ended the debate on maneuver defense, stating: "This point of view is wrong and is completely unsuitable for these times. We do not have the right to train our forces, commanders and staffs where every commander, based on his own judgment, can abandon his [defensive] positions, regions and belts to maneuver. …There is one unshakeable truth with which we must conduct our lives – with unswerving stubbornness we will hold our designated lines and positions, hold them to the death."[17]

At the end of the 1980s, the USSR Minister of Defense, Marshal of the Soviet Union Dmitry Yazov, re-established maneuver defense in Soviet military theory as one of the accepted forms of defense. Technology and warfighting techniques were changing. Deep fires, distance mining, ambushes, fire sacs, air assaults, flanking and raid detachments were changing modern war and facilitating counterattacks. Maneuver defense fit within the changing dynamics.[18]

Maneuver defense in contemporary combat

Since the 1990-1991 Gulf War, ground forces have realized that unprotected maneuver in the open may lead to decimation. Less-modern ground forces have attempted to negate this by moving the fight to terrain that defeats or degrades high-precision systems – mountains, jungle, extensive forest, swamps and cities – while conducting a long-term war of attrition to sap the enemy's political will.

Difficult terrain will also be a valuable ally in future conventional maneuver war, as will camouflage, electronic and aerial masking, effective air-defense systems and secure messaging. Maneuver defense will clearly be a feature of future conventional maneuver war.

One thing that may change dramatically is the fundamental concept of the main, linear, positional defense to which maneuver defense leads. Perhaps the main linear defense will be anchored in difficult terrain. Perhaps the main defense will more closely resemble the security-zone maneuver defense. The main defense may become an expanded security zone containing counterstrike/counterattack forces and a concentration of high-precision weapons systems. Open flanks may be covered by maneuvering artillery fires, aviation and positional forces not under duress.

The Russian concept of maneuver by fire may dominate the battlefield, as it alone may enable maneuver.[19]

The linear battlefield may be replaced by the fragmented, or nonlinear [очаговый], battlefield, where brigades maneuver like naval flotillas, deploying maneuver and fire subunits over large areas, protected by air-defense systems, electronic warfare and particulate smoke. Strongpoints will be established and abandoned, artillery fires will maneuver and difficult terrain will become the future fortresses and redoubts.

Fragmented battlefield

World War I in the West was a positional fight where artillery, field fortifications and interlocking machinegun fire prevented maneuver. World War I in the East, however, was not always positional but was sometimes fluid. The antithesis to the stalemate in the West was the tank. Yet the tank did not spell the end of linear defense. During World War II, the tank enabled maneuver in some places, but in other

places, difficult terrain and integrated defenses prevented maneuver and fires prevailed.

For example, the Korean War began with a great deal of maneuver but stalemated into positional mountain combat enabled by fires. Vietnam was about the maneuver of the helicopter, but difficult terrain dominated the battlefield.

The antitank guided missile and precision-guided munitions currently threaten maneuver. Still, advances in fires, electronic countermeasures, robotics and air defense may enable maneuver.

As another example of an army using difficult terrain, the Serbian army proved quite adept at hiding and surviving in it during the 78-day Kosovo air war. What they lacked was an opposing ground force to combat at the termination of the bombing.[20]

The fragmented battlefield has become common following the Gulf War. The Soviet-Afghan war, the Angolan civil war, the Chad-Libya conflicts, the Battle of Mogadishu, Operation Enduring Freedom, most of Operation Iraqi Freedom, the Libyan civil war, the Sudan conflicts, the Saudi Arabian-Yemen conflict – all have involved fragmented battlefields.[21]

How do peer forces fight conventional maneuver war on a fragmented battlefield? Permanent combined-arms battalions appear to be an important component.

For decades, the Soviets and Russians have struggled with fielding, training supporting and fighting a combined-arms battalion with its own tanks, motorized rifle, artillery, antitank and support subunits capable of fighting and sustaining independently over a large area. Russian maneuver brigades now constitute one or two battalion tactical groups and are working to eventually achieve four.[22]

The Russians have a long history of conducting a fragmented defense on a fragmented battlefield. The Russian civil war is replete with such examples.[23] During World War II, in addition to its large conventional force, the Soviets fielded the largest partisan army in history. It conducted a fragmented offense and defense against a linear German force.[23]

Afghanistan, Chechnya and now Syria also featured fragmented offense and defense.

Analysis of Russian defense

If the Russians fight a near-peer competitor, the maneuver defense may become the "normal" defense, with the positional defense as an anomaly. In a maneuver defense, within the brigade the battalion is normally assigned an area of responsibility of 10x10 kilometers (frontage and depth respectively), and a company position is up to two kilometers in frontage and up to one kilometer in depth. There is a distance of up to 1½ kilometers in depth between positions, which ensures mutual support of defending subunits and allows maneuver to the subsequent position.[25]

Figure 3 shows a Russian motorized rifle brigade in a maneuver defense.[27] Battalion positions are shown, and company fighting positions are

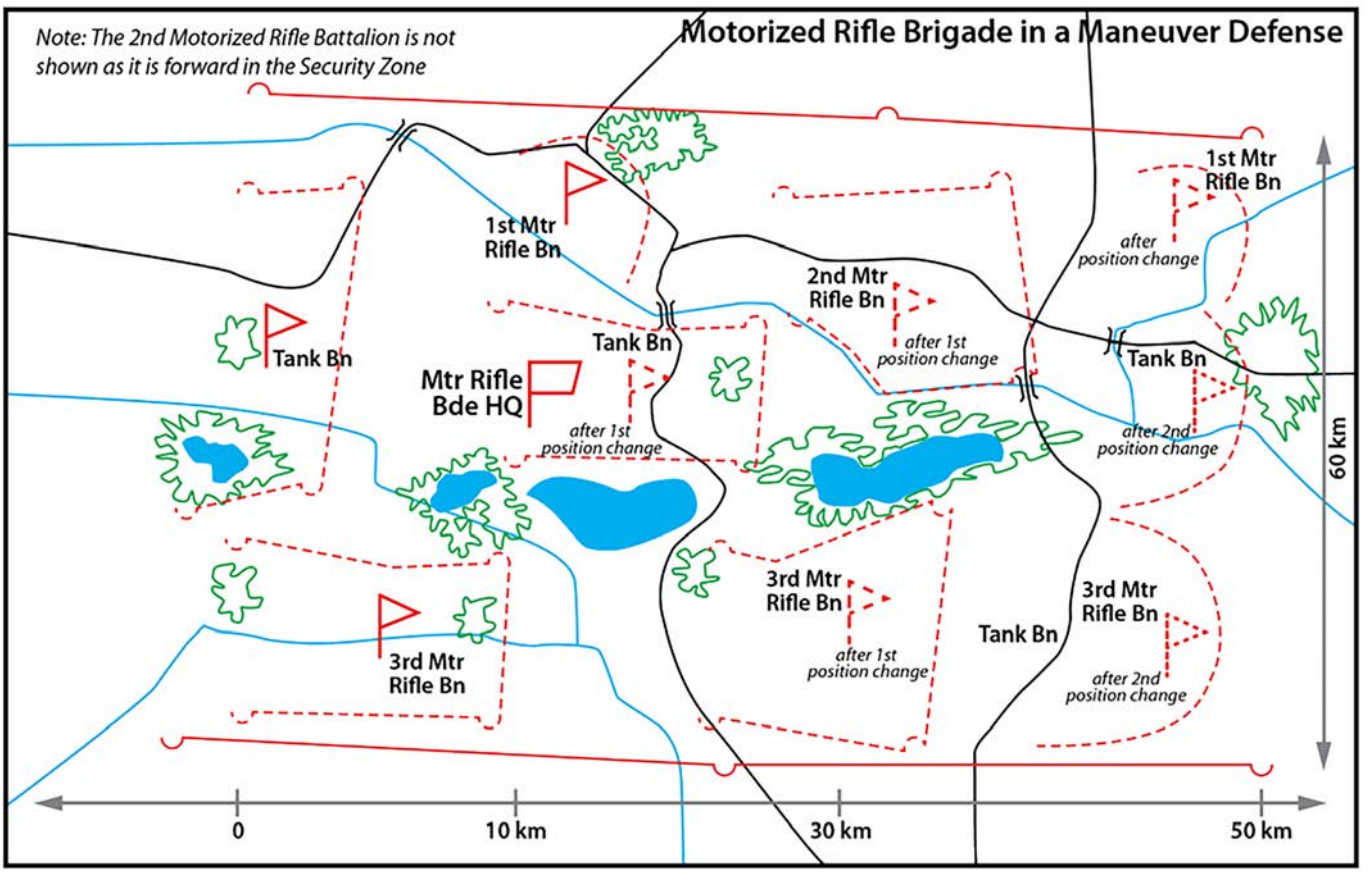

Figure 3. Russian motorized rifle brigade in a maneuver defense. *(Diagram by Charles K. Bartles)*[26]

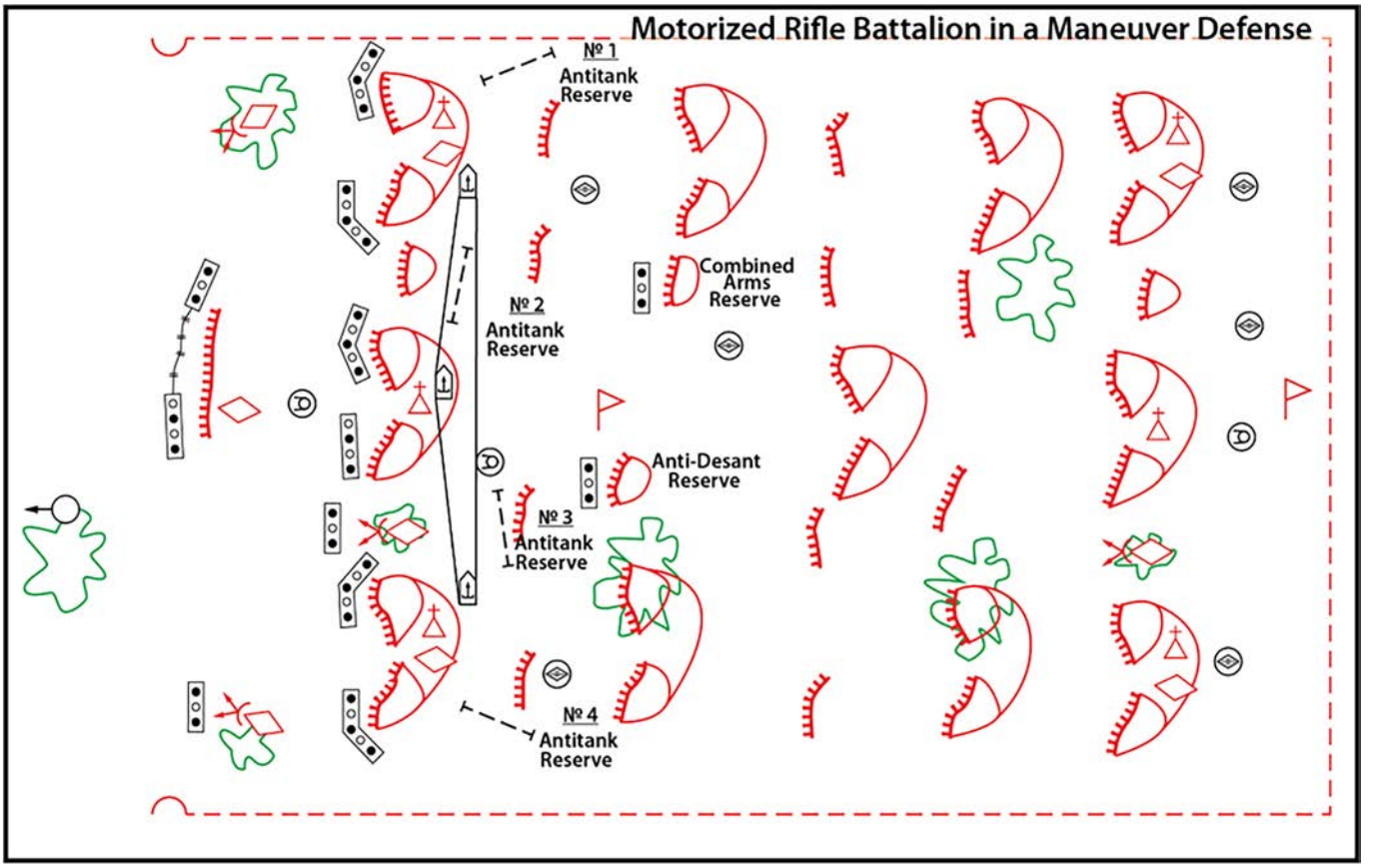

Figure 4. Motorized rifle brigade in a maneuver defense. *(Diagram by Charles K. Bartles)*[29]

depicted within the battalion positions, showing that the companies will fight from more than one position within each battalion position. The brigade defends against an attack from the west with its tank battalion to the north and 3rd Motorized Rifle Battalion to the south. The 2nd Motorized Rifle Battalion is deployed further to the west in forward positions and is not initially shown on this diagram.

The tank and 3rd Motorized Rifle Battalion cover three enemy high-speed avenues of approach. The northern approaches are considered the most dangerous. The enemy initially engages 2nd Motorized Rifle Battalion, which forces the enemy to deploy and slows his advance while Russian artillery or aviation fire damages the enemy advance. The 2nd Motorized Rifle Battalion does not become decisively engaged. Rather, it withdraws to the north and through the tank battalion, moves past 1st Motorized Rifle Battalion and occupies a defensive position in the north.[28]

The enemy then engages the tank battalion and 3rd Motorized Rifle Battalion, which again forces the enemy to deploy while Russian aviation or artillery fire again damages the enemy advance. Neither battalion becomes decisively engaged but withdraws. The tank battalion withdraws under the covering fire of 1st Motorized Rifle Battalion, moves through 2nd Motorized Rifle Battalion and assumes a central defensive position to the east. The 3rd Motorized Rifle Battalion moves directly back and goes on-line with 2nd Motorized Rifle Battalion to its north. The enemy continues to advance and is engaged by 1st Motorized Rifle Battalion and the tank battalion, which again forces the enemy to deploy while being engaged by Russian artillery or aviation. The 1st Motorized Rifle Battalion and tank battalion do not become decisively engaged but move to a new position north of the tank battalion.

The enemy continues to advance and is engaged by Russian artillery or aviation fires while deploying against 2nd and 3rd Motorized Rifle Battalions. The 2nd and 3rd Motorized Rifle Battalions do not become decisively engaged. The 2nd Motorized Rifle Battalion again moves directly back and goes on-line with the tank battalion to its north. The 2nd Motorized Rifle Battalion moves through 1st Motorized Rifle Battalion and tank battalion to take up a reserve position or to deploy as a forward detachment to start the sequence again.

Figure 4 shows a Russian motorized rifle battalion in a maneuver defense within its initial battalion box. (In this case, it is the initial position of 3rd Motorized Rifle Battalion in the brigade-defense figure.) The battalion is facing an enemy attack from the west and has a reconnaissance patrol forward. The battalion has a shallow security zone consisting of a motorized rifle squad in ambush to the north, a motorized rifle platoon reinforced with a tank, obstacles and two mixed minefields in the center, and a tank in ambush protected by a mixed minefield.

The battalion mortar battery is in the security zone in support of these elements. As the security-zone elements withdraw and reposition, the enemy is met by three motorized rifle

companies (of two platoons each) on-line. The companies are reinforced by a tank platoon and protected by seven mixed minefields. Man-portable air-defense systems are moved up to the rear of the company positions. The mortar battery has repositioned behind the center company. There are four firing lines for the antitank reserve protecting the flanks and junctures of the companies. The third platoons of the forward companies occupy fighting positions in an intermediate line from which they can cover the withdrawal of their companies. Three self-propelled artillery batteries are located each in support of a forward company but able to mass fires. The battalion command post is centrally located.

The companies do not become decisively engaged but withdraw under the covering fire of their rear platoon to take up new positions. The north and south companies move directly back to new positions in an alternate line, while the combined-arms reserve and anti-landing reserve cover the center. The central company moves further back on-line with the forward-company reserves and the on-order positions of the combined-arms reserve and anti-landing reserve in an intermediate line. The battalion command post, mortar battery and three artillery batteries move behind the final position shown on Figure 4.

The enemy advance encounters a line of six platoons that cause the enemy to deploy and slow down while being hit with artillery or aviation strikes. This line does not become decisively engaged but withdraws behind the two companies now on an alternate line with on-order positions for the combined-arms reserve and anti-landing reserve. Again, the enemy attack is slowed and punished, and then the line withdraws to its eastern position with the battalion on this alternate line. After slowing and punishing the advancing enemy, the battalion withdraws to its next battalion box, handing the battle off to a supporting battalion.

The battalion defends a 10-kilometer-by-10-kilometer box. Russians consider that normally there will be a two- to 2½-kilometer distance between intermediate and alternate lines. The rate of advance of the enemy fighting through the defensive positions is problematic; however, the Russians calculate that, should the Russian defensive positions prove stable, standard values in average conditions find that the enemy may be capable of covering the distance between defensive lines in one to 1½ hours. Depending on the location of supporting helipads, aviation support must function quickly and effectively to mitigate this advance, particularly should the enemy attempt to flank or encircle the defenders using ground and air-assault forces.[30]

Thus, in a maneuver defense, defending troops displace from line to line both deliberately and when forced. The enemy organizes pursuit with the interdiction of routes of withdrawal and attacks from the flanks and rear. These actions require separate fire support in which army aviation units are assigned to support covering-force subunits and rear guards, to engage flanking detachments and to slow the rate of pursuit. In certain sectors, maneuver will be combined with blocking and employment of flanking and raiding detachments.[31]

Conclusion

In conventional maneuver war under nuclear-threatened conditions, maneuver defense leading to a positional defense seems most likely to Russian theorists and planners. The preceding example is conducted on fairly open terrain, and the distances and dispositions will change with the terrain.

Skilled maneuver defense is designed to destroy enemy systems at long range and then withdrawing without becoming decisively engaged. Aviation and artillery are key to this long-range destruction but do not work the same target simultaneously. Artillery usually fights the enemy in front of the ground formation, while aviation fights any enemy trying to flank or encircle the defenders.

A key target for both aviation and artillery is mobile enemy air defense. The Soviets and now the Russians have long worked on developing a system that could detect, target and destroy high-priority targets in near-real-time. The Russian reconnaissance-fire complex now links reconnaissance assets with a command and fire-direction center with dedicated artillery, missiles and aviation for destruction of priority enemy targets in near-real-time. This system is tied in with the aviation and maneuver headquarters and will be involved in the maneuver defense when appropriate.

Maneuver defense requires close coordination between fires and maneuver. Maneuver-force tactical training to support it will probably include mutual covering, withdrawal and counterattack drills. Engineers should train in rapid obstacle placement and movement support to support this defense. Artillery battalions should more often fire in support of individual maneuver battalions than as a group. Artillery batteries should often be attached to maneuver companies.

Widespread camouflage discipline and use of corner reflectors are probable. Push-supply-forward should be expected, and evacuation collection point establishment should be part of maintenance and medical training. Battle-damaged systems need to be immediately repaired or evacuated in situations where terrain is being traded for time and advantage.

Maneuver defense is appropriate to combat conducted in Russia or on its southern and western boundaries. It is again part of Russian military theory and practice.

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FMSO assesses regional military and security issues through open-source media and direct engagement with foreign military and security specialists to advise U.S. Army leadership on issues of policy and planning critical to the Army and the wider military community. Forward comments about this article to FMSO, ATIN-F Dr. Grau, 731 McClellan Avenue, Fort Leavenworth, KS 66027-1350. Or email Dr. Grau at lester.w.grau.civ@mail.mil.

Notes

[1] P.A. Zhilin, Отечественная Война ***1812*** года [***The Fatherland War of 1812***], Moscow: Nauka, 1988.

[2] Ibid. Austria 1805 and Prussia 1806.

[3] Lester W. Grau and Michael Gress, ***The Red Army Do-It-Yourself Nazi-Bashing Guerrilla Warfare Manual (The Partisan's Companion)***, Havertown, PA: Casemate, 2010. Translation and commentary of the 1943 Soviet edition, Спутник Партизана, used to train partisans to fight the Nazis.

[4] David M. Glantz and Jonathan House, ***When Titans Clashed: How the Red Army Stopped Hitler***, Lawrence, KS: University Press of Kansas, 1995. This book remains the premier short history of the Soviet Union's defense and series of operational counterstrokes that defeated Germany in World War II.

[5] Ministry of Defense of the Russian Federation, Манёвренная оборона, Военный энциклопедический словар в двух томак [***Military Encyclopedic Dictionary in Two Volumes***], Volume II, Moscow: Ripol Klassik, 2001.

[6] Department of the Army, "Chapter 10: the Mobile Defense," Field Manual 3-90, ***Tactics***, Washington, DC: U.S. Government Publishing Office, July 2001.

[7] Ibid. "Units smaller than a corps do not normally conduct a mobile defense because of their inability to fight multiple engagements throughout the width, depth and height of the [area of operations] while simultaneously resourcing striking, fixing and reserve forces." This is not to say that Russian army groups would not conduct maneuver defense, nor that their concepts will differ radically from those of a U.S. corps. Rather, the training and planning for such is at lower level in the Russian force.

[8] Ministry of Defense of the Russian Federation, Боевой Устав Сукопитных Вонск, Часть ***2 (***Баталъон Рота) [***Ground Troops Field Manual***, ***Part 2 (battalion, company)***], Moscow: Voyenizdat, 2013. This is a major change since Stalin's infamous Order 227 issued July 28, 1942: "Не шагу назад" ["not one step backward"] – which condemned thousands of Soviet soldiers to die needlessly in positional defense. In 2009, V.I. Popov in his book Боевой Устав Сукопитных Вонск, Часть ***2 (***Баталъон Рота) stated that positional defense was the primary defense used, but the 2011 field regulations reversed this. Since then, it is consistent that maneuver defense is the major type used; the 2013 and 2014 field regulations both state that maneuver defense is the basic form of defense.

[9] The armies of medieval Russia were primarily cavalry forces maintained by boyars (nobility) augmented by peasants, who fought on foot.

[10] ***Editor's note:*** The Russian civil war (Nov. 7, 1917, to June 16, 1923) occurred in the former Russian Empire (the last tsar, Tsar Nicholas II, abdicated March 15, 1917) immediately after the two Russian revolutions of 1917. The two largest combatant groups were the Red Army, fighting for the Bolshevik form of socialism led by Vladimir Lenin, and the loosely allied forces known as the White Army, which included diverse interests favoring political monarchism, capitalism and social democracy. Also, rival militant socialists, as well as non-ideological Green armies, fought against both the Reds and the Whites. Thirteen foreign nations intervened against the Red Army, notably the former Allied military forces from World War II with the goal of re-establishing the Eastern Front. Three foreign nations of the Central Powers also intervened, rivaling the Allied intervention with the main goal of retaining the territory they had received in the Treaty of Brest-Litovsk.

[11] A. Shelomskiy and D. Maksimov, Маневренная оборона: История и современность [***Maneuver Defense: History and Contemporaneity***], Армейскнй сборник [***Army Digest***], May 2020.

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[17] A. Shelomskiy and D. Maksimov.

[18] Ibid.

[19] Lester W. Grau and Charles K. Bartles, ***The Russian Way of War: Force Structure, Tactics and Modernization of the Russian Ground Forces***, FMSO, 2016.

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[21] D. Kalachev, "Оборона-тоже маневр: Мотострелковый батальон и маневренная оборона" ["Defense is Also Maneuver – the Motorized Rifle Battalion and Maneuver Defense"], Армейскнй сборник [***Army Digest***], October 2016.

[22] Lester W. Grau, "Restructuring the

Tactical Russian Army for Unconventional War," ***Red Diamond***, February 2014.

[23] Ministry of Defense of the Russian Federation, "Очаговая Оборона" ["Fragmented Defense"], ***Military Encyclopedia*** [Военная Энциклопедия], Vol. 6, Moscow: Voyenizdat, 2002.

[24] Grau and Gress.

[25] A. Artemyev, "Подержка с воздука: Армейская авиация в маневренной обороне сухопутных войск" ["Air Support: Army Aviation in Ground-Troops Mobile Defense"], Армейский сборник [***Army Digest***], August 2017.

[26] Ibid.

[27] Ibid.

[28] The figures and their supporting text were originally published in Lester W. Grau and Charles K. Bartles, "Russian Aviation in Support of the Maneuver Defense," ***Aviation Digest***, October-December 2018 issue; https://www.rucker.army.mil/aviationdigest/assets/archive/AVN_DIG_2018_10-12.pdf.

[29] Artemyev.

[30] Ibid.

[31] Ibid.

Acronym Quick-Scan

FMSO – Foreign Military Studies Office

LEGENDS OF ARMOR

GENERAL WILLIAM S. WALLACE

Commander, 4th Infantry Division
Commander, V Corps Operation Thunder Run
Commander, TRADOC

The Guidance Problem

by CPT Korey Gaines and CPT Jared Hampson

"The failure to communicate the commander's security guidance results in unresponsive, inflexible units during contact."[1] *"The biggest gap we see here is with engagement, disengagement and displacement criteria."*[2]

The commander's reconnaissance and security guidance is consistently the topic most poorly understood by students in the Cavalry Leader's Course (CLC). Despite three weeks of intensive instruction, the questions related to commander's reconnaissance and security guidance on both the tactics and final exam are those most likely to be answered incorrectly by students. In addition, it is rare for students to enable the execution of their plan during tactical-decision-making exercises by developing comprehensive reconnaissance and security guidance.

The most-often-confused components of this guidance is *tempo*, *disengagement criteria* and *displacement criteria*. This is primarily due to the confusing and conflicting language used for these terms in the Field Manual (FM) 3-98, ***Reconnaissance and Security Operations***, and FM 3-90-2, ***Reconnaissance, Security and Tactical Enabling Tasks Volume 2***, compared to the more common definitions contained in other publications and the English language. With this in mind, the instructors of CLC recommend changing these terms to limit confusion among reconnaissance and security leaders across the force.

Tempo

Army Doctrine Publication 3-0, ***Operations,*** defines *tempo* as "the relative speed and rhythm of military operations over time with respect to the enemy." FM 3-98 defines *reconnaissance tempo* as "the level of detail and covertness required of the cavalry organization to best accomplish either reconnaissance or security tasks."

These conflicting definitions lead to students confusing reconnaissance tempo (level of detail and covertness) with operational tempo (speed). This confusion is compounded by reconnaissance tempo including the term "rapid." Students intuitively understand *rapid* to be synonymous with speed rather than the doctrinal definition of "the level of detail for the reconnaissance operation is limited to a certain prescribed list of tasks or priority intelligence requirements."

Changing the terms "tempo" and "rapid" to terms that can be intuitively understood will limit or prevent this confusion.

Disengagement, displacement criteria

Leaders across the Army as well as CLC students confuse the terms *disengagement criteria* and *displacement criteria*. This is primarily due to the definition of *displacement* as part of the commander's reconnaissance and security guidance being very different than the definition of *displacement* in all other contexts.

FM 3-98 defines displacement criteria as "triggers for planned withdrawal, passage of lines or reconnaissance handover between units." Displacement criteria therefore is criteria for transitioning to a new task, mission or phase of the operation.

However, in all other contexts,

Reconnaissance guidance	Security guidance
Focus: threat, infrastructure, terrain/weather effects or society • Recon objective	**Focus:** threat, terrain, friendly or civil • Security objective
Instructions: • Limited and forceful • Limited and stealthy • Broad and forceful • Broad and stealthy	**Duration:** • Short • Long
Engagement criteria	**Engagement criteria**
Disengagement criteria	**Disengagement criteria**
Transition criteria: • Event-based • Time-based	**Transition criteria:** • Event-based • Time-based

Table 1. Reconnaissance and security guidance.

displacement is used to describe movement from one position to another, and it is often linked to the term *disengagement*. For example, FM 3-90-1 includes in the description of disengagement the phrase "displacing from one position to the next." The definition of *disengagement line* also includes the phrase "signals to defending elements that it is time to displace to their next position."

As a result of these confusing definitions, students often use the terms *disengagement criteria* and *displacement criteria* interchangeably and therefore incorrectly. Changing *displacement criteria* to a term that better reflects the definition of "triggers for planned withdrawal, passage of lines or reconnaissance handover" will limit or prevent this confusion. In addition, the triggers for displacement criteria should be unified between the commander's reconnaissance guidance and security guidance to eliminate another unnecessary source of confusion.

Guidance solution

The CLC instructors recommend that the components of commander's reconnaissance and security guidance be changed to terms able to be intuitively understood:

- The term "tempo" as part of reconnaissance guidance changes to "instructions," with the descriptions of levels of detail changing from "rapid or deliberate" to "limited or broad."
- The term "tempo" as part of security guidance changes to "duration."
- The term "displacement criteria" changes to "transition criteria," with the triggers to be unified (as either time- or event-based) between reconnaissance and security guidance.

These changes would result in commander's reconnaissance and security guidance reading as shown in Table 1.

If implemented, these changes will reduce confusion among CLC students, with a resultant increase in understanding of commander's reconnaissance and security guidance among cavalry leaders across the force.

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CPT Jared Hampson is a CLC small-group instructor, 3-16 Cavalry, 316th Cavalry Brigade, Fort Benning. His previous assignments include commander, Troop K, 2nd Squadron, 11th Armored Cavalry Regiment, Fort Irwin, CA; commander, Troop A, 1st Squadron, 11th ACR, Fort Irwin; assistant S-3 for 6th Squadron, 1st Cavalry Regiment, and 1-11 ACR, Fort Irwin; executive officer, Troop D, 1st Squadron, 91st Cavalry Regiment (Airborne), Grafenwoehr, Germany; and platoon leader, Troop A, 1-91 Cavalry, Schweinfurt, Germany. CPT Hampson's military schools include the Joint Firepower Course, CLC, MCCC, Jumpmaster School and Airborne School. He has a bachelor's of science degree in systems engineering from the U.S. Air Force Academy. CPT Hampson's awards include the Bronze Star Medal, Meritorious Service Medal and the Combat Action Badge.

Acronym Quick-Scan

ACR – armored-cavalry regiment
CLC – Cavalry Leader's Course
FM – field manual

Notes

[1] ***National Training Center Update***, "Defensive Operations Against a Near-Peer Threat," March 2020.

[2] Center for Army Lessons-Learned, "CTC R&S Trends," ***Bulletin***, July 2016.

BOOK REVIEWS

Sherman: The M4 Tank in World War II by Michel Esteve; Oxford, United Kingdom: Casemate Publishers; 2020; 248 pages including maps, photographs, appendix; $42.

In 1940 the United States possessed 464 tanks. As the nation ramped up for the coming conflict, annual tank production of the interim M3 tank was about 300 per year. In his book on the development and employment of the M4 series Sherman tank, retired French armor officer and author Michel Esteve undertakes the task of explaining how the United States went from producing less than 1,000 tanks per year to constructing more than 30,000 within two years.

Given that there were five basic models of the tank and many variants, the task of describing the basic vehicle and alteration to armament, engines, transmissions, radios and crew training is a daunting undertaking. To adequately address these issues, the author organized his book into 13 chapters that cover the growth of the Sherman tank from concept to the battlefield use. Colored photographs, diagrams and charts support each chapter's topical area. Each chapter relies on field, technical and ordnance supply manuals as a foundation for explaining a particular aspect of the Sherman's career in World War II and other conflicts.

The United States produced close to 50,000 Sherman tanks before the end of their production life. The basic chassis system was employed to add mobility to a variety of other military vehicles such as artillery pieces, tank destroyers and recovery vehicles. As Esteve explains, the United States initially desired to develop three categories of tanks: light, medium and heavy. In 1941, the Army planning board decided to produce only light and medium tanks. Although several heavy tank prototypes were developed, none saw battlefield service.

Each tank prototype was initially designated "T" followed by its place in a given numerical sequence. The Sherman program began in September 1941 as the T6 project at Aberdeen Proving Grounds, MD. Upon acceptance by the Army, the Sherman acquired the designation of M4. Esteve covers the production aspect with a chart displaying the principal variants and the number produced by one of the 10 manufacturing firms, along with other data for each model.

Cross-sectional profiles of the basic Sherman M4 permit a better understanding of equipment and control locations. Overhead colored plates address the various hull types, hatch locations and comments on the differences and unique characteristics of each model. The author also explains the field-expedient use of more armor and crew installed protective measures. While each model was an alteration of the previous one, emphasis was placed on retaining common parts and sizes.

This common manufacturing method, for example, allowed the Sherman to mount five different turret configurations that initially carried a 75mm main gun, with later models boasting a 76mm, then 105mm main gun using the same turret-ring mount. At one point, the M4A3 chassis even carried a 90mm system originally intended for tank destroyers. Each of the various turret configurations is detailed by clear overhead and side-view color plates. Also, Esteve details the operation of the complex turret-stabilization system in understandable terms by relying on photographs and diagrams to supplement the text.

Other areas that the author addresses include a detailed discussion on crew personal weapons, main-gun ammunition and machinegun configurations. A series of colored plates detail six types of driver instrument panels, along with the various ammunition storage configurations found in the Sherman tank.

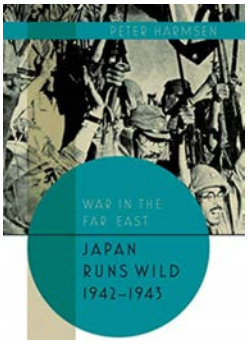
No discussion of this instrument of warfare would be complete without addressing routine operational maintenance and resupply efforts. Esteve covers crew tasks that include pre- and post-operative checks for the tank, repairs performed by the crew and servicing responsibilities. Esteve devotes considerable space to the logistical support provided by the famed Red Ball Express, along with the various types of recovery vehicles designed to support field operations.

Adapting the basic Sherman design to battlefield requirements witnessed the Sherman employed in several unique roles. These included rocket-launching platforms, engineer bridging vehicles, mine-clearing, flamethrower versions and amphibious tanks. The latter were principally developed by the British prior to the Normandy landings to provide direct and indirect fire support to landing troops. These vehicles were known as duplex-drive Shermans. The success and failure of these particular vehicles are examined and detailed by the author.

The United States also supplied their allies with tanks. About one third of the produced vehicles were supplied to allied nations under the American Lend-Lease Program. Details of how the program worked are explained by Esteve. Organizational charts for American, British, French and Soviet tank units are presented, complemented by photos and national identification systems.

This is a superbly organized, well-written, detailed history of the Sherman tank. Maneuver leaders will benefit from reading about the Sherman as an example of creating a system adaptable to worldwide battlefield conditions, the importance of common component design and the value of user feedback.

COL(R) D.J. JUDGE



War in the Far East: Japan Runs Wild 1942-1943 by Peter Harmsen; Haverton, PA: Casemate Publishers; 2020; 217 pages with notes; $22.85.

War in the Far East: Japan Runs Wild is undisputedly one of the most enjoyable books I have read in some time. How enjoyable was ***Japan Runs Wild***? I bought the companion volume ***War in the Far East: Storm Clouds over the Pacific 1931-1941***.

Harmsen has done a masterful job with his work on the Pacific War here. It would be easy to dismiss this work, thinking it is some thin book with an axe to grind on a facet of the Pacific War. Instead, the book is an intellectual treat, as it may be the best abbreviated coverage of this period of the war in the Pacific I have encountered to date.

Harmsen has sure feel for the material and leaves no gaps. It shows that he did his homework by using resources such as the U.S. Marine Corps History Division, the Naval Institute and the Naval History and Heritage Command. I've worked with these folks before, and the fact that Harmsen reached out to them indicates he was endeavoring to deliver more than a shelf-filling book.

The book picks up where ***Storm Clouds over the Pacific*** left off: the Japanese offensive against the Western Powers in the Pacific has been unleashed. We begin with the doomed Force Z and ADM Tom Phillips, to whom Harmsen is perhaps more charitable than most reviewers are in his conduct with Force Z. But Philips and his attitude would easily be at home in any armor battalion, for he was ready to go hunting and bring destruction upon his nation's enemies, even if the odds might feel long. Harmsen in four pages neatly details the destruction of Force Z and the magnificent seamanship of Captain Bill Tennant of ***HMS Repulse***, who skillfully evaded many torpedo attacks, that Harmsen's book will be my go-to quick source for the near future. Moreover, Harmsen neatly encapsulates other battles in the same fashion, getting to the gist with detail enough to satisfy the military-history reader.

Harmsen ferrets out different facts that might have been unknown to the reader. For example, I was unaware that the Japanese suffered a major defeat in this period where they ran wild against the Western Powers, losing the Battle of Changsha in early 1942 in China.

Harmsen neatly dissects how these spectacular and almost-too-easy victories led Japan into a strategic stupor, not really certain what to do next. In fact, Harmsen takes up an interesting thesis that much of what Japan did after defeating the British in Burma was defensive by nature, that an offensive mindset was no longer so much in evidence. Had they been thinking offensively, he argues, the Japanese would have pushed farther in their attack against Colombo and perhaps taken the British out of the war in the Pacific and Asia. Therefore both Midway and Guadalcanal take on a different hue in terms of Japanese strategy for these two key battlespaces, that they were really defensive battles and operations.

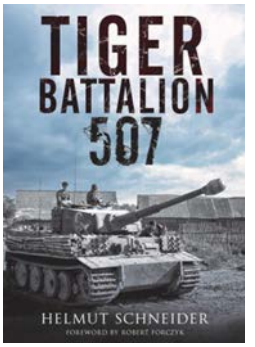
Yet I think Harmsen does his reader the greatest service by bringing to light the year 1943 in the Pacific, a year that has been in the shadows, as there was no Iwo Jima, Okinawa, Marianas Turkey Shoot or Leyte Gulf. His telling of the battles around Buna, the Bengal Famine and Tarawa is riveting. But his astute observations of strategy from Yamato's 1943 I-Go air offensive that led to his death to Halsey listening to his staff and adopting an island-hopping strategy that would leave Japanese garrisons to wither and die on the vine gives one a nuanced perspective of how each side saw how their respective wars were changing and needed to be fought. Ironically, the War Plan Orange plans advocated island-hopping but seemed to have been overlooked.

In perhaps the most startling material, Harmsen details how dissent was tolerated in Japan to a degree one would never have suspected, in ways that were unimaginable in Nazi Germany or Stalin's Russia – one only has to think of the arrest of a young artillery officer by the name of Alexander Solzhenitsyn as Berlin is poised to fall.

So if you know little about the Pacific Campaign of World War II, this is a perfect entry point. If you are well-versed in this period, be prepared to be pleasantly surprised by the new facts and observations Harmsen has culled for your reading pleasure. Well researched, great notes and a lively writing style, covering both the tactical to strategic fields, makes this a winner of a book.

DR. (LTC) ROBERT G. SMITH

Tiger Battalion 507, edited by Helmut Schneider; South Yorkshire, United Kingdom: Greenhill Books; 2020; 288 pages including maps, photographs, appendix; $32.95.



During World War II, the U.S. Army sponsored heavy-tank designs as part of its overall production strategy. While several prototypes were produced, none ever made it into combat operations. By contrast, the German army produced six tank variants culminating in the creation, manufacture and deployment of two heavy-tank models. Designated Panzer Kampfwagen VI (PzKpfw VI) or Armored Fighting Vehicle 6, they are better known as the Tiger I and King Tiger tank. At the time, they were battlefield monsters that caused a great deal of justifiable consternation to the Allies.

Deployment of the Tiger I tanks began in 1942 against Allied forces in North Africa and Russia. By the conclusion of hostilities, the Germans had fielded 15 heavy-tank battalions. Three were assigned to the elite Waffen SS, while the remaining 12 were organized to support the German army. Tiger Battalion 507 was assigned to the German army and formed in October 1943. As

with the other units, this battalion contained three tank companies of 14 tanks each, plus three battalion-level command tanks, for a total of 45 vehicles. A sizeable maintenance element, along with a reconnaissance and medical platoon, rounded out the formation.

Assigned to the Russian front, the battalion began its combat operations against the Russians in March 1944. They continued to be shuffled about the Eastern Front in a vain attempt to stem ever-increasing Russian offensive operations. They did well. Over a three-day period in January 1945, for example, the battalion was credited with destroying 136 Soviet tanks.

In the concluding days of the war, the battalion found itself assigned to the tank training area in Paderborn, Germany. Here it fought a large tank action against elements of the American Third Armored Division. A footnote recalls that a member of the battalion had the dubious distinction of killing the commanding general of Third Armored Division, MG Maurice Rose, during this engagement.

At war's end, the unit was disbanded and its members scattered throughout Germany. In 1982, former members of the battalion met and decided to publish their exploits. Relying on personal recollections, military files and individual diaries, editor and former Tiger Battalion 507 member Helmut Schneider went about the task of publishing a record of the battalion's activities. Schneider enlisted in the German Army in 1941 and trained as a tank driver. He witnessed his first combat action in southern Russia, serving as a driver and gunner prior to being selected for training on the Tiger tank.

Schneider and his fellow contributors posted their recollections in a series of entries. Their comments on Russian anti-tank weapons and mine warfare are restricted to observing that these weapons caused many casualties and disabled many tanks. A variety of photos display German tankers receiving awards, on leave in one of the occupied countries of Europe or pulling maintenance on the Tiger.

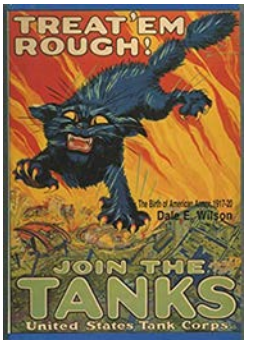
The commentaries and associated photographs on maintenance are impressive. The Tiger weighed some 57 tons combat-loaded. It was a complex weapon system. Repair work required a secure location for troubleshooting the tank. Obviously, given the speed of the Russian assaults, these secure locations were few and far between; thus many Tigers were abandoned to the enemy. The book contains many photos of recovery efforts on disabled tanks.

Highlighted in the recollections by the battalion members is the tendency of the Tiger I to throw its track. This was a major shortfall of the Tiger design. The Tiger I wheel system contained eight road wheels per side. The road wheels overlapped each other. This configuration made the track susceptible to throwing track in soft ground. Mud and snow would build up between the wheels and the track and disable the tank. Given the extreme Russian weather conditions and almost non-existent road system, adverse weather conditions were the norm. In this environment, these heavy tanks became moving pillboxes, unable to move quickly. The tank's traction system and weight worked against rapid formation movements and lessened the system's impact on combat operations. Unfortunately, the recollections of the former battalion members mention this deficiency only in passing. A detailed text on the Tiger tank is required to appreciate this deficiency.

While a superb translation from the original German text, the book lacks a great deal of background information that would enhance understanding on the employment of the tank. An introductory section, for example, on the Tiger tank system would have established a basis for understanding the technical aspects of the system.

Maps are often of poor quality and fail to show friendly and enemy movement. While an interesting look at a heavy German tank battalion, there is little here to attract or enhance a maneuver leader's appreciation of tank warfare during World War II.

COL(R) D.J. JUDGE



Treat 'em Rough! The Birth of American Armor 1917-20 by Dale E. Wilson; Haverton, PA: Casemate Publishers; 2018; 214 pages; $44.30 hardcover or $10.99 Kindle.

Dale Wilson's reprise of his history of the birth of American Armor is a handsome addition to the bookshelf of any Cavalry and Armor enthusiast, and includes something for everyone in the profession of arms. Whether the reader is looking for a tactical military history that brings out the nature of war and the character of warfare in World War I; case studies in the difficulties of aligning doctrine, organization, training, materiel, leadership, personnel and facilities (DOTMLPF) of an emerging martial capability; or old-fashioned stories of ingenuity and proactivity in young leaders, this book provides much in only 214 pages. The true historian, however, may be disappointed in the subject matter and in the endnotes of each chapter, but would appreciate its aesthetics.

Wilson presents ***Treat 'em Rough!*** in two parts. The first chronicles the DOTMLPF challenges faced by the U.S. Army as it attempted to integrate the newfangled tanks into warfighting. The second part tells the story of how American units employed light and heavy tanks in the closing campaigns of the Great War.

Part I begins with good-news stories of ingenuity and determination despite challenging circumstances, then tells a bad-news story (that would surprise few in the profession today) of bureaucratic bumbling. The good-news portion tells how the American Expeditionary Forces (AEF) established schools for light and heavy tanks in Europe and in the United States. It first contextualizes the AEF's interest in the tank, and how and why the AEF should adopt the new capability.

Wilson quickly brings George S. Patton Jr. into the picture, who was an

ambitious Cavalry captain on the AEF staff. The foundational Chapter 1 tantalizes Armor fans with the story of Patton's personal witnessing of the Battle of Cambrai (the first great tank assault), his first encounter with noted British military theorist J.F.C. Fuller, and with a summary of Patton's comprehensive and prescient report, "Subject: Light Tanks," which included his original six tasks for tanks.

Chapters 2-4 present the reader with an outstanding account of how the Army struggled to incorporate new capabilities. Wilson begins Chapter 2 by stating: "On Christmas Eve 1917 the AEF Tank Corps was a woeful force indeed, consisting as it did of just three officers: [COL Samuel D.] Rockenbach, [CPT] Patton and [1LT Elgin] Braine. The task facing them was monumental."

The chapter justifies this preamble by addressing how these leaders (mainly Patton) developed the school and the force. It is a case study in DOTMLPF development worthy of a Fort Leavenworth classroom, with challenges ranging from negotiations with the French over land allocation for the American school to how to train soldiers and maintain discipline at a tank school that had no tanks for its first three months of existence. After a narrative of the development of tactics, Wilson ends the chapter with Patton's departure for the front.

Chapter 3 does the same for the American Heavy Tank School (also named 2nd Tank Center) in Wool, Great Britain. Lacking a source like Patton for the heavy tanks, Wilson provides a less-robust treatment of the subject and its history. Its brevity also reinforces Wilson's point that the United States' relationship with British was in general more positive than that with the French. While LTC Conrad Babcock, the school's commander, dealt with animosity between the British and American soldiers, the positive organizational relationship resulted in the British spoon-feeding the Americans in heavy-tanks concepts. Wilson argues, though, that the Americans did engage in rich dialogue with the British as they refined their doctrine, but he disappoints a little by choosing not to expound on this dialogue.

Chapter 4 completes the collection of DOTMLPF case studies with the tank schools in the United States. The second of three stories of disciplined initiative in young leaders comes out in how CPT Dwight Eisenhower, only three years out of West Point, established the Tank Corps training center at Camp Colt on the Gettysburg battlefield grounds in Pennsylvania. Young leaders will find in this chapter anecdotes on discipline and ways to create esprit de corps in an organization seeking an identity. Further, Wilson tells the story of how Eisenhower responded to the "Spanish Flu" epidemic in a location that was bringing together men from throughout the country.

While Chapters 2-4 are the "good news," Wilson's greatest success in ***Treat 'em Rough!*** is found in Chapter 5, where he tackles the bad-news conundrum of how the United States failed to produce a single tank that saw action in World War I. Entitled "Tank Production: Made the American Way" (perhaps tipping a hat to Wilson's dissertation adviser, Russell Weigley), the chapter follows a young officer's travails in trying to break through stiff Washington, DC, bureaucracy.

Braine's experience in spinning up American military/industrial energy is best characterized by one of the many anecdotes from Wilson. In it, Braine experiences a month-and-a-half delay on getting tools for the new tanks in a comedy of administrative errors, including redrawing the required tools three times. Wilson's damning account also includes evidence that the Washington bureaucracy intentionally misled the AEF leadership about the tank-production progress, with embarrassing results for the AEF and its relationship with its Allies. He also presents a strong case that Washington lost time in tank production due to its support for an inferior tank design by Ford Motor Company, despite Pershing's express wishes.

The inauspicious performance of America's military/industrial mobilization resulted in only three battalions capable of engaging in battle out of 30 authorized for the AEF by August 1918.

Wilson's Part II brings the reader forward from the generating force to the operational force by recounting the actions of the AEF's tanks (supplied by Allies) in the Western Front of World War I. Mirroring Part I, he first tells of the actions of the 326th and 327th Light Tank Battalions, and then 301st Heavy Tank Battalion.

Wilson's Chapters 6-8 describe how the AEF light tanks factored into the impressive execution of the St. Mihiel and Meuse-Argonne offensives. The history is compelling, with examples that accentuate the principles of mission command in effective leadership, battlefield ingenuity and valor. They include good maps to assist the reader in keeping up with the exciting play-by-play.

While Patton's actions dominate the narrative, Wilson includes the personal experiences of a number of other officers and men (many of them retrieved from Patton's papers). It also includes valuable stories of how friction behind the forward line of troops, such as detraining operations in heavy rain, logistics and movement to the line of departure, can affect operations.

Historians will be slightly disappointed by Wilson's Patton-philia, and with the fact that the 2018 publication introduces nothing new to the historiography. It retains the same preface from GEN George S. Patton IV from the original publication by another press more than a decade earlier. Furthermore, the enthusiast will likely already have ***Camp Colt to Desert Storm: The History of U.S. Armored Forces*** (University Press of Kentucky, ed. Hoffman, Starry 1999), which includes Chapter 1 authored by Wilson, effectively summarizing this book.

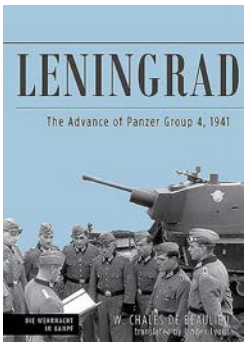
Treat 'em Rough! remains, though, the strongest single DOTMLPF and tactical military history book on the birth of Armor in the U.S. Army. Wilson, along with historian Timothy Ninninger, continue to stand out in helping understand why the development of tank tactics was doomed from the start for the United States, as is evidenced by America's absence in seminal books like Williamson Murray and Alan Millett's ***Military Innovation in***

the Interwar Period.

On top of all of that, the hardcover is great. It is the texture of a rugged Army "green book," with the old "Treat 'em Rough!" poster in color. I commend it for this journal's readership.

LTC ANDREW P. BETSON

Leningrad: The Advance of Panzer Group 4, 1941 by W. Chales de Beaulieu; Havertown, PA: Casemate Books; 2020; 216 pages including maps and appendix; $31.71.



By the end of 1940, Germany had conquered all of Europe. With England tottering on the brink of defeat, Adolf Hitler turned his eyes toward conquering Russia. In his view, "You only have to kick in the door and the whole rotten structure will come crashing down." The attack upon the Soviet Union was designated Operation Barbarossa. From March until June 1941, an immense effort was undertaken to position some 140 German divisions for the attack. The German High Command placed this enormous force into three army groups: Army Group South, Army Group Center and Army Group North.

Army Group North, commanded by Field Marshall Wilhelm Ritter von Leeb, was tasked with seizing the Russian city of Leningrad. To attain its objective, the Army group would have to move some 500 miles from its start point to seize the city. The three subordinate armies of the Army group consisted of two infantry heavy armies and one armor heavy force designated Panzer Group 4. This force was under the command of Colonel-General Erich Hoepner. Their combat performance is the subject of this book by the group's chief of staff, GEN W. Chales de Beaulieu.

This is the first English translation of the original 1961 German edition describing the combat actions of Panzer Group 4 from June to September 1941. Based on personal observations, war diaries, operational orders and after-action commentaries, de Beaulieu explains that the Army group formed its three subordinate armies into a wedge-shaped formation wherein the two infantry heavy armies would move astride the tip of the wedge formed by the armor heavy Panzer group.

Panzer Group 4 contained two corps. The XXXXI Corps, under the command of GEN Georg-Hans Reinhardt, consisted of 1st and 6th Panzer Divisions, 36th Motorized Infantry Division and 269th Infantry Division. The XLI Corps, commanded by GEN Erich von Manstein, contained 8th Panzer Division, 3rd Motorized Infantry Division and 290th Infantry Division. Both 269th and 290th were regular infantry divisions with limited motorized capabilities.

The Germans launched their three Army groups into battle June 21, 1941. The author's commentary on the flow of the battle as the Panzer group initially advanced against light resistance toward the Dvina River contains observations on enemy resistance, friendly logistics, weather and terrain. The seizure and defense of vital river crossing sites, dependence on using existing roads and the impact of determined Soviet counterattacks is fully explained by de Beaulieu. The restrictions on maneuver and massing of German forces due to the fragile road systems, adverse weather conditions, crossing of many marshes and wetlands is thoroughly reviewed by the author.

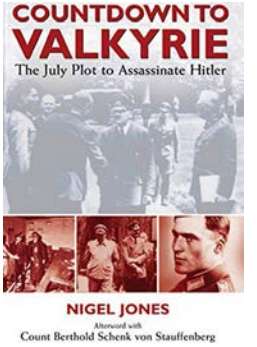
By late July, the Panzer group gained favorable high-speed armor terrain. However, as the author clearly states, the effects of personnel and equipment losses impeded the group's ability to take advantage of the terrain. The seizure of Leningrad, the original operational object of Army Group Center and specifically Panzer Group 4, was never realized. Here the author falls short of fully explaining why this objective was not seized. De Beaulieu implies that the Army group commander voluntarily shifted forces from the panzer to his other subordinate commands.

In fact, the Army group was under intense pressure from the German High Command to send forces south to Army Group Center for its drive on Moscow. Von Leeb had to squeeze forces from his structure to aid this effort. His Army group would not seize, but rather would encircle, Leningrad. Sending forces south to Army Group Center was a futile effort. Given the poor road system, appalling supply situation and Russian resistance, lateral movement by the Germans was extremely restricted. The result was that the drives to Leningrad and Moscow both failed by the end of 1942.

This is a book well worth the time to study. While an excellent translation, the text requires a research effort prior to reading. The author consistently identifies, for example, Russian tanks as Joseph Stalin (JS) rather than Kliment Voroshilov (KV) tanks. The JS tanks were produced in 1943, while the KV I and II engaged the panzer group. Appreciating the capabilities of these tanks will provide a better understanding of the delays caused by formations armed with these tanks. Another research effort includes an initial scan of the book's German-language organizational charts and maps, which necessitates consultation with a suitable translation process to fully understand what follows in the text. Also, a quick review of the 1941 organization and equipment of German infantry, motorized infantry and panzer divisions facilitates the comprehension of the panzer group's composition.

With prior preparation, this book yields many examples and lessons-learned for maneuver commanders in such areas as air support, logistics, defense of bridgeheads, movement across wetlands and interaction with higher headquarters.

COL(R) D.J. JUDGE



Countdown to Valkyrie – The July Plot to Assassinate Hitler by Nigel Jones; Havertown, PA: Casemate Publishers; 2019; 320

pages; $19.95 (soft cover).

In 2008, actor Tom Cruise brought Count Claus von Stauffenberg and the July 20 Plot to the silver screen with the film ***Valkyrie***. The movie, which received praise for its historical accuracy, depicts the major events of the bomb plot to assassinate German dictator Adolf Hitler at his forward headquarters in East Prussia. Readers keen to learn more are highly recommended to purchase a copy of Nigel Jones' book titled ***Countdown to Valkyrie – The July Plot to Assassinate Hitler***. Jones, a familiar name given his previous work with the BBC and ***History Today*** magazine, provides a detailed and engaging account of the conspiracy.

As expected, Jones chronicles Stauffenberg's formative childhood experiences to understand his motivation in joining the conspiracy and taking a central role in the bombing attempt. The book's early chapters also provide background context explaining Hitler's entry into German politics, consolidation of authority and emergency-powers decree, and relations with the Wehrmacht's senior leadership. He further examines several earlier attempts to remove Hitler by the Valkyrie conspirators or other would-be assassins seeking an end to the Fuhrer's reign of terror.

In the book's third act, Jones presents the events leading to and occurring July 20 in a highly detailed, minute-by-minute account of events across Nazi Germany from Paris to Rastenburg.

A notable first found in ***Countdown*** is the primary-source information provided by Stauffenberg's eldest son, Berthold, who met with Jones for an extended interview. In a brief afterword, Strauffenberg continues the family story detailing their post-World War II lives.

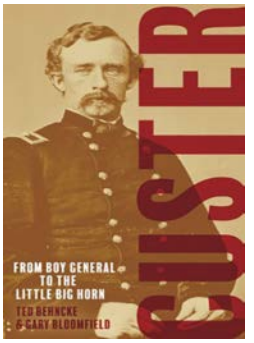
The book contains many black-and-white photographs and an annex of biographies of the major figures involved in the plot. Readers seeking to explore the book's locations in Berlin or elsewhere may wish to use the two-page site guide with information on the Bendlerblock, partially destroyed Wolf's Lair or the Stauffenberg family's summer home.

There is a vital lesson to be learned from this tragic story. At its core, ***Countdown*** is a strong reminder to professional soldiers of the dangers of blindly following orders that are patently illegal, immoral or unethical. Time and again, the Wehrmacht's senior leadership hid behind their personal oath to the Fuhrer despite his unspeakable – and well known – evils against humanity. We may speculate as to what might affect Hitler's removal from power *might have made* upon the outcome of World War II and post-conflict Europe. What is *undoubtably certain*, however, is had the Wehrmacht acted sooner, Hitler's death would have saved innumerable lives otherwise sacrificed to cowardice, inaction and fear.

LTC CHRIS HEATHERLY

Custer: From Boy General to the Little Big Horn by Ted Behncke and Gary Bloomfield; Havertown, PA: Casemate Books; 2020; maps, photographs, bibliography; $34.95.

The life and exploits of George Armstrong Custer have been the subject of many books and films. Was he a courageous, knowledgeable leader or an attention-seeking, irresponsible individual? Did he lead the men entrusted to his care to certain death at the Battle of the Little Big Horn in June 1876? The answers to these and several other questions about Custer are the focal point of Ted Behncke's and Gary Bloomfield's collaborative work on this complex man.



Exploring Custer's developing years, the authors examine his upbringing in Monroe, MI. A prankster and attention-seeker, Custer gained entrance to the U.S. Military Academy in 1857. As the authors note: "The question was not 'Was George Custer ready for West Point?' but rather 'Was West Point ready for the antics of George Custer?'" During his stay at West Point, Custer amassed a tremendous number of demerits and was ranked 34th of 34 men in his class. However, with the advent of the Civil War, Custer was allowed to graduate in June 1861.

He entered combat with 2nd Cavalry Regiment during the Battle of Bull Run in July 1861. From that time onward, there were few battles conducted in Virginia or the surrounding areas in which he did not participate. The authors detail his impressive record of achievements, where he was recognized as an officer who always led from the front, cared for his men and displayed audacity and courage in combat. These laurels won him favorable press reviews, many of which are displayed in the text. His heroic actions also brought him to the attention of senior Union field commanders.

As noted, "his stamina was boundless, and while others were ready to drop, he was itching to fight." These characteristics, along with his enviable combat record, led to Custer attaining the brevet rank of brigadier general at age 24. Placed in command of the Michigan Brigade, he led them into battle as part of the Union Cavalry Corps during the Battle of Gettysburg in July 1863. Relying on period newspaper reports and personal recollections of his subordinates and commanders, the authors detail his employment of cavalry against Confederate forces. By 1865, Custer was a major general of volunteers and commanded a division of cavalry in the Shenandoah Valley of Virginia. He ended the war by witnessing Lee's surrender at Appomattox.

Mustered out of the volunteers in 1866, he was appointed a lieutenant colonel in 7th Cavalry Regiment. The authors explain in detail the combat prowess and capabilities of foes he would face. The Plains Indians fought to retain control of their land against the encroaching flood of settlers from the East. The authors examine the cultural differences between the Indian nations and the U.S. government officials sent to negotiate an end to hostilities. Misunderstandings caused confusion to reign, resulting in continual clashes.

Pitted against the "finest light cavalry in the world … the Army failed to

recognize this or adequately respect [its] foe, and, as such, it was inevitable a disaster would occur." Outlining the moves of the post-Civil War Army, the authors focus on the quality of recruits manning 7th Cavalry, the rate of desertions and disciplinary problems that drove Custer into a state of depression. Also, the long separation from his wife caused Custer to commit several personal and professional missteps that resulted in his courts-martial and suspension from the Army.

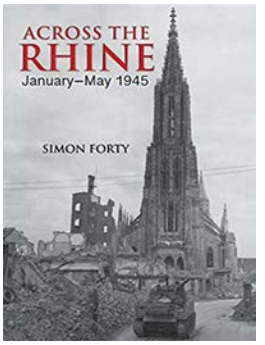
Despite these serious setbacks, Custer's luck held and he is recalled to active service in pursuit of tribes that have departed the reservation. When Custer deploys 7th Cavalry along Montana's Little Big Horn River, he is at the pinnacle of his military career. The narrative describes his approach march to the Indian encampment, the organization of Custer's force, the logistical tail of both Custer and the Indians, along with Custer's offensive concept. In a clear and concise manner, the authors explain the battle's dynamics and result. Several previously held beliefs regarding the employment of Custer's force are challenged by the authors.

This is a book worthy of review and discussion by maneuver commanders. The lessons brought forth regarding cultural differences, appreciation of enemy capabilities, force structure and political guidance are well covered. Custer's command style, interaction with his officers and ability to determine at a glance a battlefield opportunity merit attention. So also are his failure to perform adequate reconnaissance, mass his forces and thoroughly explain his tactical concept to his subordinates at the Battle of the Little Big Horn. Custer's personal and professional traits, shortfalls and abilities will command the attention of maneuver leaders.

COL(R) D.J. JUDGE

Across The Rhine: January-May 1945 by Simon Forty; Havertown, PA: Casemate Publishers; 2020; 192 pages including maps and photographs; $20.22.

In February 1944 GEN Dwight D. Eisenhower received a strategic directive from the Combined Chiefs: "You are hereby designated as Supreme Allied Commander of the forces placed under your orders for operations for liberation of Europe from Germans. Your title will be Supreme Commander Allied Expeditionary Force." With his impressive title also came a complex and demanding task: "You will enter the continent of Europe and, in conjunction with the other United Nations, undertake operations aimed at the heart of Germany and the destruction of her armed forces."



To accomplish his mission, in June 1944 Eisenhower successfully landed Allied forces in Normandy. After fighting their way out of the Normandy bridgehead, the Allies formed three Army groups. The British under Field Marshall Bernard Montgomery formed 21st Army Group, with the 1st Canadian and 2nd British Armies under his command. Later, he would also receive the Ninth United States Army for operations west of the Rhine River.

GEN Omar Bradley assumed control of 12th Army Group. He had under his command the First and Third United States Army. The Ninth Army would return to his control prior to the conclusion of hostilities in May 1945.

After the August 1944 invasion of southern France, GEN Jacob Devers commanded 6th Army Group. Devers retained control of the Seventh United States Army and the 1st French Army for the rest of the war.

The author provides a detailed account of the establishment of each Army group, along with commentaries on their commanders.

Ably supported by Allied air forces, this immense organization moved steadily but surely across Western Europe and into Germany. British author Simon Forty details the various major military operations conducted to attain Eisenhower's strategic directive. Using period maps, original and current photographs, Forty recounts the movement of Allied forces across Europe. Details on the campaigns conducted across France, Belgium and Holland lay the foundation for the author's commentary on operations performed once the Allies crossed the Rhine River.

Forty highlights major combat events on the west side of the Rhine River starting with Operation Market Garden, the Allied ground and airborne invasion of Holland in September 1944. This operation demonstrated to the Allies that "the ragtag German forces showed remarkable resilience and determination. …" This same degree of resilience is detailed by the author as he delves into the penetration of the German West Wall defenses in the areas of the Reich Wald and Huertgen Wald areas. The drives into these two forested areas cost the Allies more than 50,000 casualties.

Adding to the Allies' mobility frustrations, the German counterattack in the Ardennes region stopped all Allied movement toward the Rhine in December 1944. Period photographs of the appalling weather and terrain conditions faced by all three Allied Army groups is presented in a summarized fashion by the author.

Steady Allied offensive operations, however, move the three Army groups to the edge of the Rhine River by March 1945. The unforeseen but fortuitous seizure of an intact bridge at Remagen, Germany, by the First United States Army allowed the Americans to occupy and expand their bridgehead on the east bank of the Rhine. By late March, all three Army groups crossed the river and established bases aimed at encircling the industrial heart of Germany's Ruhr River Valley. Forty provides organizational charts depicting the structure of the defending German forces, a biography of each major German commander, details on the Allied river-crossing engineering efforts and an in-depth discussion on the British-conceived and -executed immense ground and airborne Rhine crossing.

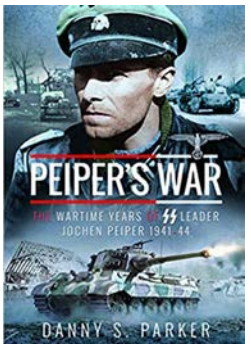
In addition to describing the major Allied operations in support of a steady movement to the Rhine and beyond,

Forty also provides observations on the Canadian efforts to clear the Scheldt Estuary, which allowed free access to the port of Antwerp, GEN George S. Patton's operations in the Alsace-Lorraine region of France, and Patton's failed attempt to liberate Allied prisoners in the famous Hammelburg Raid, along with the British success in freeing the Netherlands from German occupation.

Forty has made an impressive attempt to address almost a year of intense combat by the Allies in Western Europe. In performing this task, he provides summarized interpretations of some of the most complex and confusing engagements ever fought. Maneuver commanders will benefit from his study of various aspects of these battles. However, his work should be viewed as a fast-reading review of the immense effort expanded by the Allies to attain their strategic objectives. Leaders should use the book as a basis for future study and discussion. It is well worth the time and effort to read.

COL(R) D.J. JUDGE

Peiper's War: The Wartime Years of SS Leader Jochen Peiper 1941-44 by Danny S. Parker; Havertown, PA: Pen and Sword Books Ltd.; 2019; 620 pages including maps, photographs, footnotes and bibliography; $42.95.



British author Danny S. Parker presents the third in his four-volume work on the life and exploits of Schutzstaffel (SS) COL Jochen Peiper. Peiper was known as a "handsome Aryan prodigy, a witness to the inner workings of the Nazi elite, Waffen SS warrior. …" While better known for his actions during the Malmedy Massacre, this subject will be addressed in the fourth and final book in Parker's series. In this work, the author focuses on Peiper's actions from 1941 to 1944.

Peiper was born in 1915 to a middle-class German family. His father fought during World War I and later became an ardent anti-Semite and member of the National Socialist Party. Peiper's father encouraged his two sons to join the Nazi Party and pursue a military career. In 1933, Jochen followed his older brother into the Hitler Youth program. As soon as he was able, Jochen volunteered for the SS cavalry. As Parker relates, Peiper soon attracted the attention of the SS leader, Heinrich Himmler.

By 1938, Peiper was a card-carrying member of the Nazi Party and assigned to the Leibstandarte SS Adolf Hitler (LSSAH), a military formation that would expand to become one of the elite units within the German army. The author details Peiper's assignment as an adjutant to Himmler. It was an unusual assignment, with Peiper retaining his assignment in the LSSAH while assigned to Himmler's staff. As part of his routine duties, he visited various concentration camps and execution sites with Himmler. By 1939, Peiper was quickly becoming Himmler's closest aide and accompanied him on all official functions. By the end of the war, he possessed an extensive knowledge on the incarceration and execution of various people caught up in the German war machine.

Parker exhaustingly reviews Peiper's exploits during the 1940 invasion of France. Eager to prove his tactical abilities, Peiper returned to the LSSAH as a company commander. His audacious attack on a French position resulted in an award of the Iron Cross. Promoted to Himmler's first adjutant, he was fully aware of the plans for the elimination of Europe's "undesirables" and the invasion of the Soviet Union. The details of the conferences he attended outlining the Nazi plan for treating the population of the conquered territories is often repulsive and painful to read. The collective lack of compassion or understanding of the destruction brought to their fellow human beings is fully laid out by the author.

Detached from Himmler's entourage once again, he returned to the LSSAH, where his exploits often included a host of warcrimes. By September 1941, for example, Peiper was advanced to battalion command. In this position, he rescued an encircled German division in Russia. Under adverse weather conditions, Peiper's battalion successfully established a corridor that saved the bulk of the division. However, his triumphs were marred by his criminal action when he entered a village shortly afterward where 25 Germans had been killed. "Peiper ordered the burning down of the whole village and the shooting of the inhabitants," Parker wrote. His battalion soon acquired a reputation as the "blowtorch battalion."

The appalling Russian winter forms the backdrop for the author's detailed description of Peiper's combat actions attacking Kharkov and later in the Battle of Kursk. Although he distinguished himself while participating in the largest tank battle of history, the Germans were unsuccessful in eliminating the Russian salient at Kursk. Following the loss, the LSSAH was withdrawn to Northern Italy, where it viciously suppressed several local uprisings.

Re-equipped, the LSSAH departed Italy for Russia in November 1943, with Peiper assuming command of 1st SS Panzer Regiment. Lacking experience in the employment of armor, Peiper's command style, aggressive and without regard for casualties, reached its limits. Headlong attacks without proper reconnaissance led to heavy losses in men and materiel. As the author notes, "The word "caution" did not exist in the Peiper lexicon."

How Peiper fares during the rest of the war and his post-war activities are the subject of Parker's fourth and final volume in the series.

This is a well-researched work with detailed footnotes. The photograph section is invaluable in appreciating the destruction wrought by Peiper in Russia and Italy. Maneuver commanders seeking to understand, however, the tactical movements of Peiper's force will need to consult other works on a particular battle. This work is not a detailed book of tactics. It is recommended for commanders because it exposes Peiper's callous indifference to the suffering of innocent civilians, disregard for the rules of warfare and the rights of prisoners, and an appalling insensitivity to the destruction

wrought by his actions. In short, a maneuver commander will leave this work with a deeper appreciation for the sacrifices of those who fought to destroy Nazi Germany.

COL(R) D.J. JUDGE

Acronym Quick-Scan

AEF – American Expeditionary Forces
DOTMLPF – doctrine, organization, training, materiel, leadership, personnel and facilities
JS – Joseph Stalin (tank)
KV – Kliment Voroshilov (tank)
LSSAH – Lebstandarte SS Adolf Hitler
SS – Schutzstaffel

U.S. Army Tank Gunnery Qualification Patches

by Thomas D. Dinackus

Soldiers assigned to U.S. Army Armor and Cavalry units began wearing specialized patches in the early 1960s commemorating that the wearer had achieved a "qualified" or "distinguished" score on his assigned combat vehicle or weapons system during annual gunnery qualification. These patches, variously known as "qualification," "gunnery" or "Tank Crew Qualification Course" (TCQC) patches, were not authorized by the Department of the Army, but they were approved by local commanders as a way to build esprit de corps. Unfortunately this practice fell out of favor in the 1980s and qualification patches faded into history.

Gunnery qualification patches differ from better-known awards, such as the Expert Infantryman Badge and airborne wings, in several key ways. First, qualification patches were issued to vehicle or weapons system crews, not to individual Soldiers. Second, gunnery patches were awarded for successfully completing training that was directly related to the Soldier's specific warfighting role. Finally, the patches, like the warfighting proficiency for which they were awarded, had a limited shelf life and had to be renewed each year.

Furthermore, gunnery patches were "unofficial" in every sense of the word. While shoulder patches are authorized by the Department of the Army and designed by the Army's Institute of Heraldry, gunnery patches were designed and adopted by the using units. Some involved complex designs that depicted the unit's heritage, while others didn't even identify the unit or the purpose of the insignia. Also, the quality of manufacture varied significantly. And, although a Soldier's gunnery patch may have been one of his most prized possessions, he was almost always required to remove it from his uniform when he arrived at a new unit.

Units based in Europe first to use

The use of tank-gunnery patches began in U.S. Army Europe in the early 1960s. The first unit to adopt them was 3rd Armored Division, which began issuing TCQC patches in 1962. These qualification patches exhibited the distinctive shape that was to become unique to tank gunnery patches: a wide patch, with a straight horizontal bottom and vertical sides that were pinched inward half way up the patch, culminating with either a pointed or curved top.

Ironically, these early qualification patches did not identify which unit issued them or what purpose they served. All they included was the Armor Branch insignia and the year issued (Figure 1).

The 3rd Armored Division went on to become the most significant user of qualification patches, issuing them for more than 20 years until the early 1980s. In addition, 3rd Armored Division had the most extensive array of patches, issuing them for scout vehicle crews, M551 Sheridan crews,[1] tank crews, mechanized-infantry squads, antitank weapon crews, mortar crews, howitzer crews, air-defense-artillery weapon crews, M728 Combat-Engineer Vehicle (CEV) crews and ground-surveillance radar (GSR) crews.

Gunnery patches were most widespread in units stationed in Germany (Figures 1-5, 8, 10-11). They took a while to catch on with units stationed in Korea, but once they came into use there in the early 1970s, they saw widespread service until being phased out in the early 1980s (Figure 6).

Gunnery patches spread to continental United States-based units slowly. They did not achieve anything approaching widespread acceptance until well into the 1970s (Figures 7, 9). Their use varied substantially, depending on the installation.

Sadly, the number of units that issued gunnery patches dropped drastically in the mid-1980s as the new camouflaged Battle Dress Uniform replaced fatigues. For many units, 1983 was the last year they issued qualification patches.

Reserve Component use

Gunnery patches were fairly rare in Reserve Component (RC) units, and those

Figure 1. 3rd Armored Division 1963 "qualified" TCQC patch. This patch was also issued in a "distinguished" version, with a scroll on the body of the patch that stated "distinguished tank crew," similar to the 8th Infantry Division (Mechanized) 1969 "distinguished" TCQC patch (Figure 4). The 3rd Armored Division was stationed in Germany.

Figure 2. 3rd Squadron, 7th Cavalry, 1968 TCQC patch. The 3-7 Cav was assigned to 3rd Infantry Division (Mechanized) and was stationed in Germany in 1968.

Figure 3. 4th Armored Division 1969 "qualified" TCQC patch with "distinguished crew" tab. The 4th Armored Division was stationed in Germany.

Figure 4. 8th Infantry Division (Mechanized) 1969 "distinguished" TCQC patch. This patch was also issued in a "qualified" version, which lacked scroll and "distinguished tank crew" label. The 8th Infantry Division (Mech) was stationed in Germany.

RC units that did adopt them typically did so in the 1980s, years after they became common in active-duty units (Figure 12). However, a high percentage of RC units continued to wear their gunnery patches into the mid- and late-1980s, well after most Active Army units had stopped wearing them.

Gunnery patches were always most popular in armor and armored-cavalry units, although some mechanized divisions used them fairly extensively. All three ACRs that served in the Active-Component Army during the mid-1970s through early 1980s (the 2nd and 11th in Germany, and the 3rd at Fort Bliss, TX) issued an array of gunnery patches. The 11th ACR issued the same "annual qualification" patch from 1974 through 1983, along with an array of tabs showing the year and weapon system (Figure 10). The apex was 1977, when 11th Cavalry issued no less than 12 tabs (scout squad,[2] "super scout," M551 TCQC, M60A1 TCQC, Dragon, 4.2-inch mortar, Redeye, 155 Artillery, aerial gunnery, CEV TCQC, GSR and TCQC support). The 11th ACR also issued a "distinguished" tab and, in some years, a platoon qualification tab.

Most tank-gunnery patches came in two versions: "qualified" and "distinguished." Some units awarded a third patch at an intermediate level, either "superior" or "expert."

Qualification patches were almost always awarded once each year for qualification gunnery. They typically stated the year they were earned, either on the patch itself or on a tab that was issued with the patch. This allowed a Soldier to wear one patch and multiple tabs showing continuing proficiency as a Soldier (Figure 10). In units where the year was on the patch, Soldiers sometimes overlapped the patches to accomplish the same result (Figure 11).

Gunnery patches were typically issued at the division, ACR or battalion/squadron level. Some units issued tabs or scrolls for qualified or distinguished sections or platoons, which were worn above or below the standard qualification patch (Figure 8). A handful of units awarded special patches to the top crew in the unit.

Surprisingly few gunnery patches indicated the type of tank used by the unit. The exception was the patches worn by M551 "Sheridan" crews, which almost always indicated they were for Sheridan gunnery (Figure 8).

Gunnery patches were only worn on the field uniform and were typically sewn on the right pocket of the Soldier's shirt, field jacket, tanker's jacket or coveralls. Some units only issued a single patch to each qualifying Soldier, while in other units each recipient received several patches. In the 1960s all gunnery patches were in full color, while subdued patches replaced color patches in the early 1970s.

Gunnery patches are unique to the U.S. Army. As far as the author is aware, they have never been worn by the Marine Corps or any of the foreign armies that have served with or been trained

Figure 5. 3rd Armored Division 1970 "distinguished scout crew" patch. This patch was also issued in a "qualified" version, which had "SCQC" in place of the "distinguished scout crew" scroll.

Figure 6. 1st Battalion, 73rd Armor, 1974 "combat ready" (i.e., "qualified") TCQC patch. This patch was also issued in a "distinguished" version. The 1-73 Armor was assigned to 2nd Infantry Division and was stationed in Korea.

Figure 7. 5th Battalion, 33rd Armor, 1976 "qualified" TCQC patch. This patch was also issued in a "distinguished" version. The 5-33 Armor was assigned to 194th Armored Brigade and was stationed at Fort Knox, KY. This patch is almost 5¾ inches wide, making it quite possibly the largest TCQC patch.

by the U.S. Army.

Lost heritage

Gunnery patches are specifically part of Armor's heritage. They were never used by light-infantry units. Few mechanized infantry, field artillery, air-defense-artillery or engineer units used qualification patches. When these units did wear them, it was almost always because they were part of a division or ACR that adopted the patch pursuant to a comprehensive gunnery-patch program.

Few air-cavalry units used gunnery patches, which is surprising in light of their popularity in armored-cavalry units. Some units issued gunnery-support patches to the other Soldiers such as mechanics, truck drivers and cooks, who supported the tankers and other qualifying Soldiers during gunnery.

Unfortunately the Army has done essentially nothing to preserve gunnery qualification patches or document their role in the Army's experience. Few Army museums include any qualification patches in their collections, and those that do typically only have a handful of patches.

The only fairly comprehensive reference on gunnery patches was published by the American Society of Military Insignia Collectors (ASMIC)[3] in its periodical, ***The Trading Post***, in the 1990s. Surprisingly, there do not appear to be any decent sources on the Internet that discuss gunnery patches in any detail.

The author has heard that some Army units have begun using gunnery-qualification patches again. If so, the Army as a whole should allow Armor and Cavalry units to wear such patches to foster pride, esprit de corps and professionalism.

Thomas Dinackus is a former Army captain who is now an attorney for the U.S. Department of State. He has more than 29 years of federal civilian service as an attorney with the State Department and, previously, the Department of Justice. During his Army career his assignments included executive officer, Troop G, 2nd Squadron, 3rd ACR, Fort Bliss, TX; S-3 Air officer, 2-3 ACR, Fort Bliss; and platoon leader, 2nd Platoon, Troop E, 2-3 ACR. His military schools include the Armor Officer Basic Course. Mr. Dinackus has a bachelor's of arts degree in history from Dickinson College and a juris doctor degree from Cornell Law School.

Notes

[1] The Sheridan was a light tank used by armored-cavalry units and the Army's sole airborne light-armor battalion. It entered service in the late 1960s and was largely phased out of service a decade later.

[2] Scout patches could be issued by vehicle crew, scout squad or scout section. When done by squad or section, the course was typically known as Scout Section Proficiency Course.

[3] ASMIC is a non-profit organization founded in 1937. It publishes a full-color journal, ***The Trading Post***, four times a

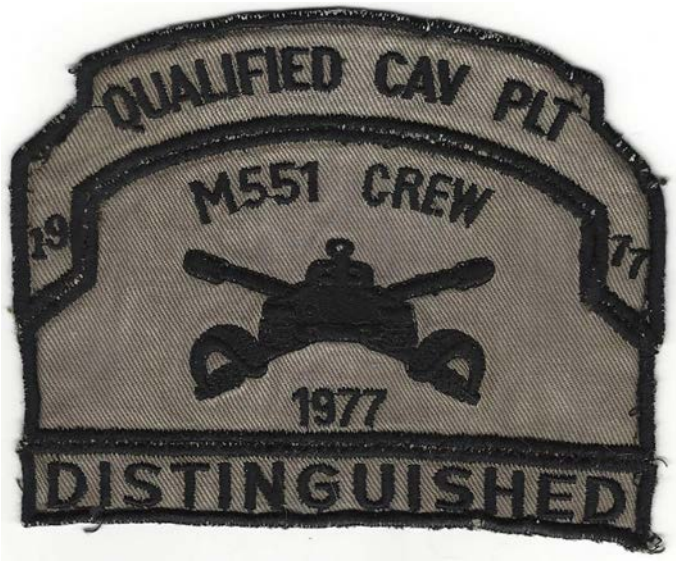


Figure 8. 3rd Armored Division 1977 M551 "qualified" TCQC patch with "distinguished" tab and "1977 qualified cav platoon" scroll. This patch was removed from a uniform, and the twill cloth, which was originally olive drab, is very faded. The tab and scroll were issued separately but have been sewn onto this patch.

Figure 10. 11th ACR annual qualification patch with "1977 scout squad" and "1978 super scout" tabs. The 11th ACR was stationed in Germany in the late 1970s.

Figure 9. Troop G, 2nd Squadron, 6th Cavalry, 1977 "qualified" patch. It is unknown if this patch was issued with a "distinguished" tab or if it came in a "distinguished" version. This unit was stationed at Fort Knox, KY, and supported the Armor School.

year and a variety of insignia catalogs that illustrate U.S. Army unit insignia.

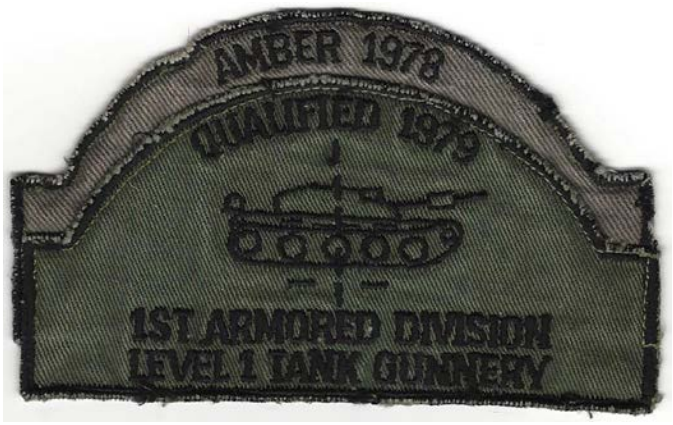


Figure 11. 1st Armored Division 1979 "qualified" TCQC patch sewn over a 1978 "amber" TCQC patch. In 1978, 1st Armored Division used "amber" and "green" to signify, respectively, "qualified" and "distinguished." "Level 1 tank gunnery" refers to qualification gunnery; Level 2 was sustainment gunnery, for which no patch was issued. The 1st Armored Division was stationed in Germany then.

Acronym Quick-Scan

ACR – armored-cavalry regiment
ASMIC – American Society of Military Insignia Collectors
CEV – combat-engineer vehicle
GSR – ground-surveillance radar
RC – Reserve Component
TCQC – Tank Crew Qualification Course

Figure 12, right. 1st Battalion, 127th Armor, TCQC patch with tab. This patch shows the crosshairs of a tank gunner's sights centered on a Soviet-made tank. Gunnery qualification for RC tank crews typically culminated with Tank Table VII, rather than Table VIII, due to training constraints. The 1-127 Armor was a New York Army National Guard unit assigned to 42nd Infantry Division.

Valor in Korea: Kouma at Agok

by Dr. Jon H. Moilanen

MSG Ernest Kouma stood between President Harry Truman and Secretary of Defense George Marshall in Washington, DC, about to be awarded the Medal of Honor (MoH). He had demonstrated extraordinary valor and leadership as a tank commander along Korea's Naktong River in August 1950 near the small village of Agok.[1]

What reflections must have occurred to him in those harried dark hours of close combat in his lone tank against massed, recurring North Korean infantry assaults?

Naktong Bulge and Pusan Perimeter

When the "72nd Tank" of 2nd Infantry Division arrived in Korea, American and Republic of Korea (RoK) forces defending the Pusan Perimeter were depleted and worn after two months of costly combat. Widespread defenses occupied hilly and mountainous terrain.

A large bow in the southern course of the Naktong River defined terrain about four miles by five miles that came to be known as the Naktong Bulge. The 2nd Infantry Division was employed into the Naktong Bulge in its first combat missions in Korea.

Figure 1. Pusan Perimeter. *(Adapted by author from https://legacy.lib.utexas.edu/maps/middle_east_and_asia/s_korea_rel_95.pdf)*

The defensive perimeter along the Naktong River reinforced this natural obstacle as a forward defense and provided depth for reserves to maneuver on the few connecting roads. The Pusan Perimeter protected a rail and road system connecting the Pusan port with Taegu to the northwest and Kyongju to the northeast. Miryang was a main hub along the western transportation and communication network. Protecting this network was essential to sustainment of the expanding Allied forces in the perimeter.[2]

The North Korean objective by late August 1950 was to penetrate Pusan Perimeter defenses and to secure the entire peninsula before enough United Nations reinforcements could arrive in Korea.[3] The port of Pusan was vital to the survival of United Nations and South Korean forces on the peninsula as the only port occupied by Allied forces that could effectively disembark reinforcements.[4]

Enemy situation along Naktong Bulge

North Korean forces of course knew well the terrain east of the Naktong River – they had just withdrawn from it earlier in August. North Korean forces applied Soviet-taught tactics learned in previous combat: infiltration, flank assaults and mass attacks to penetrate defenses.[5]

Orders were to break through the river defenses, outflank and destroy enemy forces, and continue eastward to capture the Miryang area to cut off enemy withdrawal routes.[6] Soldiers dressed as Korean civilians often intermingled with masses of refugees to surprise and assault U.S. and RoK forces.

Night combat offered the greatest opportunities of North Korean success to infiltrate and bypass isolated U.S. positions, outflank and assault, and destroy resistance. Night assaults commenced typically between 11 p.m. and midnight and continued until first light or soon afterward. Remaining close to U.S. positions usually prevented U.S. airpower and artillery from effectively targeting North Korean assaults.[7]

Tactical situation in 2nd Infantry Division

Task-organized for combat, 2nd Infantry Division attached tank companies to the division's infantry regiments. On Aug. 22, 72nd Tank Battalion closed in its assembly area near Miryang. Company A of 72nd Tank moved farther west toward Yongsan as an attachment to the division's 9th Infantry Regiment, with other elements of 72nd Battalion locating just southwest of Yongsan.[8]

The division defended its sector in the Naktong Bulge with three infantry regiments abreast: 38th in the north, 23rd in the center, and 9th Regiment, rebounding from losses during its earlier August combat and one of its three battalions detached, southernmost along the division's sector.[9] Two ferry sites crossed the Naktong River in the 9th Regiment sector. Other crossing points for wading or swimming across the river exceeded ability to adequately cover the approaches into the ridgelines.

Company A was at the interdivision boundary of 2nd Infantry Division and 25th Infantry Division. The boundary extended along the south side of the Naktong River, with 2nd Infantry Division responsible for the river.[10] This natural obstacle limited effective coordination between Company A and Company F, 35th Infantry Regiment, as the northernmost unit of 25th Infantry Division.

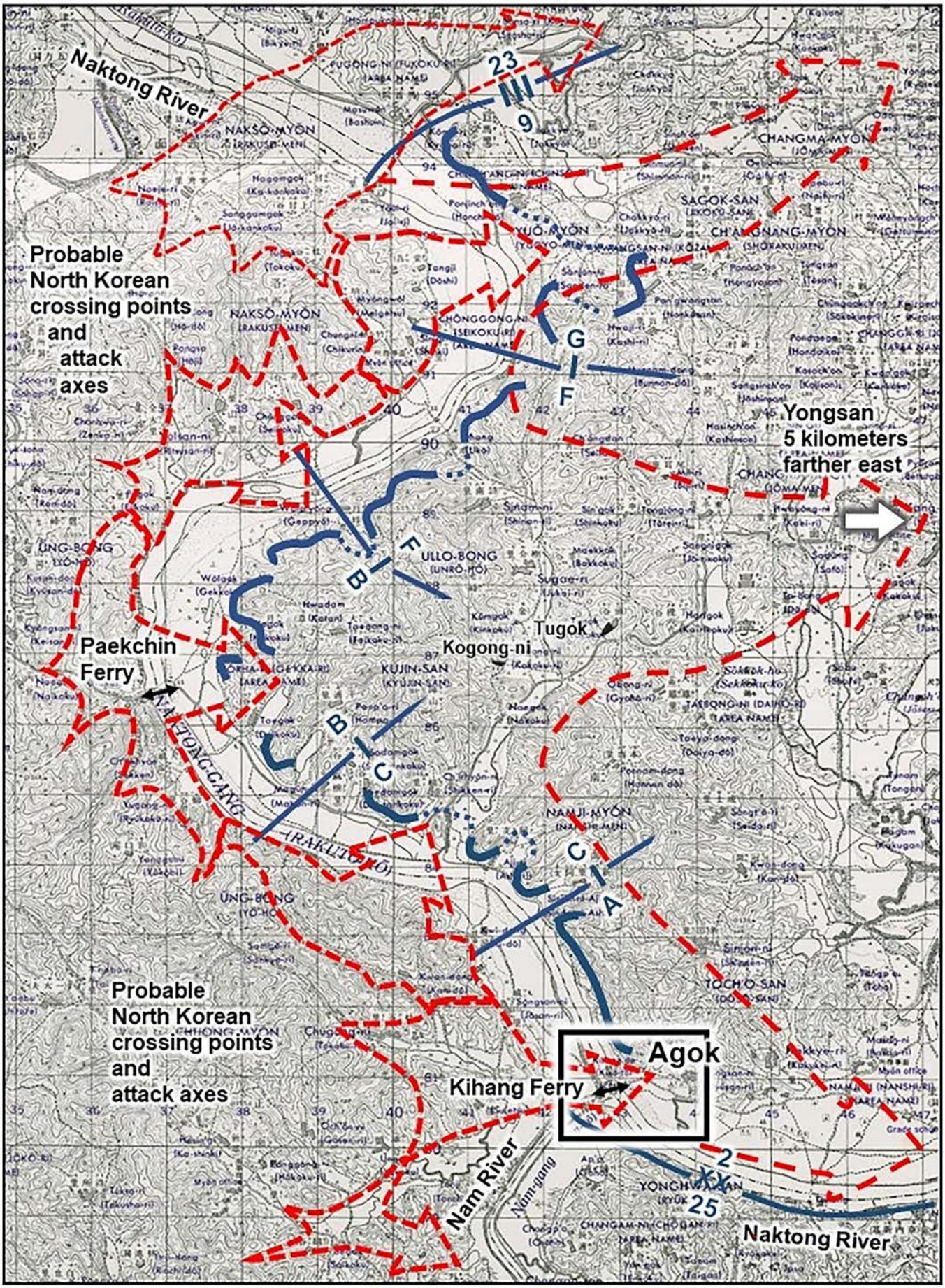


Figure 2. 9th Infantry Regiment sector in the Naktong Bulge. *(Adapted by author from Map Sheet 6820 II, Namji-Ri, and Map Sheet 6820 I, Changnyong, copied 1945 by U.S. Army Map Service from earlier Imperial Japanese land surveys. See Perry-Castaneda Library map collection, University of Texas, https://legacy.lib.utexas.edu/maps/)*. **Note: Roy E. Appleman's description of Agok in *South to the Naktong, North to the Yalu* suggests the village had expanded close to the Kihang Ferry by 1950.**

Minimal time existed to improve defenses, while late summer heat and torrential rains took a toll on 9th Infantry soldier health and readiness.[11] Other factors affected psychological stamina, too. Humidity and changing weather produced fog, reducing visibility to mere meters. North Korean atrocities of murdering captured soldiers and accounts of units bypassed and attacked from all directions was unsettling to most soldiers.[12] Every soldier believed that a major North Korean attack would occur in the very near future.

Company A at Naktong River

The 9th Infantry's two battalions stretched more than 18,000 meters along the river ridges in a series of company or platoon positions, rather than in a cohesive regimental defense. The regiment fielded only a small reserve.[13] Company A occupied about 2,500 meters overlooking the Naktong River in small ridgeline positions and squad observation posts on the river plain. Two medium tanks from Company A, 72nd Tank, and two antiaircraft-artillery (AAA) vehicles from the division's AAA battalion were attached to the infantry company.

Company A infantrymen "dug in" defenses on the long finger-like ridge facing the Naktong River. At the southern end of this ridge, a hilly spine ended at Hilltop 94 and descended rapidly to the river bank near the village of Agok. Just south of Agok, an undeveloped road-trail skirted the north side of the Naktong River to the Kihang Ferry site. The Nam River converges into the Naktong River just south of this ferry site.[14]

"Dug-in" defense was a relative description. Extensive minefields, barbed-wire entanglements and sandbagged fighting positions were not yet the norm.[15]

Enemy situation Aug. 31, 1950

During the last week of August, U.S. soldiers observed enemy movements to the west across the Naktong River and interpreted them as normal defensive patrolling. Unknown to either Company A or 9th Infantry Regiment, the North Korean 9th Infantry Division was about to attack across the Naktong River into this 2nd U.S. Infantry Division sector.[16] North Korean infiltrations had already occurred in many areas and were prepared to assault or support attacks to establish blocking positions.[17]

Figure 3. M26 Pershing tank team in position at a river plain. *(Adapted by author from U.S. Army Center for Military History (CMH)'s history Korea-1950)*

The U.S. Army's official history describes the small-unit actions in and near the Company A sector during the North Korean attack of Aug. 31-Sept. 1.[18] The ridgeline defense above the ferry site at Agok was directed to occupy positions closer to the river. The company commander and command post relocated to Agok. The two tanks and two AAA vehicles were integrated into a roadblock-type defense close to the ferry site.

Kouma fights alone at Agok: Aug. 31-Sept. 1

Kouma and his tank had arrived at Agok Aug. 31 to replace a tank with a weapon malfunction.[19] A heavy fog had settled along the river line in early evening that prevented visibility of the ferry site even though Kouma's tank was only 40 yards from the river.

About 9 p.m., barking dogs were the first indication of activity on the far side of the ferry site. Soldiers reported splashing sounds at the river. All else appeared calm. Then about 10 p.m., North Korean heavy mortar fire started impacting in the Company A ridgeline. Counterbattery fire responded and the mortar fire ceased. Visibility remained nil due to the heavy fog.

When the fog lifted suddenly at 10:30 p.m., North Korean soldiers were observed constructing a bridge at the ferry site. Immediately, all four armored vehicles opened fire on the bridge and enemy bridging party. Several minutes of tank cannon and machinegun fires collapsed the bridge and sank several pontoons. An eerie silence returned. The only recognizable sounds were barking dogs and the occasional explosion of a mortar round.

Meanwhile, North Korean soldiers had already infiltrated onto the ridgeline and among Company A fighting positions north of the ferry site. A brief firefight erupted about 11 p.m. with the blast of grenades and staccato of machinegun and small-arms fire. In Company C north of Company A, North Korean green flares burst overhead and whistles signaled an assault. The sudden assault with massed small-arms fire overran defenses, and most U.S. soldiers evaded to the south. A few Company C soldiers straggled into Company A positions, but others continued southeastward past Company A.[20]

Soon after 11 p.m., Company A infantry squads received orders to return to fighting positions on the ridgeline. Soldiers at the ferry site passed Kouma's tanks and yelled that the infantry was withdrawing to the ridgeline as the company regrouped into a perimeter defense. Close combat erupted suddenly at the Kihang Ferry site.

In Kouma's own words:[21] "The infantry had hardly left when I spotted seven men running toward me from the direction of where Able [Alpha] Company's [command post] formerly was located. I halted them and noticed that they were wearing the division patch. [The Indianhead of 2nd Infantry Division, which the newly augmented Koreans wore on their herringbone twill [uniforms], as did regular members of the division. Company A had some of these South Koreans.] One of them spoke excellent English. All seven came next to my tank. … Three of them

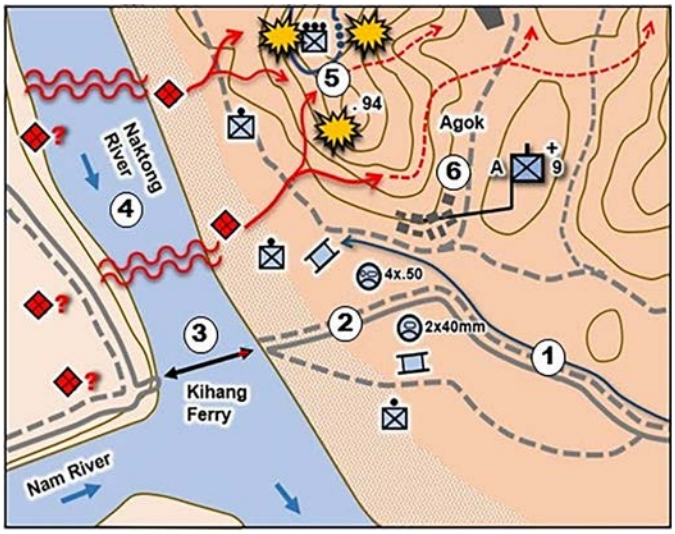


Figure 4a and 4b. Kouma defenses destroy North Korean bridging effort at Kihang Ferry. Figure 4a, roadblock defense and initial mortar fire: 1) Kouma arrives early evening to replace tank with weapon malfunction. 2) Company A sets roadblock-defense east of ferry site and positions observation posts along east bank of Naktong River. 3) Fog obscures ferry site about 8 p.m. and causes zero visibility of river plain. 4) North Koreans continue to infiltrate across Naktong River into and beyond Company A positions on ridgeline and at Agok. 5) Heavy mortar impacts 10 p.m. on Company A ridgeline defenses. 6) Company command post at Agok. *(Author's visualization based on Roy E. Appleman,* ***South to the Naktong, North to the Yalu****)*

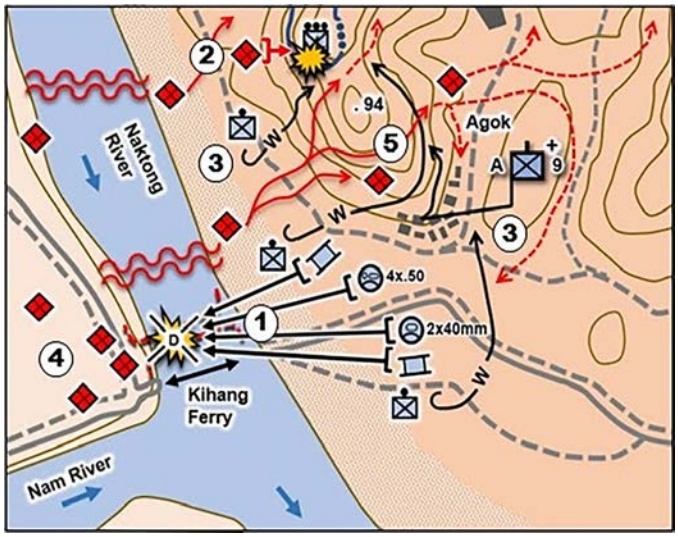
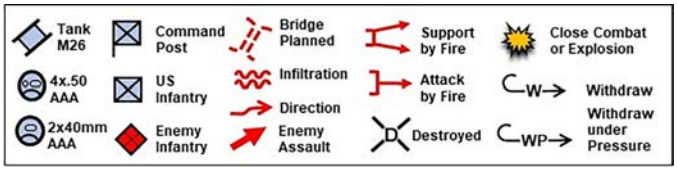


Figure 4b, North Korean bridging destroyed at ferry site: 1) Fog clears about 10:30 p.m. and roadblock team observes North Korean bridging effort. Kouma tank team and AAA weapons destroy bridging effort at ferry site. 2) Firefight erupts about 11 p.m. at Company A platoon position. Other platoon position does not receive North Korean assault. 3) Company A directs withdrawal of squad observation posts from river. Company A command post withdraws to ridgeline. 4) North Koreans continue river-crossing effort. 5) Infiltration teams continue eastward while other teams prepare to seize roadblock. *(Author's visualization based on Roy E. Appleman,* ***South to the Naktong, North to the Yalu****)*



Legend for both parts of Figure 4.

crawled on the back deck of the tank and informed me that a large force had crossed the river farther down approaching my position and that most of Able Company were killed or captured. At the time I had the idea that they were part of 9th Infantry. During this time I was on top of the turret checking my 50-cal. machinegun. At a given signal they leaped from the tank and began throwing grenades on the tank, and about the same time a steady spray of machineguns and rifle fire began hitting the tanks and [antiaircraft] guns from the crest of the high bluff about 150 yards to my right. My gunner at once took them under fire as well as SFC Berry's [tank] and the [antiaircraft] guns. I got back in the turret and threw about seven or eight grenades over the house [at Agok] as well inside the house through the door which faced us."

Knowing the U.S. password to the security challenge, North Koreans maneuvered close to the roadblock to assault the position. Near the two tanks, the "quad-.50" crew was killed except for one soldier. The 40-millimeter gun crew withdrew into their vehicle with several men wounded. Infantrymen defended themselves at the ridgeline but were incapable of supporting Kouma and his wing tank. Actions in the dark were confused and deadly as grenade fragments and enemy fire wounded Kouma. He continued to fight in a close-combat struggle as North Korean soldiers attacked the tanks from all directions.

Kouma and the two tanks were now alone at the ferry site. They repositioned to ground with clear fields of fire in all directions. North Korean soldiers fought to within 20 yards of the tanks before being killed or retreating into the darkness. In their wake, they left many dead and wounded. Then at about 1:30 a.m., Kouma's wing tank withdrew to the east due to an overheating engine.

Kouma and his tank were now truly alone. He and his tank crew fought throughout the night against dismounted assaults for more than nine continuous hours. He knew that no one else could stop or slow attacks along his axis.

During more than one fierce close assault, North Koreans surrounded his tank. Kouma leaped from his tank-turret hatch, charged the handle of his caliber .50 machinegun and fired point-blank into attacking soldiers. Having expended all his machinegun ammunition, he fired his pistol and threw grenades to protect his tank and crew.

By daylight Sept. 1, Kouma was still defending his position. The bodies of hundreds of dead and wounded North Korean soldiers littered the near bank of the Naktong near Agok. Organized assaults were destroyed at Agok.[22] Of the probable 500 North Korean soldiers in the nighttime attack, Kouma's actions are estimated to have killed some 250 North Korean soldiers.[23]

With most of his ammunition expended, Kouma started back toward friendly lines about 7:30 a.m. through eight miles of hostile terrain to resupply his tank with ammunition and fuel, and to obtain medical treatment. Along his withdrawal route, his tank crew destroyed three machinegun positions.

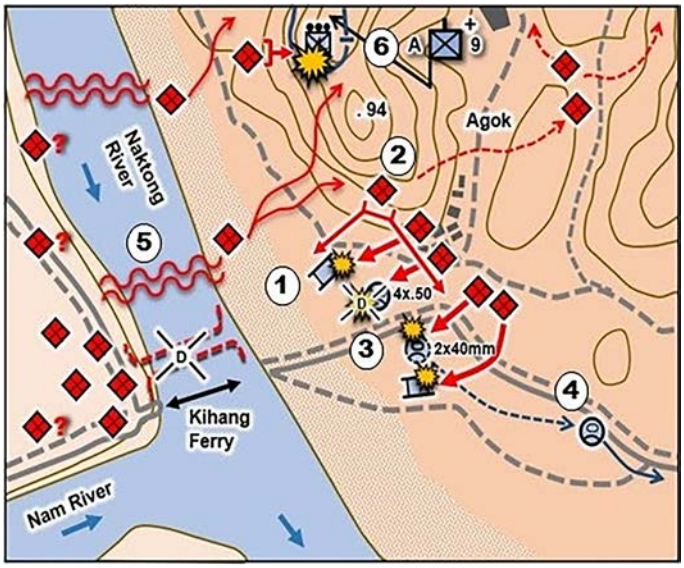


Figure 5a, North Korean assault roadblock defense: 1) Soon after 11:30 p.m., North Korean teams approach tanks and AAA vehicles from the rear and assault with small arms, machineguns and grenades. 2) Machinegun fire supports North Korean assaults from vantage point on ridgeline above Agok. 3) One AAA crew and vehicle are destroyed. 4) One AAA vehicle withdraws east with wounded soldiers and one killed in action. Kouma's tank team continued to defend river-crossing site. 5) North Koreans continue to infiltrate east and reinforce the general attack. 6) Company A sets in perimeter defense during the night of Aug. 31 and into Sept. 1. *(Author's visualization based on Roy E. Appleman,* ***South to the Naktong, North to the Yalu****)*

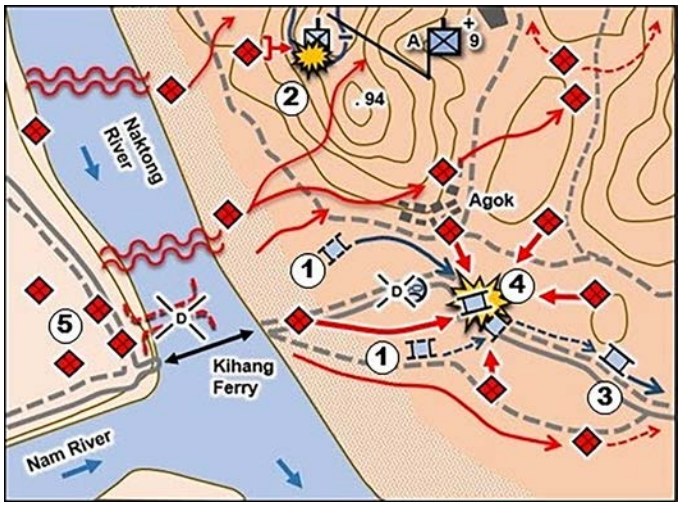


Figure 5b, Kouma fights alone to defense river-crossing site: 1) Kouma tank team repositions to engage 360 degrees vs. North Korean infantry assaults. 2) Company A defenses in periodic perimeter fight / defense throughout the night. 3) At 1:30 a.m., Kouma's wing tank reports engine overheating and withdraws east. 4) Kouma's tank fights alone in night-long and recurring close combat against North Korean infantry assaults. Kouma degrades North Korean crossing efforts. About 7:30 a.m., Kouma withdraws to rearm / refuel. 5) North Koreans continue crossing efforts at ferry site. *(Author's visualization based on Roy E. Appleman,* ***South to the Naktong, North to the Yalu****)*

When he arrived at his unit assembly area near Yongsan, he had expended all his tank's ammunition. Kouma, suffering from wounds, attempted to resupply his tank and return to the forward battle area.[24] While being evacuated for medical treatment, he again requested to return to the combat front.[25]

North Korean attacks penetrated several miles east and effectively split 2nd Infantry Division in two.[26] Counterattacks from Sept. 3-5 blunted North Korean advances in the bulge. The U.S. Eighth Army counteroffensive commenced in September to push North Korean forces north out of South Korea.[27]

Kouma after Agok

Kouma, a sergeant first class at Agok, was promoted to master sergeant. He declined a battlefield commission. After the MoH ceremony in 1951 with President Truman at Blair House in the nation's capital, Kouma performed recruiting duty in Nebraska, followed by tank gunnery and tactics instructor duty at Camp Irwin, CA. Subsequent duty assignments included armor units at Camp Carson, CO; in Germany; and at the Armor School at Fort Knox, KY. After another tour in Germany, Kouma returned stateside to Fort Knox. His varied unit and worldwide experiences as a "tanker" before the Korean War included 14th Cavalry Regiment, Fort Riley, KS; participation in the Louisiana Maneuvers; M3 Stuart tank crewman; and M24 Chaffee tank commander in 9th Armored Division World War II actions in France, Belgium, Germany and Czechoslovakia. After World War II, he participated in occupation duty in South Korea and Japan with 25th Infantry Division, and by 1947 was at Fort Lewis, WA, in 2nd Infantry Division.

After 31 years as a Soldier and senior noncommissioned officer from 1940 to 1971, Kouma retired from active duty in the U.S. Army.[28] After retirement, he lived in Kentucky until his death in 1993 and is buried in the Fort Knox post cemetery.

Epilogue: leadership and decisive action in combat

Kouma demonstrated outstanding leadership and tactical savvy during his combat at the riverline near Agok. His story is one of the many "stories of incredible heroism, self-sacrifice and calm indifference to danger" occurring in defense along the Pusan Perimeter.[29]

Kouma led by personal example at Agok. His professional judgment and critical decisions proved essential in the nighttime crisis of recurring assaults on his isolated tank. He exemplified leadership; Army leadership doctrine recognizes that "[w]ar is a lethal clash of wills and an inherently human endeavor that requires perseverance, sacrifice and tenacity. The mission, then and now, is to be ready to deploy, fight and win."[30]

Kouma prevailed in these harrowing conditions and commanded his tank and team with decisive commitment, resilience and skill.[31] How did he command his tank crew and instill confidence inside the turret and hull during their recurring nighttime firefights? He fought successfully and brought his crew and tank back into friendly lines to fight again.

Kouma's initiative and personal courage to defend rather than withdraw was understanding that his tank crew and that of the wing tank were the

Figure 6. Kouma defends the Agok crossing site against nightlong North Korean assaults. *(Author's visualization based on Kouma and Naktong Bulge account)*

only means to slow North Korean assaults while U.S. infantry squads withdrew under pressure to their ridgeline fighting positions.[32] He repositioned the two tanks to best employ their firepower in close combat. Beyond the destruction of the bridge and pontoons at the ferry site, he adapted to rapidly degrading conditions and near-overwhelming threats with appropriate, flexible and timely actions to continue the fight.[33]

He excelled as an effective small-unit leader in synchronizing actions in time, space and purpose to mass maximum relative combat power at a decisive point.[34] Ten years of prior military experience and expertise during war and peace surely developed Kouma's professional instincts, intuition and knowledge.[35] His decisive behavior with teammates provided purpose and motivation to execute combat-crew tasks and achieve the mission. Leadership focuses action.[36] High-risk and the urgent tactical situation at Agok required Kouma's immediate and continued decisive leadership.

Kouma, a tank commander in Company A, 72nd Tank Battalion, distinguished himself by conspicuous gallantry and intrepidity at the risk of his life and those under his command above and beyond the call of duty in action against the enemy at the Naktong River, RoK, Aug. 31-Sept. 1, 1950. Highlighted in the citation awarding Kouma's MoH, his superlative leadership, heroism and intense devotion to duty reflect the highest credit on himself and uphold the esteemed professional ethic and traditions of the U.S. Army.[37]

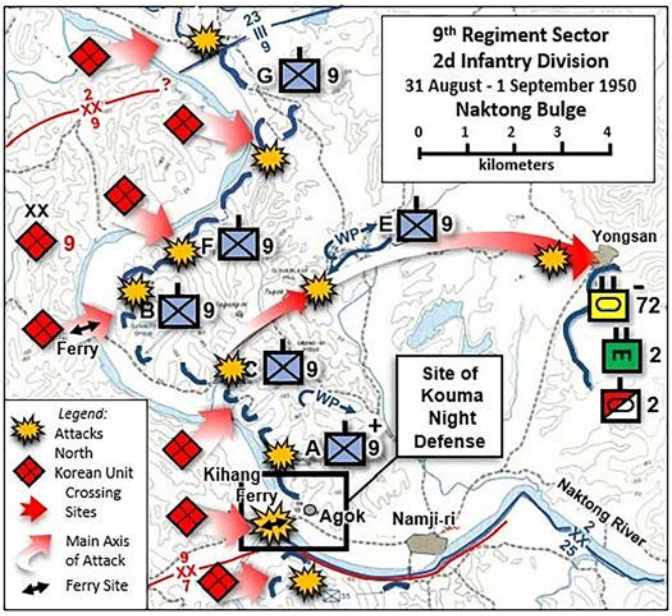


Figure 7. Tactical situation Aug. 31-Sept. 1, 1950. *(Adapted by author from Roy E. Appleman,* ***South to the Naktong, North to the Yalu****, Map VI)*

Dr. Jon Moilanen, a retired colonel, was an armored-cavalry officer. Experiences in a 30-year Active Component career include command at troop, battalion and group echelon, as well as teaching at university undergraduate and military-college graduate levels. His assignments included dean of students and administration, U.S. Army Command and General Staff College (CGSC), Fort Leavenworth, KS; director, U.S. Army School for Command Preparation (CGSC), Fort Leavenworth; commander, U.S. Army Readiness Group Snelling, Fort Snelling, MN; commander, 2nd Battalion, 72nd Armor, RoK; and regimental S-4, 3rd Armored Cavalry Regiment, Fort Hood, TX. He served after active duty as a military-intelligence contractor and Department of the Army civilian intelligence specialist for U.S. Army Training and Doctrine Command G-2 until "fully" retiring in early 2019. Military schooling includes Army War College, U.S. Army Logistics Development Course, CGSC, Armor Officer Advanced Course, Armor Officer Basic Course and Airborne School. COL Moilanen has a bachelor's of arts degree in education from the University of Wisconsin-Oshkosh, a master's of arts degree in education from the Indianan University of Pennsylvania and a doctor of education degree in adult, occupational and continuing education from Kansas State University.

Notes

[1] Katie Lange, "Medal of Honor Monday: Army [MSG] Ernest R. Kouma," Washington, DC: DoD News, Aug. 31, 2020. Kouma was awarded the Distinguished Service Cross for his leadership and heroism during combat actions at Agok, South Korea, Aug. 31-Sept. 1, 1950. This valor award was upgraded to the MoH. Kouma received the MoH in a May 10, 1951, ceremony from President Truman. Retrieved from https://www.defense.gov/Explore/Features/Story/Article/2328104/medal-of-honor-monday-army-master-sgt-ernest-r-kouma/.

[2] U.S. Military Academy (USMA) Department of History, ***Confrontation in Asia: The Korean War***, West Point, New York: USMA, 1981.

[3] Roy E. Appleman, ***South to the Naktong, North to the Yalu***, Washington, DC: CMH, U.S. Army, 1992 (first printed 1961, CMH Publication 20-2-1).

[4] USMA Department of History.

[5] CMH, ***Korea-1950*** (CMH Publication 21-1), Washington, DC: Office of the Chief of Military History, 1952, facsimile reprinted 1997.

[6] Appleman. Map VI, "The North Korean Offensive, U.S. 2nd Division Sector Aug. 31-Sept. 1, 1950."

[7] Ibid.

[8] Ibid.

Figure 8. MSG Ernest Kouma.

[9] Clay Blair, ***The Forgotten War***, New York: Times Books, 1987.

[10] Appleman.

[11] Ibid. Nonbattle casualties were high in all units, with heat exhaustion often a contributor. The 9th Regiment alone had more than 400 nonbattle casualties. Loss among officers was very heavy.

[12] T.R. Fehrenbach, ***This Kind of War: The Classic Korean War History***, Washington, DC: Brassey's, 1963 (first Brassey's edition 1994).

[13] Appleman. Company E and other divisional unit elements were to the rear of 9th Regiment frontline defensive positions.

[14] Ibid.

[15] Blair.

[16] Fehrenbach. Also see Appleman.

[17] Appleman.

[18] Ibid.

[19] Ibid. The illustration of a tank-maintenance problem underscores a fundamental readiness issue during the early period of the Korean War. Arthur W. Connor Jr. in his ***Parameters*** (Summer 1992) article ("The Armor Debacle in Korea, 1950: Implications for Today") notes that more than "60 percent of all tank casualties experienced by American forces were the result of mechanical breakdowns. … Only 11.5 percent of the [total] losses [were] attributable to the enemy. Almost as many tanks, 11 percent, were lost to enemy mines." James A. Huston, in the U.S. Army's official logistics history ***The Sinews of War***, states, "Much of the trouble in the early months seemed to have been the result of a shortage of well-trained men to handle organizational and field maintenance rather than defects in the design or materials of the equipment itself. … Shortages or misuses of tank repairmen in infantry regiments was especially noticeable." James F. Schnabel cites in the U.S. Army's official history ***Policy and Direction***, "Of the service troops sent to Japan as replacement in July [1950], for example, 60 percent were assigned to front-line fighting troops upon arrival in Korea." This comment emphasizes the risk-taking and decision-making that accompanies the design and deployment of a force into combat without a balanced sustainment structure.

[20] Appleman.

[21] Ibid.

[22] Ibid.

[23] Raymond E. Webb and Robert J. Winter, ***72nd Tank Battalion in 1950-1952***, Tokyo: Toppan Printing, 1952. This unofficial history records the operations involving 72nd Tank Battalion in Korea 1950-1952. See also Department of the Army General Order 38, June 4, 1951, that awarded the MoH to Kouma.

Acronym Quick-Scan

AAA – antiaircraft artillery
CGSC – Command and General Staff College
CMH – Center of Military History
MoH – (Congressional) Medal of Honor
RoK – Republic of Korea
USMA – U.S. Military Academy

[24] Congressional Medal of Honor Society, "Stories of Sacrifice," MoH citation; retrieved from https://www.cmohs.org/recipients/ernest-r-kouma.

[25] Webb and Winter.

[26] Appleman.

[27] CMH. Also see Appleman.

[28] SFC Robert L. Dycus and CPT Kevin L. Watson, "The MSG Kouma Tank-Gunnery Competition: MSG Ernest Kouma's [MoH]," ***ARMOR***, May-June 1993.

[29] CMH.

[30] Army Doctrinal Publication 6-22, ***Army Leadership and the Profession***, Washington, DC: Headquarters Department of the Army, Nov. 25, 2019.

[31] Ibid.

[32] Ibid.

[33] Ibid.

[34] Ibid.

[35] Ibid.

[36] Ibid.

[37] Headquarters Department of the Army, General Order 38, June 4, 1951, "Award of Congressional [MoH] to Master Sergeant Kouma." Kouma was a sergeant first class during his combat actions at Agok in 1950. Retrieved from https://www.cmohs.org/recipients/ernest-r-kouma.

Reducing World War II Underground Facilities: Failures and Successes Against Japanese Defenses on Okinawa with Tank-Infantry Teams, 1945

by MAJ James Villanueva

"The XXIV Corps was confronted with the job of reducing a heavily defended [Japanese] line across the island which had numerous caves, wire, mines, [anti-tank] and machineguns. … The action became [a] small-unit action, with our artillery, air and naval support ships trying to soften up the [Japanese] defenses by continuous shelling and bombardment."[1]

As the U.S. Army prepares to potentially confront adversaries such as North Korea, who occupy extensive underground facilities (UGFs), a look at historical cave complexes and how the U.S. military dealt with them during large-scale combat operations is particularly instructive.

Similar to the U.S. Marines operating on Okinawa, the operations of the U.S. Army XXIV Corps during the Battle of Okinawa in World War II, fought between April and June 1945 (codenamed Operation Iceberg by the Allies) and the war's last major battle, offer a number of insights to the American warriors who may have to reduce cave structures in the future.

There was overwhelming Allied superiority in firepower during the Battle of Okinawa, which was in many cases negated by creative Japanese methods of fortifying and camouflaging caves and UGFs. Ultimately, Allied success in overcoming Japanese defenses on Okinawa, won at great cost, can best be attributed to the ability of American ground units to adapt to enemy defenses at the small-unit level through effective use of combined-arms operations.

By Spring 1945, Allied forces had wrested control of many strategic island groups from the forces of Imperial Japan, including the Solomon, Mariana, Gilbert and Marshall Islands. Allied forces were also in the process of liberating the Philippines from Japanese control. By October 1944, Allied military leaders decided to invade the island of Okinawa to provide a staging base for the anticipated invasion of Japan.[2]

Only 500 miles southwest of Japan, Okinawa would provide the Allies air bases, a fleet anchorage and logistical infrastructure. Its seizure would help sever the Japanese home islands from their possessions to the south. At the tactical and operational levels, invading Okinawa would provide the Allies the opportunity to implement the tactics, techniques and procedures developed during previous campaigns to reduce Japanese defensive positions.

Japanese dig in

Anticipating the Allied invasion, the Japanese constructed defenses on Okinawa, which consisted of a large number of fortifications, using or building upon existing natural caves. Because of their previous experiences with the crushing weight of Allied naval gunfire, artillery and air strikes in the campaigns on the Marshall and Mariana islands, Japanese military leaders opted to abandon pillboxes made of logs above ground in favor of more protected defenses in underground structures.[3]

Japanese troops on Okinawa constructed small-scale cave defenses beginning in August and September, with full-scale construction of larger complexes beginning in December and continuing to the Allied invasion in April. Beyond strengthening caves, the Japanese dug about 60 miles of tunnels to protect the 100,000 troops of the 32nd Army responsible for defending Okinawa.[4]

Many of these defenses had strongpoints based inside hills with multiple levels underground. One example, Hill 130 (nicknamed Chocolate Drop Hill) – in what became the U.S. 77th Infantry Division's sector as it attacked from north to south – had four subterranean levels and embrasures all around the hill that provided the defenders three 47mm anti-tank guns and four heavy machineguns in locations designed to engage American troops in any direction.[5] Foxholes and trenches provided cover for infantrymen defending the firing ports and entrances.

Significantly, the defenses of Chocolate Drop were concentrated on the reverse (southern) slope and were all but invulnerable to American artillery and mortars firing from the north. Supporting Japanese positions on nearby hills and ridges to the east and southwest made envelopment of the position difficult.

Figure 1. Tanks and armored flamethrowers attack Chocolate Drop Hill May 13, 1945, from the west. *(Source: https://history.army.mil/books/wwii/okinawa/chapter13.htm)*

So formidable were the defenses on Chocolate Drop that 77th Infantry Division took from May 11-17 to capture it, and then only after the loss of 10 tanks and the reduction of the attacking 306th Infantry Regiment to a battalion-sized element after it suffered extensive casualties.[6]

While the Japanese decided to allow the Americans to land unopposed on the beaches of the middle section of Okinawa, assuming the reefs there too much of obstacle for the Americans to cross, the defenders did construct formidable beach fortifications on the beaches of the island's southern coasts, with caves carved out of the natural coral, often reinforced with concrete.[7] These defenses were practically invulnerable to air and naval bombardment and would have likely cost many Allied casualties to reduce had amphibious landings been attempted. Nevertheless, although they were not used to oppose any landings, the Japanese defenses provided ample protection from Allied firepower during the American forces' advance south.

While the Japanese prepared their defenses, the Allied forces charged with seizing Okinawa underwent varying levels of preparation for the coming battle. Commanding the ground troops, named Task Force 56, was the commander of U.S. Tenth Army, LTG Simon B. Buckner Jr.[8] The task force included the U.S. Army's XXIV Corps (7th and 96th Infantry Divisions), the III Amphibious Corps (1st and 6th Marine Divisions) and 27th Infantry Division as a floating reserve.

Two other divisions would ultimately become involved in the campaign: the 2nd Marine Division served as a demonstration landing force, while 77th Infantry Division served as the landing force for the Western Ryukyu Islands before joining the rest of Tenth Army on Okinawa.[9]

All of the Army divisions involved in Operation Iceberg were veterans of previous Pacific campaigns, but in many cases they conducted little training prior to landing on Okinawa because they were recovering from previous operations.[10]

Armor, infantry cooperation

Regardless of the amount of training they were able to conduct prior to Operation Iceberg, the importance of tank-infantry cooperation was not lost on American forces before the invasion. Anticipating the need for synchronization, 7th Infantry Division trained with its attached 711th Tank Battalion while on Leyte.[11] Training exercises focused on tank-infantry coordination, communication between tanks and infantry, target designation and familiarization.

Furthermore, all tank commanders received training on acting as forward observers for artillery. The 711th Tank Battalion even formed tank liaison teams for each of its platoons using repurposed mortarmen from the battalion's headquarters company, equipping them with radios and jeeps to allow smoother communication with infantry units.

However, the Americans' training prior to Operation Iceberg would prove rather inadequate initially, and the Japanese would present a number of major challenges – both with their fixed defenses and their tactics – that would hamper American efforts at combined-arms integration. Realizing the importance of tanks in particular to the Americans' operations, the Japanese tried to destroy them in a variety of ways, and American tanks took heavy losses during the fighting on Okinawa.[12] Early in the campaign, the American 711th Tank Battalion would see its company bivouac areas come under nighttime assaults by Japanese troops "armed only with hand grenades, knives and bundles and cylinders of pricric acid (a type of explosive)."[13]

Although American defensive fire normally prevented the Japanese from throwing the explosives under the tanks as they had intended, American troops had to be vigilant lest the Japanese succeed in entering company perimeters. Observers noted that "infantry must be trained to work with the tank so that the [Japanese soldier] is killed before he reaches the tank. If he is killed after getting to a halted tank, the damage to the tank is usually assured."[14]

Another Japanese weapon that proved effective against American tanks was the 47mm anti-tank gun, which was generally capable of penetrating American Sherman medium tanks at ranges up to 800 yards.[15] Japanese gunners, well hidden in caves, would hold their fire until the Shermans were very close and then engage them with effective enfilade fire to the sides or rear.[16] This delayed engagement prevented discovery and destruction of the guns and their crews before they could engage American armor.

Besides combatting tanks, the Japanese proved adept at negating American firepower generally. The extensive Japanese underground fortifications made conventional linear or massed artillery preparations conducted by Allied forces largely ineffective, wasting ammunition and, in some cases, only serving to forewarn the Japanese of a coming attack. The 7th Infantry Division Artillery's report later listed its best practice as shooting "a sudden concentration of fire at odd intervals of time on the enemy so that he had no way of telling if the [artillery] had lifted and the [infantry] had begun to advance."[17]

In addition to such irregular barrages, in some cases artillery did succeed in destroying camouflage which concealed Japanese bunkers, even if the artillery had little effect on the defenses themselves.[18]

Largest artillery use in Pacific

Nevertheless, Allied artillery units, even when massed, were often ineffective in supporting the advance of forward units. On April 19, 27 battalions of corps and division artillery – 324 pieces all told from 75mm to eight-inch howitzers – fired a massive barrage in support of the three attacking divisions of the XXIV Corps. This was the largest concentration of artillery in the Pacific war.[19] Added to this bombardment was naval-gunfire support from six battleships, six cruisers and six destroyers, as well as the largest single air strike of the campaign conducted by 650 Navy and Marine Corps aircraft.

Despite such an awesome display of firepower, the 7th, 96th, and 27th Infantry divisions, attacking abreast, found Japanese defenses largely intact and

failed to secure their objectives. They were unable to employ their combined-arms teams to full effect.

Particularly instructive, the failed assault on Kakazu Ridge during the XXIV Corps attack April 19 is one example of a breakdown in the use of the combined-arms team. The 27th Infantry Division committed 1st Battalion, 105th Infantry Regiment, and 30 medium tanks and assault guns – mostly from 193rd Tank Battalion – to seize Kakaku Ridge and continue the division's advance to the south. While 1-105 Infantry conducted a frontal assault, the armored force was to conduct an envelopment to their west and link up with the infantry on the ridge.

Withering Japanese machinegun fire effectively kept the infantry from supporting the tanks. One Japanese 47mm anti-tank gun destroyed four tanks without receiving any return fire, and other vehicles were destroyed or disabled by mines and indirect fire.[20]

The Japanese in this sector – consisting of 272nd Independent Infantry Battalion, reinforced with mortar and anti-tank units – also employed suicide squads, which blinded tank crews with smoke candles before approaching with 22-pound satchel charges. These squads accounted for six vehicles destroyed. With their vehicles disabled and unable to count on infantry support for close-in protection, several American tanks crews were killed when Japanese infantryman swarmed their vehicles, forced open the hatches and dropped grenades inside. Those crews who did survive often dug in underneath their vehicles.

All told, the attacking Americans lost 22 of 30 vehicles, and the attack stalled.[21] Four of those destroyed vehicles were flamethrower tanks of 713th Tank Battalion. The unit's after-action report bluntly recorded, "The tanks must receive support by infantry on a mission of this type."[22]

Japan's tactical success

In addition to using defensive positions that were largely invulnerable to artillery and aerial bombardment, the Japanese also employed their own artillery to effectively hamper American combined-arms integration throughout April and into May. Under the leadership of renowned Japanese artillery officer LTG Wada Kojo, Japanese forces employed artillery more efficiently and in greater quantity than they had in any other ground engagement in the Pacific Theater. As one example, the American XXIV Corps received some 14,000 rounds of artillery fire in one 24-hour period.[23]

While American artillery units tried to conduct counterbattery fire missions against Japanese artillery, locating Japanese artillery positions on the reverse slopes of hills or hidden underground often proved difficult; success in destroying Japanese artillery was mixed.

In many cases, Japanese employment of mortars and artillery successfully isolated attacking tanks from their infantry support, making them vulnerable to close-in attacks by anti-tank guns or dismounted suicide teams with satchel charges and grenades.[24] Regarding initial efforts to advance against the Japanese in the south, a tank-company commander of 711th Tank Battalion later related, "Emphasis was not placed [by American forces] on the close coordinated infantry-tank

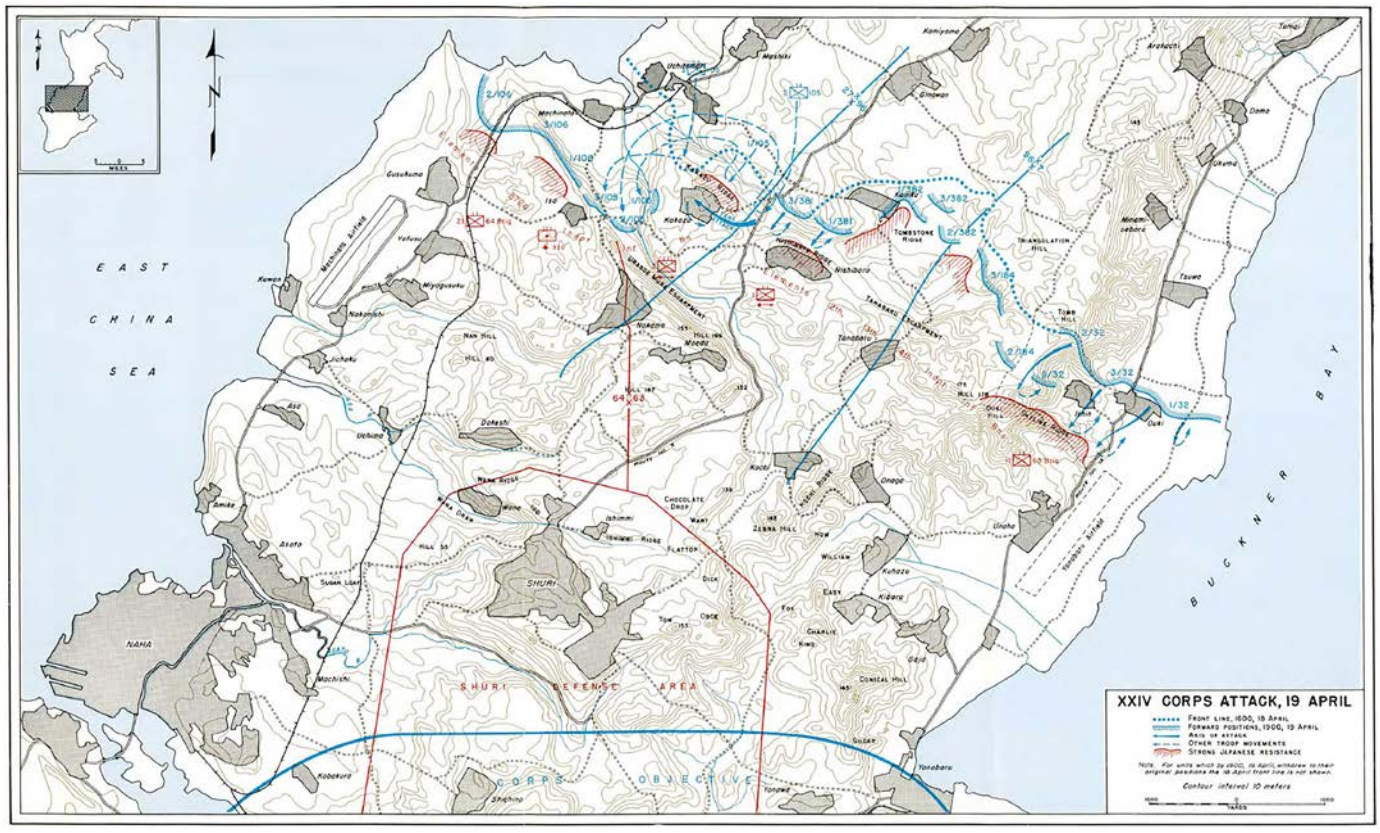


Figure 2. The XXIV Corps attacks southern Okinawa, April 19, 1945. *(Source: Roy E. Appleman et al,* ***Okinawa: The Last Battle*****, Washington, DC: U.S. Army Center of Military History, 1993.)**

team. … The most important factor was the quantity of artillery fire attracted by the tank. The artillery fire made it impossible for the infantry to remain in close vicinity of the tank."[25]

Besides separating American infantry and tanks from each other, Japanese artillery in a number of cases forced the withdrawal of American armor on its own, disabling vehicles by destroying their tracks and forcing the crews to button up. Japanese artillery also forced American troops to withdraw from positions they had seized, in part explaining the multiday efforts to seize positions like Kakazu Ridge and Chocolate Drop Hill. For example, after seizing hills codenamed "Dick Baker" and "Dick Able" May 13, Companies A and C of 96th Infantry Division's 382nd Infantry Regiment received a heavy concentration of Japanese 90mm and 150mm artillery as well as mortar fire, causing heavy casualties in both companies.

Japanese fires also forced the withdrawal of Company B. One of the platoons in Company A only had one or two survivors – the rest were killed by the bombardment.[26] Units of 7th Infantry Division had similar experiences with the deadly Japanese artillery.[27]

Tank variants important

Despite initial Japanese success in combatting U.S. combined-arms teams, the Americans were able to make slow and steady progress through effective integration of tanks and infantry at the lowest levels. Tanks in particular were important to American success.

While standard American tank battalions saw extensive use on Okinawa, more specialized tank variants also made important contributions. With its 54 flamethrower tanks, 713th Tank Battalion (Armored Flamethrower Provisional) landed on Okinawa early in the operation, but found that the prevalence of Japanese anti-tank minefields hampered many of their efforts.[28]

Despite difficulties with their delayed employment, in many cases flamethrower tanks were crucial to American success, reducing Japanese defenses in hard-to-reach areas. In the words of one tank-company commander, "The more elaborate [Japanese] positions … were most effectively reduced by the flamethrower tank. The infantry came to 'love' the flamethrower tank. In fact, they would not move until the forward slope of their objective was completely burned from end to end."[29]

Even when they didn't destroy Japanese defenses or kill enemy soldiers directly, flamethrower tanks would often drive Japanese defenders out of their defensive positions, making them vulnerable to American infantry and artillery fire.[30]

Beyond flamethrower tanks, tanks with bulldozer blades were also important to create hasty crossings over irrigation ditches or other impassable terrain or to seal cave entrances used by the Japanese defenders.[31] In attacking the Shuri Line, 7th Infantry Division found tank dozers useful for creating firing points for tanks to engage Japanese defenses.[32] Armor of various types was important for successful operations, as infantry often had trouble reducing cave defenses on its own. A post-battle report noted, "Without the armor, it is most difficult to reduce most caves."[33]

Therefore, during the fighting on Okinawa, small tank-infantry teams in many cases provided the primary units to reduce defended caves. While tanks suppressed any defending Japanese forces, the infantry would work its way to the cave's mouth. Using flamethrowers and grenades, the infantry would eliminate any Japanese defenders or seal the cave's entrance with demolition charges. By using bangalore torpedoes to destroy minefields, the infantry and attached engineers could also allow the tanks to get into position to place effective fire on Japanese defenses.

In mid-May, 96th Infantry Division's 2nd Battalion, 382nd Infantry, used about seven tons of bangalore torpedoes to clear paths through a minefield for supporting tanks, and the "tank-infantry team tactics enabled 2nd Battalion to completely clear the southern slopes" of their objectives.[34] However, less-conventional methods were often used to root out stubborn defenders. In some cases, troops would pour gasoline directly into caves before igniting the gasoline with explosives, but this could be dangerous work. For instance, after chasing some Japanese troops into a cave, a LT Brandino of 713th Tank Battalion suffered second-degree burns to his head and hands when there was an explosion in a cave into which he was pumping gasoline to

Figure 3. Members of the U.S. 1st Marine Division advance behind a flame-throwing tank during the Battle of Okinawa, May 11, 1945. *(U.S. Marine Corps photo)*

burn out the inhabitants.[35]

Slow, hard work

However, even when American forces were able to successfully reduce Japanese defenses, the work was slow and laborious, especially for the engineers accompanying the advancing infantry and tanks. Typical for many engineer units, 77th Infantry Division's 302nd Engineer Battalion demolished 1,000 Japanese defensive positions in a one-month period, allowing other units to bypass them.[36] However, when bypassing or isolating Japanese positions, American forces had to take care to properly demolish their entrances to prevent future use.

One Japanese prisoner noted that American forces would often fail to completely destroy the entrances to cave positions, in some cases inadvertently widening rather than closing the caves' mouths when they demolished them with explosives.[37] This allowed the Japanese troops within the cave to continue resisting or move on to other positions.

Ultimately, as discussed previously, American troops were able to successfully reduce Japanese defenses by infiltrating small units of infantrymen, armed with automatic weapons, flamethrowers and demolition charges to destroy cave defenses at close range. Where possible, these attacks had to be supported by artillery and tanks, especially flamethrower tanks, to force the Japanese underground. Unfortunately for the Americans, these tactics took time to master, but once they were implemented, American casualties dropped by 40 or more percent.[38]

Once it concluded, the Okinawa campaign proved the costliest of any that American forces fought against the Japanese, with 12,520 killed in action – including LTG Buckner – and 36,631 wounded among Allied ground, air and naval forces.[39] The Japanese lost 110,000 troops killed. Despite having overwhelming firepower, the Americans initially struggled to overcome Japanese defenses, and in the end, it came down to synchronized teams of tanks, infantry, engineers and artillery to defeat Japanese forces on the ground.

While Buckner has, perhaps rightly, been criticized for being unimaginative and not considering one or more amphibious envelopments to get around Japanese defenses, the Japanese defenses were so strong that heavy Allied casualties may have been all but assured.[40]

Takeaway from Okinawa

For American forces who may have to reduce underground complexes during large-scale combat in the future, training in combined-arms integration and synchronization down to the lowest level squads is crucial to success when operating in this environment. Also, as clearing every complex would be prohibitively costly in terms of lives, equipment and time, bypassing, isolating or suppressing UGFs and merely destroying their entrances to prevent their use may be considerations as commanders weigh risks to their forces and missions.

Finally, extensive use of intelligence, surveillance, reconnaissance assets and sensors, both manned and unmanned, should provide current American forces greater information regarding enemy defenses than was available to their World War II counterparts. This could be particularly true for artillery firing points, machinegun and antitank weapon positions. The nature of UGFs, which are largely hidden from view, specifically makes intelligence-gathering more difficult than other types of terrain where U.S. forces have fought in recent decades. Although they do so for every operation, commanders should put particular emphasis on gathering information on the disposition of enemy UGFs as they contemplate operations in this challenging environment, drawing some important conclusions from the Army's experience on Okinawa.

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Notes

[1] Quote from Headquarters Army Ground Forces, "Report on the Okinawa Operation," May 1, 1945, Army War College, Washington, DC, https://apps.dtic.mil/dtic/tr/fulltext/u2/a438628.pdf.

[2] Roy E. Appleman *et al*, ***Okinawa: The Last Battle***, Washington, DC: U.S. Army Center of Military History, 1993.

[3] 6th Division, U.S. Marine Corps, ***Sixth Marine Division on Okinawa Shima: G-2 Summary***, Aug. 1, 1945.

[4] Thomas M. Huber, ***Japan's Battle of Okinawa, April-June 1945***, Leavenworth Papers No. 18, Fort Leavenworth, KS: Combat Studies Institute, U.S. Army Command and General Staff College, 1990.

[5] Gordon L. Rottman, ***Japanese Pacific Island Defenses 1941-1945***, Oxford, UK: Osprey Publishing Ltd., 2003.

[6] Appleman *et al*.

[7] ***Sixth Marine Division on Okinawa Shima: G-2 Summary***.

[8] Buckner was the son of the Confederate general who surrendered Fort Donelson, TN, to Union GEN Ulysses S. Grant during the American Civil War. Previously assigned to command the Alaska Defense Force, he had no combat experience prior to commanding Tenth Army. Stephen R. Taffe, ***Marshall and His Generals: U.S. Army Commanders in World War II***, Lawrence, KS: The University Press of Kansas.

[9] Rottman.

[10] Several units spent the time before Operation Iceberg recovering from the Leyte Campaign and providing manpower for a variety of loading and unloading details prior to the embarkation for Okinawa. Robert C. Williams, "Subject: Report on the Okinawa Operation; To Commanding General, Army Ground Forces, Army War College," May 1, 1945, Washington, DC; James B. Hewette, "Operations of Company K and 3rd Battalion, 184th Infantry, 7th Infantry Division, on Okinawa, April 1 - June 22, 1945 (Ryukyus Campaign)

(personal experience of a company commander and battalion S-3," Fort Benning, GA: the Infantry School, 1946; https://mcoepublic.blob.core.usgovcloudapi.net/library/DonovanPapers/wwii/STUP2/G-L/HewetteJames%20B.%20CPT.pdf.

[11] Dennis W. Neill, "A Tank Company on Okinawa – Company A, 711th Tank Battalion in the Okinawa Campaign," Fort Knox, KY: the Armor School, 1949; https://mcoepublic.blob.core.usgovcloudapi.net/library/Armorpapers/ASTUP/M-R/NeillDennisW.%20CPT.pdf.

[12] American forces suffered 221 tank casualties on Okinawa, including 94 vehicles destroyed. This constituted about 57 percent of the tanks committed to the fighting on Okinawa. See Gene Eric Salecker, ***Rolling Thunder against the Rising Sun: The Combat History of U.S. Army Tank Battalions in the Pacific in World War II***, Mechanicsburg, PA: Stackpole Books, 2008.

[13] Neill.

[14] Williams.

[15] Huber.

[16] Headquarters Army Ground Forces, "Information on Japanese Defensive Installations and Tactics," Carlisle, PA: Army War College, 1945; https://apps.dtic.mil/sti/citations/ADA438611.

[17] Headquarters 7th Infantry Division artillery, "Report of Ryukyus Campaign (Iceberg Operation) April 1-June 30, 1945," San Francisco, CA; https://apps.dtic.mil/sti/citations/ADA438197.

[18] Ibid.

[19] Edwin W. Emerson, "Operations of B Company, 32nd Infantry, 7th Infantry Division, in the Conquest of Okinawa, April 10-20, 1945 (Ryukus Campaign) (personal experience of a rifle-platoon leader," Fort Benning, GA: the Infantry School, 1948; https://mcoepublic.blob.core.usgovcloudapi.net/library/DonovanPapers/wwii/STUP2/A-F/EmersonEdwin%20W.%201LT.pdf; Appleman *et al*.

[20] Appleman.

[21] Rottman.

[22] Headquarters 713th Tank Battalion, "After-Action Report, 713th Tank Battalion, Armd [sic] Flame Thrower Provisional, Nov. 19, 1944, thru June 30, 1945, Chapter VI: Assault Phase"; https://cgsc.contentdm.oclc.org/digital/collection/p4013coll8/id/3519/rec/. Along the same lines, the seizure of Kadena Airfield did witness an incident which somewhat hampered tank-infantry cooperation. When used to reduce Japanese installations around the airfield in support of infantry units, tank fire detonated Japanese aerial bombs, injuring nearby infantrymen. Understandably, this made infantrymen hesitant to use tanks for the rest of the day. Also see Neill.

[23] Headquarters Army Ground Forces, "Subject: Information on Japanese

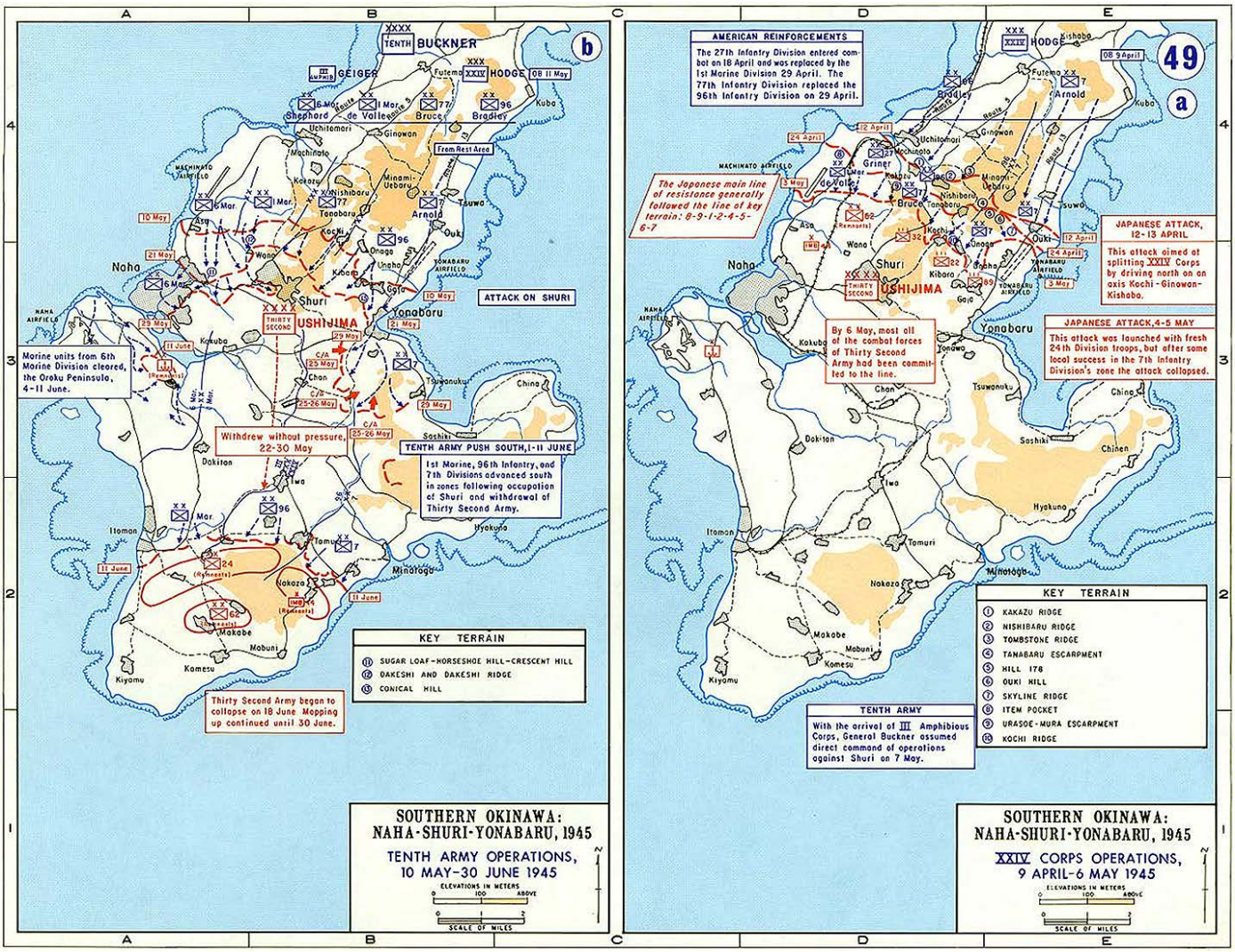


Figure 4. Operations on the island of Okinawa, April-June 1945. *(Map courtesy of the U.S. Military Academy Department of History)*

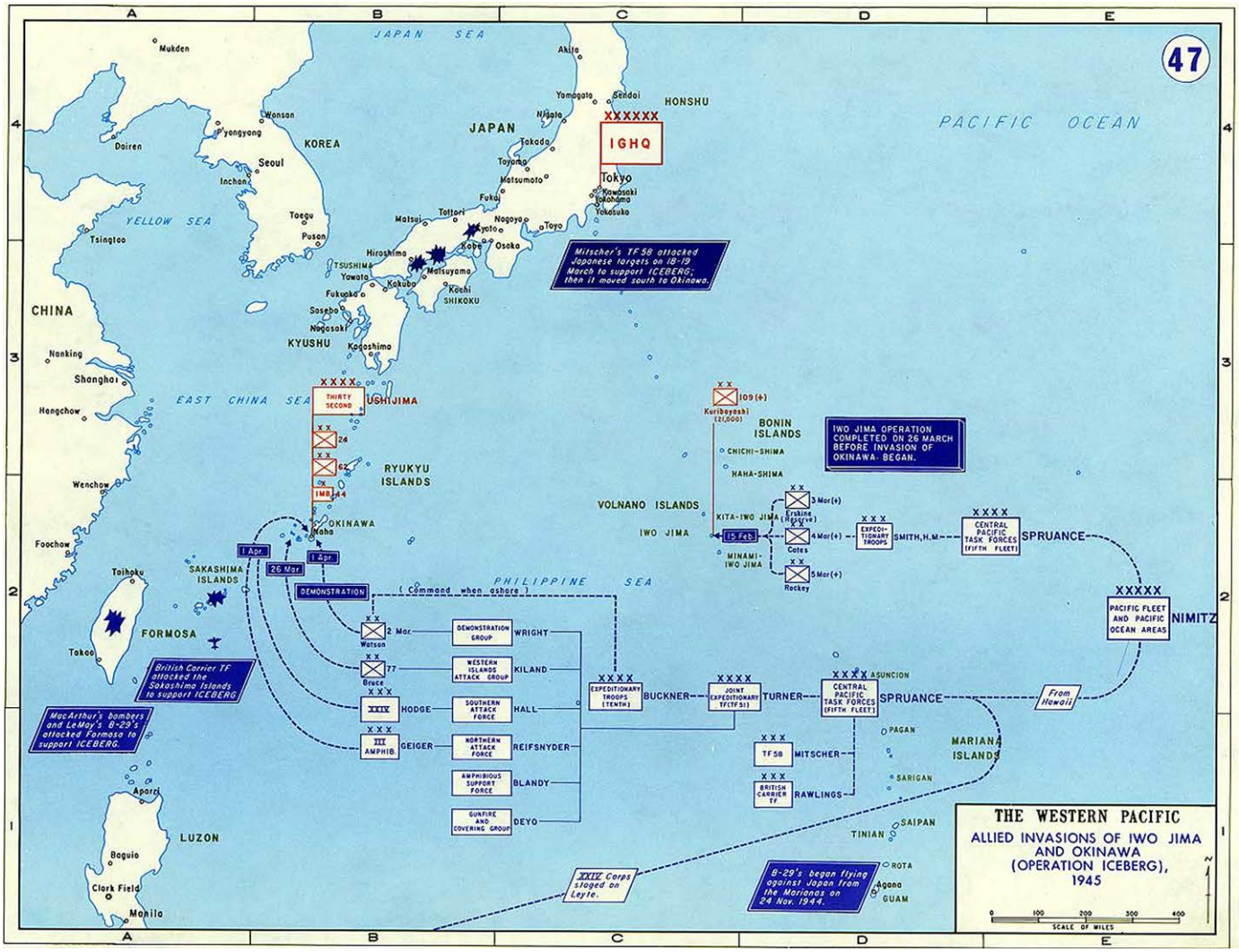


Figure 5. Operation Iceberg (Allied Invasion of Iwo Jima and Okinawa, 1945). *(Map courtesy of the U.S. Military Academy Department of History)*

Defensive Installations and Tactics," Aug. 3, 1945, Washington, DC.

[24] Salecker.

[25] Neill.

[26] Joseph F. Vering, "Operations of 382nd Infantry, 96th Infantry Division, in the penetration of the Japanese Naha-Shuri-Yonabaru Line on Okinawa, May 10-31, 1945 (Ryukyus Campaign) (personal experience of a company commander)," Fort Benning, GA: the Infantry School, 1948; https://mcoepublic.blob.core.usgovcloudapi.net/library/DonovanPapers/wwii/STUP2/S-Z/VeringJosephF%20MAJ.pdf.

[27] Hewette.

[28] Office, Director of Intelligence, Army Special Forces, "Special Technical Intelligence Bulletin No. 9- FLAME!", June 2, 1945, Washington, DC; https://archive.org/details/FlameSpecialBulletinNo9.

[29] Neill.

[30] Steven J. Zaloga, ***U.S. Flamethrower Tanks of World War II***, Oxford, UK: Osprey Publishing Ltd., 2013.

[31] Neill.

[32] Headquarters 711th Tank Battalion, "After-Action Report, 711th Tank Battalion, April 1-June 30, 1945"; https://cgsc.contentdm.oclc.org/digital/collection/p4013coll8/id/3515/rec/2.

[33] Headquarters Army Ground Forces, "Subject: Information on Japanese Defensive Installations and Tactics."

[34] Vering.

[35] Headquarters 713th Tank Battalion, "After-Action Report, 713th Tank Battalion, Armd [sic] Flame Thrower Provisional, Nov. 19, 1944, thru June 30, 1945." The Americans had tried to flush the Japanese out of the cave with "gunfire, smoke and grenades," but this had proven ineffective.

[36] G.H. Lenox, "A Pictorial Review of Engineer Work Performed by Engineer Troops of XXIV Corps During the Okinawan Campaign," July 1, 1945; https://cgsc.contentdm.oclc.org/digital/collection/p4013coll8/id/4636.

[37] ***Sixth Marine Division on Okinawa Shima: G-2 Summary***.

[38] Huber.

[39] Appleman *et al*.

[40] Buckner thought such operations were unworthy of the risks and could also overstretch his already taxed logistics. Ronald Spector, ***Eagle Against the Sun: The American War with Japan***, New York: Vintage Books, 1985.

Acronym Quick-Scan

HHC – headquarters and headquarters company
UGF – underground facility

Honoring our Armor and Cavalry Medal of Honor Heroes

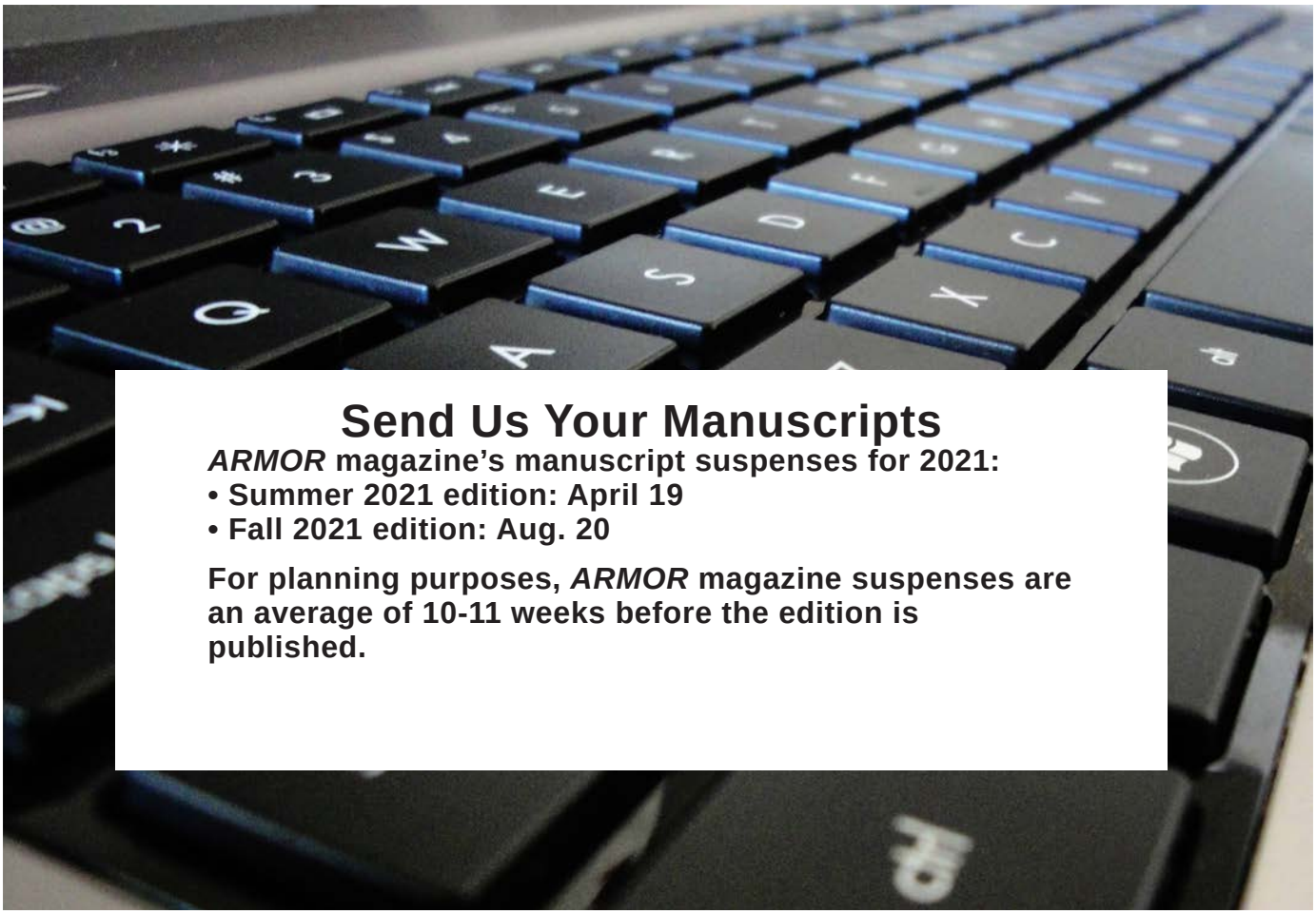
Derived from Center of Military History information provided at https://history.army.mil/html/moh/civwaral.html. Listed alphabetically. Note: Asterisk in the citation indicates the award was given posthumously.

GIFFORD, DAVID L. PVT
Unit: Company B, 4th Massachusetts Cavalry. Place and date of action: Ashepoo River, SC, May 24, 1864. Born: Dartmouth, MA. Date of issue: Jan. 21, 1897. Citation: Volunteered as a member of a boat crew which went to the rescue of a large number of Union soldiers on board the stranded steamer Boston and with great gallantry assisted in conveying them to shore, being exposed the entire time to heavy fire from a Confederate battery.

GOHEEN, CHARLES A. 1SG
Unit: Company G, 8th New York Cavalry. Place and date of action: Waynesboro, VA, March 2, 1865. Born: Groveland, NY. Date of issue: March 26, 1865. Citation: Capture of flag.

GOODRICH, EDWIN 1LT
Unit: Company D, 9th New York Cavalry. Place and date of action: Near Cedar Creek, VA, November 1864. Entered service: Westfield, NY. Born: New York, NY. Date of issue: May 14, 1894. Citation: While the command was falling back, he returned and, in the face of the enemy, rescued a sergeant from under his fallen horse.

GREBE, M.R. WILLIAM CPT
Unit: Company F, 4th Missouri Cavalry. Place and date of action: Jonesboro, GA, Aug. 31, 1864. Entered service: St. Louis, MO. Born: Aug. 4, 1838, Germany. Date of issue: Feb. 24, 1899. Citation: While acting as aide and carrying orders across a most dangerous part of the battlefield, being hindered by a Confederate advance, seized a rifle, took a place in the ranks and was conspicuous in repulsing the enemy.



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Conduct of the Mess:

Role of Tradition in Unit Social Gatherings

by MAJ Wilford L. Garvin

Well-executed social functions bolster a unit's ability to develop a culture of mutual trust and better employ the philosophy of mission command. Enjoyed shared experiences allow leaders to increase mutual understanding, grow the bonds of fellowship characteristic of the profession of arms, and generally contribute to morale and pride in the organization. Many units execute "stable calls," post-gunnery "dens," spur dinners, military balls, dining-ins and other activities to foster this climate.

Armor and Cavalry units, often reputed for their panache, regularly display their organization's unique culture and pride through these events. The tradition of an "organizational mess" provides a method for teams to further a sense of history and *esprit de corps* by linking such activities within a historical framework.

Many leaders have already experienced some of the traditions of a mess through the conduct of dining-ins. Those who have attended a dining-in will probably recall the wear of mess-dress uniforms, complicated and archaic rules too numerous to remember, lively banter and accusations and the humorous governing of the event by a gavel-armed officer addressed as "Mr. Vice." Many units within the U.S. military already employ these traditions of a mess. However, the traditions of governing military social functions with gavels, archaic tradition and procedures akin to "Robert's Rules of Order" can extend beyond the dining-in.

World War I experience

During World War I, U.S. leaders gained increased exposure to the concept of a mess serving as more than just a location for food service. Leaders in the American Expeditionary Force socialized with their French and British allies and returned to the United States with a richer understanding of mess traditions.

In a social context, a mess is the body of leaders assigned to, or still affiliated with, a unit which periodically gathers in the spirit of social fraternity. This body, historically associated with regiments, complies with rules, regulations and traditions passed on from preceding generations.

In the absence of a standing regimental headquarters, a regimental mess may consist of chapters from each active battalion or squadron. A mess preferably meets in a dedicated mess hall, a standing structure within the regiment or battalion/squadron footprint.

When assembled, members of the mess conduct themselves in accordance with the organization's "rules of the mess." This document encourages good cheer and enjoyment of the fellowship and shared experiences of the organization. While encouraging banter and good-natured snark, it does not permit gossip, derision or ridicule. A mess is a social organization in parallel of the military unit. As such, members of a mess conduct themselves in a relaxed manner, though remain mindful that the etiquette shared in the mess

Figure 1. SSG David Batt, assigned to 1st Battalion, 12th Cavalry Regiment, 1st Cavalry Division, Fort Hood, TX, attends the 1st Cavalry Division Association's Stetson Stable Call with his wife Candice and son Parker at the 1st Cavalry Division Museum. *(U.S. Army photo)*

does not extend back into their military duties.

When a mess meets, members selected to hold specific offices govern its proceedings. These officers ceremonially open and close of the gatherings of the mess, govern the execution of the traditions and ceremonies associated with the gathering and maintain the decorum of the members. Organizations may appoint the officers of the mess based on both military duty position and the personality and panache of the individual members.

While these offices may differ in number and duties across organizations, a well-governed mess will invariably include a president and vice president at a minimum.

The president of the mess will always be the organization's commander. This is the only position in which the mess demands a specific military position because the commander is responsible for everything the unit, including its mess, does or fails to do. The duties of the president of the mess may include:

- Directing the call to assemble;
- Ensuring the good governance of the mess when assembled;
- Ensuring the mess honors the traditions of the organization; and
- Ensuring the well-being of the members assembled.

The president of the mess appoints the vice president to lead the cheerful activities of the mess as a kind of master of ceremonies. Informally addressed as "Mr./Ms. Vice," the vice president may often also be the organization's second-in-command. However, the president may also appoint a *pro tem*, "for a time," vice president based on the character of the business at a particular gathering of the mess. A common example of this includes selecting a *pro tem* Mr. Vice for a dining-in based on brashness of personality and quickness of wit. The vice president's duties may include assisting the president in the traditional opening and closing of the mess; governing conduct of its members; and guiding the mess in conduct of its agenda, traditions and ceremonies.

Research unit traditions

Should an organization wish to expand the traditions of its social functions to include the mess beyond "dining-ins," it should first research existing history and tradition within the organization. Rules of the mess and other traditions often already exist but were lost as guidons transferred, inactivated or reactivated.

Next, organizations should consider current practices and encourage many members to help capture the organization's emerging traditions. Not all leaders find immediate interest in adding ceremony to social activity, and the opportunity to participate helps foster ownership.

A newly forming, or reforming, mess may begin by adhering to the following practices:

- **Defining membership based on level of organization.** Typically, this will be at platoon leader/platoon sergeant and above at battalion/squadron level, and company/troop commander/first sergeant and above at brigade or regiment level.
- **Selecting a suitable location for the mess to meet.** In absence of an established mess hall, some may use existing "regimental rooms" that contain historical artifacts and displays of the organization, or they may select off-site locations.
- **Assigning roles and responsibilities.** The president should select officers (especially *pro tem* officers) based on personality rather than only military rank and position. Other offices in a mess may include a master at arms, sergeant at arms, wardens, a chaplain and a secretary charged with keeping an account of the event fit for recording.
- **Creating an agenda and means to govern proceedings.** A typical agenda should include simple opening and closing ceremonies; recognition of new, visiting or departing members; and traditional activities such as "broken saber/sprocket" awards during a "stable call."
- **Determining and publishing rules of the mess.** Pretentious and archaic observances such as gavels, points of order and investigations into violations of the rules of the mess can add to the levity of an event. Also, rules that define offenses against the mess may serve as a lighthearted way for organizations to correct tactical

Figure 2. LTC William Rachal of Breaux Bridge, LA, commander of the Louisiana National Guard's 2nd Squadron, 108th Cavalry Regiment, headquartered in Shreveport, LA, addresses his troopers during a Stable Call on Contingency Operating Base Adder in Iraq as squadron mascot Geronimo looks on. At the time the squadron was deployed with 256th Infantry Brigade Combat Team, 13th Sustainment Command (Expeditionary), in support of Operation Iraqi Freedom to assist in setting the conditions for the responsible drawdown of U.S. troops and equipment in Iraq. *(Photo by 1LT Angela Fry, 256th Brigade Combat Team, Louisiana Army National Guard)*

behavior by "levying fines" for poor radio etiquette, getting vehicle stuck, etc.

Of note, military messes, though fraternal in nature, are not college fraternities. Meetings of the mess should not go so far in the name of fellowship as to endanger good order and discipline. The social structure of the mess does not cancel the chain of command. Good-natured camaraderie must not devolve into excesses of familiarity and fraternization.

Likewise, good-natured ribbing must remain such: free of mean-spirited attack that threatens mutual trust and respect between leaders. Finally, as few organizations find their members billeted in proximity to an established mess hall, a well-governed mess sees to the safety of its members.

All members of a mess must resume their duties when next directed in the same good standing they held before. Good governing by the officers of the mess, in accordance with its rules, provides a system to maintain the organization's reputation while fostering a positive spirit.

No 'mandatory fun'

Leaders should also ensure that meetings of the mess not take on a characteristic of "mandatory fun." While enjoyment of social gatherings depends on some items beyond the control of the mess, such as individual preferences and personalities, the mess can take steps to encourage a positive climate.

When possible, the mess should meet before the close of a convenient duty day to avoid taking time from family or personal matters. The president should call meetings predictably, either by time (monthly) or by following major training events.

The vice president should communicate the agenda for the meeting to allow members to prepare; well-rehearsed skits, storytelling and such increase the good humor of meetings and increase involvement of members.

Finally, commanders should only sparingly designate a meeting of the mess as a "place of duty." Instead, commanders should foster a climate where leaders ***want*** to attend events rather than ***need*** to do so.

As we look beyond the COVID pandemic and move further into 2021, units may now find themselves looking to again gather beyond the mission-essential to foster fellowship. The traditions of a well-governed mess provide a way to add further meaning and memory to these events. Though some organizations within the U.S. Army do not hold the unbroken lineage or association with historical meeting halls, leaders may still institute the symbolism and tradition of a mess system within their organizations. When properly executed, a mess can provide its members a means of continuing unit traditions, a healthy climate of camaraderie, trust, team-building and happy memories of the time spent together. Units with such pride and confidence invariably carry this spirit with them in execution of their missions. This furthers the legacy of the profession of arms as leaders continue their journeys throughout the Army and beyond.

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Acronym Quick-Scan

ABCT – armored brigade combat team
MCCC – Maneuver Captain's Career Course

LETTERS

Dear Editor,

When the U.S. Army enlarged the 11B (basic infantry) career field by abolishing the 11H (heavy weapons / motorized) and 11M (mechanized) military-occupation specialty (MOS) codes in 2001, its reasoning was that 11H and 11M noncommissioned officers (NCOs) lacked career opportunities as the U.S. Army shrank from 18 divisions in 1990 to 10 divisions by 2001. Of the eight divisions inactivated, five were mechanized. To the Army's credit, this reasoning was sound, logical and in the best interests of Soldiers; career opportunities for infantrymen who could serve in infantry brigade combat team (IBCT) units such as 10th Mountain Division and 82nd Airborne Division were far greater at higher ranks than Soldiers who were confined to the Bradley Fighting Vehicle (BFV). Our experience and reliance on light forces in Afghanistan and Iraq during the next decade seemed to further prove the Army had made the right decision at the right time.

Twenty years later, it is time to revisit the underlying assumptions that guided this decision. While the amount of armored brigade combat teams (ABCTs) is even smaller than it was in 2001, institutional training and memory have atrophied faster than the reduction in force. Also, the Army is in the process of converting select brigades back to the ABCT and has already inactivated the fourth brigade of all its divisions, many of which were light organizations. Therefore, it is time to bring back specialization within the Infantry Branch – the 11M MOS for Soldiers on the BFV and 11S for Soldiers on the Stryker family of vehicles.

Yes, what's old is what's new again. But that isn't a bad thing. History and international relations are a repetitive cycle, and fiscal realities dictate that we can only focus on certain things at a time. The time has come again for the Army to focus on large-scale combat operations (LSCO) and the near-peer threat. We do this by focusing our attention on heavy mechanized forces.

Splitting Strykers and Bradleys into distinct MOSs offers four distinct advantages. First, it guarantees leader proficiency in the platform in which they become a section or squad leader, or a platoon sergeant. Second, it improves morale by allowing our NCOs more control over their careers, duty stations and assignments. No longer will units deal with a disgruntled sergeant first class who was sent to a unit equipped with a platform they're not proficient in. Third, it increases collective knowledge on the system to offset the limited number of master gunners that can be trained every year. Finally, giving the platforms their own MOS codes shows that the Army values mechanized-infantry forces and encourages our best and brightest to specialize, rather than separate, after their first enlistment if they did not enjoy being a light infantryman.

For both new MOSs, Soldiers would join the Army as 11B infantryman. They would serve their first three years in the Army much like they do now – serving as dismounts in Stryker brigade combat teams (SBCT) and ABCT units, or as regular members of line squads in IBCTs. Thus, every infantryman in the U.S. Army would have a common-experience background and know whether or not the dismounted-infantry life is something they want to continue doing. Upon reaching the rank of specialist (or two years after they graduated advanced individual training, whichever came first), they would be presented with three options – end-term-of-service after their first enlistment and remain an 11B; cross-train to 11B or 11S and become a vehicle driver; or choose to re-enlist and remain an 11B. Soldiers selecting the 11M or 11S career field would be then sent to a three-week course to certify them in their new MOS.

Upon completing the course, Soldiers would return to their units (if already assigned to SBCT or ABCT formations) or move to an appropriate installation. As specialists, they would serve as vehicle drivers or gunners. As they rose in rank, they would become vehicle commanders, section sergeants and platoon sergeants. Their knowledge of the platform would never truly equalize that of a school-trained master gunner; however, their years of experience and repeated exposure to gunnery would offset the challenge.

Soldiers who elected to remain as 11B infantryman would follow the same path but with some modifications. They would still serve as dismounted fire team and squad leaders in ABCT, IBCT and SBCT units, but they would serve additional squad leader time in IBCTs prior to becoming platoon sergeants in an IBCT. Furthermore, they'd be the Army's subject-matter experts on using mine-resistant ambush protection (MRAP), humvee and Joint Light Tactical Vehicle (JLTVs) for motorized-infantry operations. This way, by devoting the Army's IBCTs to the MRAP, humvee and JLTV platforms, the Army could retain a high-low force mix for LSCO and low-intensity counter-insurgency conflicts.

As the Army struggles with building proficiency in its mechanized and armored forces, it needs to accept the value specialization has. The first, most tangible way it can do this is offer a new career field to Soldiers who have completed two years of service as dismounted infantrymen and wish to become technical experts in a chosen platform.

CPT GEORGE W. RUNKLE IV
III Corps command historian
Fort Hood, TX

Acronym Quick-Scan

ABCT – armored brigade combat team
BFV – Bradley Fighting Vehicle
IBCT – infantry brigade combat team
JLTV – Joint Light Tactical Vehicle
LSCO – large-scale combat operations
MOS – military-occupation specialty
MRAP – mine-resistant ambush protected
NCO – noncommissioned officer
SBCT – Stryker brigade combat team

137TH ARMOR REGIMENT

The shield is colored red and gold, red being the color of artillery and yellow the color of artillery guidon markings. The scythe alludes to the power of the organization to "mow 'em down," destroying all obstacles. This instrument being the tool of the "Grim Reaper" aptly illustrates the functions of the unit. The distinctive unit insignia was originally approved for 637th Tank Destroyer Battalion, Light (Towed) Aug. 18, 1942. It was redesignated for 637th Tank Battalion July 15, 1947. It was redesignated for 137th Heavy Tank Battalion June 6, 1949. The insignia was redesignated for 137th Armor Regiment Jan. 3, 1961.

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