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Developing Future Comprehensive Strategy

The conflicts of the last decade suggest an ongoing change in the nature of war. Imagery from the 2020 Nagorno-Karabakh border conflict between Armenia and Azerbaijani and the ongoing war in Ukraine, for example, tend to highlight the role of sensor technology and long-range precision fires. However, while the innovative use of new and emerging technology demonstrates the availability of new tools for waging war, it does not eliminate the need for opposing forces to meet in combat. Nor does it invalidate the importance of Cavalry to see, find and shape the battlespace to enable maneuver units to achieve points of advantage from which to inflict shock and destruction upon their enemy.

Nevertheless, realizing these effects consistently on tomorrow's battlefields necessitates updates to small-unit doctrine and the Armor Training and Standardization Strategy 2030 (Armor 2030) to reflect an understanding of emerging technologies and their effects. Fortunately, the recent publication of Field Manual 3-0, *Operations* – with its clear description of the multidomain environment and how the Army will conduct large-scale combat operations – provides an anchor point for these modifications.

The ability to mass our combat power at positions of advantage requires that we preserve those forces in the defense and on the move. The enemy is increasingly effective at finding forces using optical, thermal, electronic and acoustic detection systems (phone interview with retired COL John Antal Dec. 6, 2022). These intelligence-collection assets then facilitate the employment of precision fires to reduce the combat power of friendly forces, preventing their transition to an offensive posture. As an armored force, we need to understand our own masking limitations in those four areas. Updating how we camouflage and dampen the noise of our vehicles, reducing our electromagnetic signatures and decreasing the persistent use of radios will allow us to minimize the chance of enemy detection.

First, we need to understand how we look to the enemy. Soldiers and leaders at the small-unit level cannot effectively address weaknesses until they clearly understand how the enemy sees our friendly forces. Second, we need to consolidate the lessons-learned from home-station training and combat-training-center rotations and distribute them to the force. Communicating these lessons-learned allows the armored community to reiterate and refine these techniques to degrade the effectiveness of our adversaries.

Defensive operations allow our units to build combat power and transition to offensive operations, maneuvering forces into a position of advantage to deliver precision fires against our enemies. Preserving our forces requires us to plan dispersed and with reduced signatures, quickly disseminate orders, consolidate converging forces and move directly into the fight. To do so, maneuver leaders must understand how the enemy will use emerging technologies to identify our forces on the move and reduce our combat power prior to direct engagement. Clear understanding of how units will maneuver through various domains to meet the enemy is critical to preserving the force. Reacting to enemy reconnaissance elements and contact across all domains is critical to limiting the effective targeting of our forces. Once friendly forces have maneuvered to the position of advantage, our ability to overwhelm the enemy through fire and maneuver ensures mission success.

As the Maneuver Center of Excellence and the U.S. Armor School develop plans to update training and doctrine, the operational force can influence those documents by communicating small-unit innovations across the force. Units attending combat-training-center rotations and conducting home-station training allow young Soldiers and leaders to develop tactics

that address some of the challenges discussed in this article. Publishing those findings allows leaders and planners to engage in discourse further encouraging experimentation across the force. Continued iteration is vital to developing the best tactics and doctrine to be used by the Maneuver Center of Excellence and U.S. Armor School.

Innovations to our tactics that account for emerging technologies allow us to update doctrine and the Armor Training and Standardization Strategy 2030, so we are prepared to meet the challenges of the modern battlefield. Understanding how our enemies see and target our combat power, updating our tactics for preserving the force and training to ensure we can

maneuver to a position of advantage will allow us to win in close combat in the future. Developing a comprehensive strategy for updating our training environments, small-unit tactics and doctrine requires leaders from across the Army to share lessons-learned in training and engage in discourse to meet the challenges of future combat.

Armored Fighting Vehicles of the World

SPz Marder 1 IFV

Marder 1A5

Marder 1A5

Marder 1A3

The Schützenpanzer Marder family of Infantry Fighting Vehicles have been in continuous service since 1971. Current versions weigh between 33.5 and 37 tons. It has a crew of three, plus up to six infantry troops. It is armed with a 20mm Rheinmetall MK-20 automatic cannon, Milan anti-tank guided missile launcher mount and 7.62mm machinegun, and has four gun ports, two on each side. In service with: Germany, Chile, Indonesia, Greece and Ukraine.

1st Cavalry Division Reactivates Division Cavalry Squadron

by LTC Jennifer J. Bocanegra

In support of modernizing and reorganizing U.S. Army forces to support large-scale combat operations (LSCO) and meet emerging threats, 1st Cavalry Division was selected to conduct the Headquarters Department of the Army Reconnaissance and Security Pilot to shape how divisions fight in 2030.

The 1st Cav Division leaders assessed multiple courses of action based on the availability of existing units and selected the storied 1st Squadron, 7th Cavalry Regiment, also known as "Garryowen," to lead the pilot program and serve as the division's Cavalry squadron. Prior to modularity in the mid-2000s, the squadron served as the division Cavalry, so this is a return to the squadron's traditional role within the division.

LTC Brennan Speakes, the division Cavalry squadron commander, assesses that "the [division Cavalry] formation will change doctrine for how the division fights by enabling the capability to act across all domains more rapidly than an adversary and aid in informing command decisions to shape battlefield conditions."

"Reactivating the division Cavalry squadron gives the division commander a purpose-built, all-weather formation to shape the battlefield," Speakes said. "Right now, the division has surveillance assets it can use to observe the battlefield, but these assets don't really shape the battlefield and set conditions for successful operations the same way an armored-Cavalry squadron can, which is the fundamental purpose for Cavalry."

The 1-7 Cav can affect multiple domains to either stimulate the environment or determine atmospherics regarding the threat, terrain or civilian populace. This is due in large part to the new equipment and personnel the squadron is incorporating into the formation, including next-generation robotic combat vehicles and unmanned aerial systems.

"What we do for the division commander is to provide decision space

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and look to answer any questions about the battlefield before the commanding general has to commit a brigade combat team or other maneuver assets," Speakes said. "This enables him to gain the initiative on the battlefield."

Many studies and exercises have proven a unit is able to fight better if it has a reconnaissance and security element in front of it. These exercises also proved that the more capable the reconnaissance and security force is, the higher likelihood of success for the main body.

GEN Mark Milley, the 20th Chairman of the Joint Chiefs of Staff, while previously serving as Chief of Staff of the Army, cautioned in the wake of America's large-scale ground campaigns in Iraq and Afghanistan that "the level of uncertainty, the velocity of instability and potential for significant interstate conflict is higher than it is has been since the end of the Cold War."

Given this volatility, which is intensifying in regions such as the Middle East, Europe and East Asia, where air / ground Cavalry teams proved their utility in past wars, divisions must prepare to fight for information as subordinate maneuver elements or as independent joint task forces. This imperative includes organizing to conduct forceful reconnaissance and security operations against a variety of near-peer, non-state and hybrid adversaries.

"Over the past 18 months, 1st Cavalry Division continues to modernize our equipment and adapt how we fight, which will enable us to respond to emerging threats as the Army's principal tactical warfighting formation in [LSCO]," said MG John Richardson, 1st Cavalry Division's commanding general. "This modernization process not only involves fielding cutting-edge equipment, but also restructuring the formation with the addition of a division Cavalry squadron and armored-Cavalry troops at the brigade level, which will provide more reconnaissance and security capabilities enabling the division and brigade commanders to maintain the advantage over any potential adversary."

Since the pilot program kicked off, Garryowen troops have been working in an initial-operating-capability phase, where they were afforded the opportunity to test the division-Cavalry capability to serve as the eyes and ears of the division commander during several command-post training exercises.

Last fall, the Garryowen team was selected to participate in the Army Futures Command's Project Convergence 2022, the largest experiment of its kind since the Louisiana Maneuvers of the 1940s. During the experiment, 1-7 Cav troops fought across the Central Corridor at the National Training Center (NTC) at Fort Irwin, CA, for 60 days while testing the latest warfighting technology, including robots, radios, unmanned aerial systems and targeting systems.

"It was a once-in-a lifetime experience, and we took advantage of the repetitions to fight Blackhorse on their own terrain," Speakes said. "It's not surprising that we learned people make all the difference in how we'll fight in the future. Our troopers developed innovative ways to employ their assigned technology, and we saw phenomenal results as we put all the pieces together."

This summer 1-7 Cav will return to NTC to further develop the division-Cavalry squadron concept. Throughout the pilot program, Garryowen troops and leaders have continued to provide feedback to U.S. Army Forces Command and U.S. Army Training and Doctrine Command to help shape future division-Cavalry squadrons across the Army.

"It's part of 1-7 Cav's DNA to be at the forefront of experiments," Speakes said. "I think often of [LTG] Hal Moore, former commander for 1-7 Cav during Vietnam, learning about helicopters and how to employ airmobile forces in the jungles of Vietnam. Now, we have 1-7 Cav troopers figuring out how far out do we have our robots and what payloads do we want on them."

As the nation's premier armored force, 1st Cavalry Division has consistently adapted to the current warfighting environment. Standing up the division-Cavalry squadron is just one of the ways the First Team is adapting to the Army's shift in focus from brigade-centric counterinsurgency and counterterrorism operations to large-scale operations with divisions serving as the decisive tactical echelon of war.

LTC Jennifer Bocanegra serves as public-affairs director for 1st Cavalry Division, Fort Cavazos, TX. Previous assignments include public-affairs director, North Atlantic Treaty Organization Special Operations Component Command – Afghanistan / Special Operations Joint Task Force – Afghanistan; media relations and plans officer, U.S. Special Operations Command, MacDill AFB, FL; director and deputy director of training, as well as instructor, Defense Information School, Fort George

Figure 1. A 1-7 Cav trooper tests an unmanned aerial system at NTC. *(U.S. Army photo)*

G. Meade, MD; deputy public-affairs officer, 2nd Infantry Division, Republic of Korea; public-affairs officer, 3rd Special Forces Group (Airborne), Fort Bragg, NC; public-affairs plans officer, 82nd Airborne Division, Fort Bragg; brigade S-1, 82nd Sustainment Brigade, Fort Bragg; strength-management officer, G-1, 82nd Airborne Division, Fort Bragg; commander, Headquarters Detachment, 18th Soldier Support Group, Fort Bragg; and postal-platoon leader, 129th Postal Company, Fort Bragg. She has completed five deployments to combat zones, including two to Iraq and three to Afghanistan. Prior to receiving her commission, she spent 5½ years as an enlisted Army combat-camera operator. Her military schools include Adjutant General basic and advanced courses and the Army's intermediate-level education course. She holds a bachelor's degree in journalism from Northwestern State University of Louisiana, a master's degree in business administration from the University of Phoenix and a master's degree in public relations and corporate communication from Georgetown University School of Continuing Studies.

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.

REYNOLDS, GEORGE PVT
Unit: Company M, 9th New York Cavalry. Place and date of action: Winchester, VA, Sept. 19, 1864. Entered service: New York, NY. Born: Ireland. Date of issue: Sept. 27, 1864. Citation: Capture of Virginia commonwealth flag.

RHODES, JULIUS D. PVT
Unit: Company F, 5th New York Cavalry. Place and date of action: Thoroughfare Gap, VA, Aug. 28, 1862, and Bull Run, VA, Aug. 30, 1862. Entered service: Springville, NY. Born: Monroe County, MI. Date of issue: March 9, 1887. Citation: After having had his horse shot under him in the fight at Thoroughfare Gap, he voluntarily joined 105th New York Volunteers and was conspicuous in the advance on the enemy's lines. Displayed gallantry in the advance on the skirmish line at Bull Run, where he was wounded.

RICHARDSON, WILLIAM R. PVT
Unit: Company A, 2nd Ohio Cavalry. Place and date of action: Sailors Creek, VA, April 6, 1865. Entered service: Washington, OH. Born: Cleveland, OH. Date of issue: April 7, 1866. Citation: Having been captured and taken to the rear, made his escape, rejoined the Union lines and furnished information of great importance as to the enemy's position and the approaches thereto.

RILEY, THOMAS PVT
Unit: Company D, 1st Louisiana Cavalry. Place and date of action: Fort Blakely, AL, April 4, 1865. Born: Ireland. Date of issue: June 8, 1865. Citation: Captured the flag of 6th Alabama Cavalry.

Division Cavalry and Its Role in Army of 2030

by COL Thomas P. Weikert, LTC Andrew S. Partin and LTC John P. Dolan

U.S. Army Forces Command tasked 1st Cavalry Division in September 2021 to execute a reconnaissance and security (R&S) pilot for the armored division (reinforced) in support of the Army 2030 Division Cavalry Force-Design Update (FDU). The division continues to collect data and lessons-learned to answer a fundamental question for the Army: Is the current division Cavalry FDU design correct, and does it have the capabilities required to properly enable the division in 2030 and beyond?

The following article provides an excellent primer for understanding why a heavy/armored division requires this critical enabling capability using historical examples, coupled with findings from the large-scale combat operations (LSCO) gap analysis. After 20 years of brigade combat team (BCT)-centric counterinsurgency (COIN) operations that have created what is described as "a case of collective amnesia for the Army regarding Cavalry operations," this article helps reblue all of us on why we must have Cavalry formations and how we must adapt this formation to execute cross-domain Cavalry operations for divisions executing LSCO today, tomorrow, in 2030 and in 2040.

Finally, the 1st Cavalry Division pilot is not merely helping define the future of R&S for the reinforced armored divisions. I submit it is leading us to the conclusion that all armored divisions (1st Cavalry Division, 1st Armored Division, 3rd Infantry Division and 1st Infantry Division) require a cross-domain division Cavalry squadron. Division Cavalry provides the division with a critical shaping capability in LSCO. This article helps explain why.

-MG John B. Richardson IV, commanding general, 1st Cavalry Division

Cavalry has provided commanders throughout history with mobile forces well-suited to conduct reconnaissance operations, provide security to their own army and, when directed, fight to gain a position of relative advantage over the enemy. Like the nature of war, the purpose and function of Cavalry on the battlefield remains conzstant and has been an integral part of warfare for thousands of years. However, like the character of war (how it is fought), Cavalry operations have and will continue to evolve over time, adapting and changing with developments in technology, military doctrine and a multitude of other variables that affect how war is conducted.

As the Army looks to the future and considers how it will conduct multidomain operations (MDO) in 2030 and beyond, it has acknowledged the importance of Cavalry – particularly to divisions. Because no cross-domain R&S capability currently exists at the division level, division and corps Cavalry was identified as an LSCO gap (#9) in the current force structure.[1] To close the gap, FDUs are currently navigating the Total Army Analysis process to return Cavalry squadrons to Army of 2030 armored divisions (reinforced), improve those formations and integrate new enabling technologies. The Army's ongoing transition to the division as the decisive tactical echelon and the associated division headquarters FDU support these efforts.

Historical perspective

According to Field Manual (FM) 3-98, *Reconnaissance and Security Operations*, armies have historically capitalized on Cavalry forces for their significant advantage in mobility to conduct R&S operations and, in the case of heavy Cavalry, penetrate, exploit and pursue an enemy force.[2] By employing all available resources, Cavalry squadrons answered the commander's critical information requirements (CCIR) and secured positions of relative advantage on the battlefield to enable other forces to maneuver. Any student of military history can readily cite the Army's use of BG John Buford's cavalry during the American Civil War.
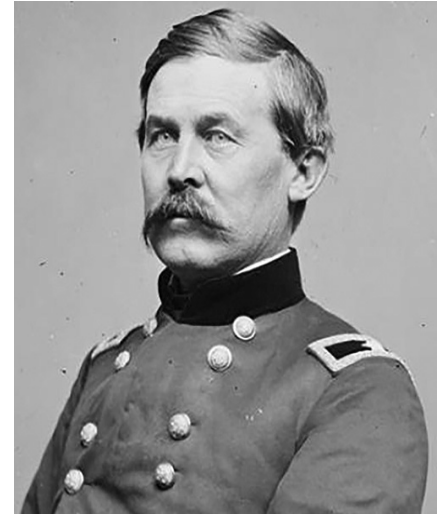

Figure 1. BG John Buford Jr., Union Army.

At Gettysburg, Buford's 1st Division of the Cavalry Corps – in advance of the Union Army's main body – secured key terrain and defended against Lee's superior force to buy time and space for the Union Army to achieve relative advantage over the Confederate Army. With the key terrain, the Union Army defeated Lee's attack; once the Union had regained the initiative, Buford's Cavalry "pursued and harassed the Confederates all the way back to the Potomac River."[3]

From a historical perspective, the best-organized Cavalry formations were those that could perform both R&S missions. History shows that Cavalry organizations oriented solely on the purpose of information collection struggled to meet the requirements of their operational environment and the needs of their formation commander. Essentially "one-trick ponies," they lacked versatility and adaptability, and they struggled to perform assigned missions.

In World War II, for example, division Cavalry doctrine and training focused

on reconnaissance ("sneak and peek" doctrine). Once deployed, these formations were regularly employed in a much broader mission set that included security operations and sometimes entailed combat actions, which they were not manned, trained or equipped to perform. In the European Theater particularly, this role expanded to include the use of mechanized-Cavalry groups to maintain contact between adjacent units as they "tied in" the flanks of field armies, corps and divisions – a role division Cavalry is well-suited for on current and future battlefields.

This broader employment reflected command needs, and during the post-World War II after-action review (AAR) conducted at Fort Knox, KY, in the years after the war, the Army acknowledged and embraced the need to execute R&S and economy-of-force missions (ability to fight for information). These AARs resulted in the formation of armored-Cavalry regiments for corps and division Cavalry squadrons – force designs that reflected this need "tended to generate capable and adaptive units able to operate in a variety of operational environments, exemplified by the actions of division-Cavalry squadrons in Desert Storm."[4]

Cavalry formations proved highly effective during Operation Iraqi Freedom in 2003 in a chaotic operating environment amid limited intelligence regarding enemy activities.[5] The 3rd

Squadron, 7th Cavalry Regiment, 3rd Infantry Division's Cavalry squadron "performed the full range of recon, security and economy-of-force operations to include screen, guard, cover and blocking, and it seized critical objectives in advance of the division's main effort."[6]

During the last 20 years, however, operations in Iraq and Afghanistan have resulted in a case of collective amnesia for the Army regarding Cavalry operations.[7] "The enduring value of a robust, versatile Cavalry organization was lost amid the need to reorient the Army toward long-term COIN operations," said Dr. Robert S. Cameron, the Armor Branch's historian.

During the "war on terrorism," many Cavalry scouts conducted dismounted patrols and manned checkpoints. More to the point, COIN focused mainly at the BCT level, not the division level, and "[Cavalry formations] performed information collection and surveillance rather than R&S and economy-of-force missions."[8] As a result, the division commander did not rely on the Cavalry formation to conduct reconnaissance and surveillance operations, so eventually the division Cavalry squadrons were absorbed into the modular BCTs. This collective amnesia has the potential to lead us back to the faulty assumptions made prior to World War II and the "sneak and peek" doctrine that indicated Cavalry units should only conduct reconnais-

sance and surveillance.

The realities of the 2030 battlefield drive us to one inescapable conclusion: Cavalry squadrons cannot be the Swiss Army knife of maneuver formations, nor can their functions be performed by other maneuver formations. Given the renewed focus on division-level operations in the Army of 2030, it is time to return Cavalry to its primary functions and purpose, using proven principles of operations for Cavalry formations while introducing new and emerging technologies to enhance those principles.

Why Cavalry formations are required

Traditionally, Cavalry has provided commanders with a mobile formation that can conduct reconnaissance, provide security and fight when directed. Cavalry missions include reconnaissance, security, attack, defend, movement-to-contact, guard, delay, pursuit and exploitation. This range of operations allows the commander to make timely decisions, shape subsequent fights and seize, retain and exploit the initiative while preserving combat power (the BCTs) for the decisive point. In addition, the ability of division Cavalry to execute economy-of-force operations for the commander facilitates the concentration of combat power at the decisive time and place.

Because of its mobility, special organization, training and unique capabilities, Cavalry squadrons can execute reconnaissance operations on a specific objective or across a broad front. Moreover, they can feed previously unconfirmed or unknown information to commanders such as river speed or bridge strength and stability to support a wet-gap crossing operation. Also, due to its heavy armament relative to the size of the formation, the Cavalry squadron can execute security operations allowing maneuver space and reaction time for the protected formation.

Cavalry initially conducts reconnaissance in advance of the main body and, as required, provides security for lead BCTs. As contact becomes imminent, the Cavalry can destroy the enemy's recon, force the enemy to deploy early and then pass forward a BCT

Figure 2. Division Cavalry in the war on terror's march to Baghdad.

or move to the division's flanks, transitioning into a security role that monitors the subsequent action while providing flank security. Upon conclusion of the action, the Cavalry again moves forward to conduct reconnaissance or to execute pursuit and exploitation operations.

The Cavalry squadron's armament and mobility enable it to support operations that are difficult for other combat formations to support. Its forward position on the battlefield, coupled with its mobility, enables it to seize critical objectives in advance of the main body if necessary. It can also conduct pursuit and isolation operations after the enemy's tactical defeat. In short, the Cavalry squadron sets the conditions for the protected force's success. Its unique design and varied capabilities can confirm and refine courses of action, preserve commander decision options, disrupt enemy spoiling attacks and pursue the enemy if required.

Unlike formations exclusively reliant on robots and other autonomous systems, Cavalry squadrons are the original all-weather sensor. They can conduct 24-hour, all-weather operations while operating in a semi-independent status. While they leverage the latest technologies in the execution of their missions, they are manned by Soldiers (armored reconnaissance specialist (19D) or "Cavalry scouts") trained to perform Cavalry functions. Cavalry squadrons represent the optimal use of human talent (Cavalry scouts) and advanced technologies. More importantly, our adversaries cannot easily offset their capabilities.

We need only to look back two decades at the Army's failed experiment with the battlefield surveillance brigades that were based on the unfounded assumption that sensors could completely replace the Cavalry scout and that technology alone would allow commanders to see first, understand first and act first. Cavalry operations are, strictly speaking, a human endeavor, and technology can enhance, but not replace, the value of the scout.

Division Cavalry's role in MDO, Army of 2030

In LSCO, the corps most commonly maneuvers divisions, setting conditions for them across a corps' area of operations not just with joint fires and intelligence but with other divisions as well. The corps maneuvers subordinate formations to set up an armored division (reinforced) for penetration and exploitation of a prepared enemy defense. The armored division, executing cross-domain maneuver, "penetrates and begins neutralizing enemy long-range air defenses, neutralizes and dis-integrates key elements of long-range fires, contests enemy forces, and maneuvers from operational and strategic distances."[9]

In terms of executing MDO, it will be up to the joint task force (JTF) or other theater-level command to create the window of opportunity at the operational level through which the division then creates and exploits at the tactical level in conjunction with the division Cavalry, division artillery and intelligence and the electronic-warfare battalion. Corps shaping efforts and joint dis-integration and dislocation effects are also essential to the division's success. Thinking through this type of operation provides a framework for discussing the idea of convergence at the tactical level. For example, consider the critical friendly zone (CFZ), a designated area wherein enemy fires immediately receive counterfire from any available friendly-fires asset.

Convergence in MDO takes the idea of a CFZ and expands it significantly.
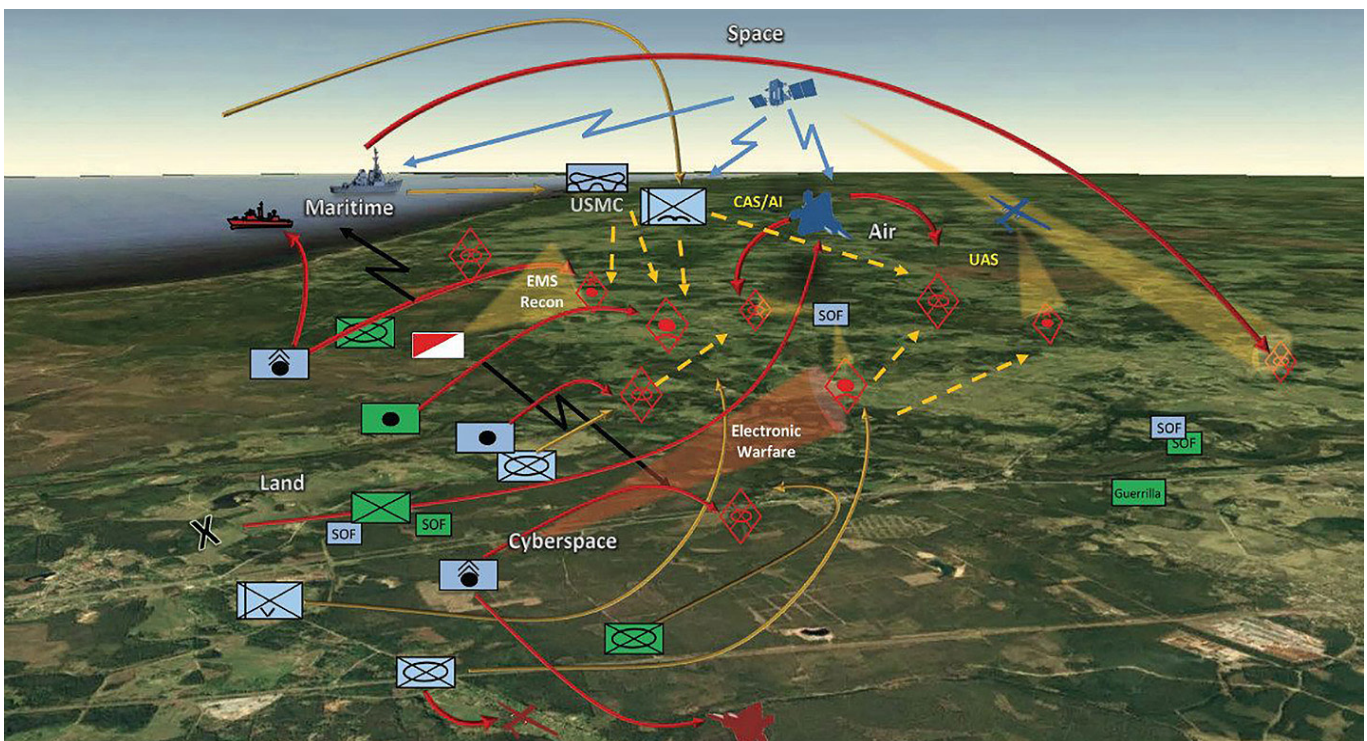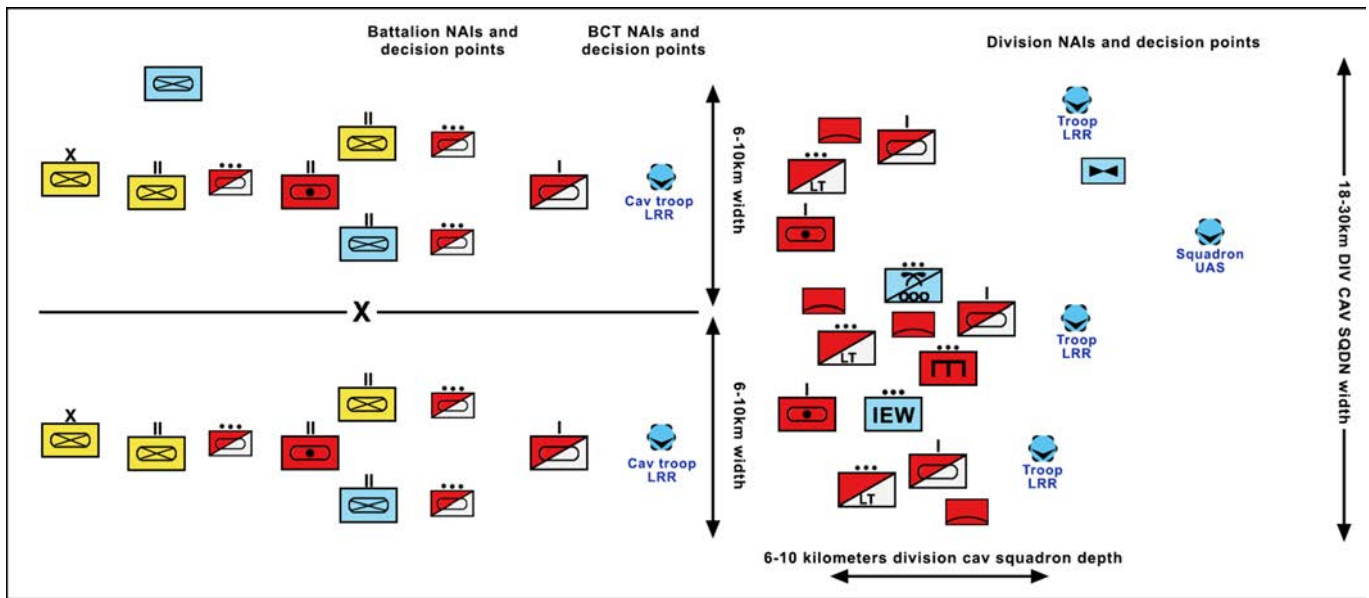

Figure 3. Army and joint MDO.

Figure 4. The division Cavalry squadron typically operates on a frontage of 18-30 kilometers, but it can leverage its multidomain capabilities to screen up to 60 kilometers in breadth.

Theater army, JTF or corps assets, exceeding the range of any division asset, execute multidomain fires to prevent interference with the penetration within what is described as a "critical convergence zone." The critical convergence zone is where the Army of 2030 division Cavalry squadron will operate.

The division Cavalry squadron will provide the link between the higher-echelon capabilities, such as those residing in the multidomain task force (MDTF), the corps and the division. In MDO, it is also essential to understand the division Cavalry squadron will not operate in isolation. Instead, it will operate as part of a division – commanded and controlled by a corps, JTF or theater army. This is an important concept in terms of the future of Cavalry operations because many of the assets, authorities and capabilities associated with those operations reside at echelons above division.

In 2030, division Cavalry squadrons will be called upon to pursue a broad range of activities. They will address the division commander's information requirements, but they will also perform other functions, enabled by advanced technologies traditionally associated with Cavalry. The squadron's actions will nest with those of the MDTF and other corps or JTF R&S assets. This interaction ensures the division Cavalry squadron will benefit

from the actions of these higher-echelon assets, including the operational fires command and information advantage element, and at times work directly with them.

Still, it is possible the division will not be supported by an MDTF at the JTF or corps level. Responsibility in this case will again fall to the division Cavalry to meet the commander's information requirements, shape the fight at the tactical level and present multiple dilemmas to adversaries. Therefore, it must be manned, trained and equipped to perform these functions to fight for information inside the enemy's security zone and survive under all forms of contact. The division headquarters must be similarly trained to properly organize, employ and support the division cavalry in LSCO, including providing reconnaissance guidance and objectives in the form of CCIR.[10]

What division Cavalry squadron does for division

In MDO, the division Cavalry squadron conducts cross-domain reconnaissance oriented to answer the division commander's information requirements, and it then enables the division to make contact with the smallest element and against the enemy on terms favorable to the division.

From a reconnaissance perspective,

the division Cavalry employs multiple forms of contact to fulfill the division commander's priority information requirements, typically oriented on named areas of interest and decision points. It uses direct, indirect and multidomain effects to trigger enemy action and expose hidden capabilities. The enemy's reaction is then exploited by echelon-above-brigade collection and targeting assets.

But the division Cavalry squadron offers much more to the division than intelligence collection. It does more than simply answer the division commander's information requirements in reconnaissance operations. In MDO, regardless of the squadron's mission, the task-organized division Cavalry squadron provides the division commander with the means to employ all forms of contact and most forms of collection forward of the division's BCTs.

The ability to conduct security operations is just one example of Cavalry's versatility and represents a mission for which it is optimally suited. The division Cavalry has the high-volume firepower, training, concentration and adaptability to properly execute a security operation. The squadron employs multiple forms of collection to detect threats and provide early warning to the division (screen). It also protects the division by fighting to gain time while denying enemy observation

and direct fire against the main body (guard).

Beyond security operations, the squadron can function in an economy-of-force role, capable of attacking, defending and performing a delay mission to focus the division's BCTs on the division's decisive point and enabling its main effort.[11] On the 2030 battlefield, it is likely the armored division (reinforced) commander could task the squadron to guard the division flank as it moves forward after a penetration or to conduct an economy-of-force mission to allow the commander to mass combat power at the decisive point.

In a 2030 scenario, the squadron enhances its ability to perform R&S and economy-of-force operations by employing advanced and emerging technologies like robotics, autonomous systems and loitering munitions. With these future organic capabilities, it will have an extended range, thus enabling it to cover more avenues of approach and influence the enemy farther out. The squadron can identify enemy formations using its organic and attached assets, such as medium and long-range unmanned aerial systems (UAS) and attached long-range fires. Once the squadron identifies an enemy formation, it can target it with enough firepower from advanced robotics and precision fires assets to destroy an enemy company in a small-scale mass precision attack. Employing loitering munitions at troop and squadron level will achieve this effect if appropriately used. This "pre-contact" loss of combat power can spoil an enemy operation and force him/her to change courses of action.

Such a scenario illustrates Cavalry's ability to perform R&S and economy-of-force operations consistent with its historic role. Technology merely supercharges that ability by leveraging the improved range and lethality of autonomous systems. Advanced technologies enhance principles of Cavalry operations. The difference between Cavalry formations of the past and those of the 2030 force lies in how these principles are applied with new technology, organizations and related skillsets – in short, the integration of humans and machines.

Way forward

Irrespective of advanced technologies employed on the future battlefield, the role of division Cavalry remains immutable, especially given the Army's shift toward multidomain LSCO and the division as the decisive tactical echelon. The squadron first and foremost will conduct reconnaissance focused on the division commander's CCIR, provide security and fight when directed. Though technology-enabled, the squadron is a tactical, close-fight combat formation that will still fulfill the division commander's information requirements, provide him/her with decision space and help preserve the combat power of the division's BCTs.

A fully task-organized, well-trained and equipped division Cavalry squadron will confirm or deny the division commander's decisions points, protect the main body, support targeting efforts and, when needed, attack, delay and defend. The division Cavalry squadron of 2030 is not your father's division Cavalry, however. Advanced technologies, including air and ground robotics and a variety of sensors operating at extended ranges, will enable and improve the proven principles of operation for Cavalry formations. Division Cavalry squadrons quite simply will perform Cavalry functions better. Without a doubt, as we address LSCO Gap 9 and reintroduce Cavalry formations to the divisions, it is imperative we return to Cavalry's critical roles and functions to enable the division to be decisive at the tactical echelon.

Further discussion and experimentation around the employment of the division as the decisive tactical echelon with its organic Cavalry will enable us to refine the role of division Cavalry in the Army of 2030. Simulations, warfighter exercises and division Cavalry participation during National Training Center rotations will also enable all stakeholders to better understand the squadron's required capabilities in MDO and LSCO, as well as the human-machine interface between Cavalry scouts and advanced technologies.

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Figure 5. Robotic Combat Vehicle-Medium prototype.

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Notes

[1] The Combined Arms Center (CAC) LSCO gap study of 2017 identified 300-plus operational and tactical gaps associated with the Army's ability to win in LSCO. Of these gaps, 17 were deemed critical, with ongoing efforts to mitigate through resourcing materiel and non-materiel solutions. Thirteen of the 17 LSCO gaps directly support division-centric operations. Source: *"Division as the Unit of Action in Large-Scale Combat Operations,"* operations and organization concept paper, CAC, Aug. 3, 2021.

[2] Paraphrased from FM 3-98.

[3] "John Buford," American Battlefield Trust, https://www.battlefields.org/learn/biographies/john-buford.

[4] Dr. Robert S. Cameron, ***Division Cavalry from World War II to Modularity***, U.S. Army Armor School, MCoE, Fort Moore, GA.

[5] Ibid.

[6] Ibid.

[7] Ibid.

[8] Ibid.

[9] MG John Richardson, paraphrased from "The Penetration Division and The Division Cavalry Squadron," Maneuver Warfighter Conference slide presentation, MCoE, Sept. 13, 2022.

[10] Paraphrased from Richardson.

[11] Ibid.

Enabling the Division in 2030:
Evolving Division Reconnaissance and Security Capabilities

by LTC John P. Dolan, MAJ John T. Pelham IV, LTC Bobby Sickler, LTC Brennan Speakes and LTC Bill Frederick

New technology and operational environments force armies to evolve. Combat-ready units must consistently adopt new ways of thinking, operating and employing emerging technologies to maintain dominance on the contemporary battlefield.

A division and its Cavalry are no exception. Over the last century, Cavalry has departed from its horses, adopted armored vehicles, integrated aviation and acquired a range of other advanced technologies to perform vital reconnaissance and security (R&S) tasks for divisions and higher.

Cavalry has historically equipped divisions with the necessary information, reaction time and maneuver space to fight and win on the battlefield of the time. However, global contingency operations during the last 20 years forced the U.S. Army to transition from a division-centric force to one centered on the brigade combat team (BCT). This transition pushed what used to be division-level capabilities like Cavalry down to the BCTs, where they still reside.

Today the division and the Cavalry are on the cusp of the next evolutionary transition with the Army 2030 initiative. More powerful sensors, unmanned systems in both the air and on the ground, and innovations in communications technology have enhanced R&S capabilities to a degree that was not possible the last time the division was the unit of action.

Within the Army 2030 framework, divisions are once again the Army's decisive tactical echelon. As the decisive tactical echelon, divisions will require dedicated cross-domain R&S capabilities to fight and win in large-scale combat operations (LSCO).[1] The Army 2030 initiative offers an opportunity to evolve our divisions, building a dedicated and cohesive cross-domain R&S capability that is agile enough to rapidly integrate new technologies and capabilities while also enhancing the division's ability to sense, shape and fight peer adversaries in LSCO with existing materiel solutions until those new technologies become widely available.

Background

The Army's Combined Arms Center (CAC) LSCO study from 2018-2019 was intended to reorient that Army away from contingency operations and focus on how it would organize, resource and train for LSCO.[2] The study identified 17 high-risk capability gaps in the force, most of which were oriented on re-enabling divisions, corps and theater armies to operate and fight as combat formations.[3] One of those gaps (#9) specifically identified a lack of organic multidomain R&S capability at the corps or division level.

Army 2030 represents a major force-design effort intended to modernize and transform the Army into a division-centric force capable of operating in a multidomain environment under LSCO conditions.[4] As Army 2030 evolves how divisions fight, it is placing particular emphasis on the proposed armored division (reinforced), consolidating certain capabilities like ground reconnaissance (gap #9) and fires back at the division level to enable divisions to operate and shape the battlefield with greater effect.

In October 2022, U.S. Army Forces Command tasked 1st Cavalry Division to execute a two-year R&S pilot for the armored division (reinforced) in support of the Army 2030 Force-Design Update development. And while 1st Cavalry Division's R&S pilot initially focused on forming a dedicated and purpose-built armored division-Cavalry squadron (ADCS), 1st Cavalry Division leveraged this opportunity to experiment with building and testing a broader division-level, cross-domain R&S capability it called the division cross-domain task force (D-CDTF).

Concept: cross-domain R&S at division level

In the summer of 2022, 1st Cavalry Division began forming its D-CDTF. Anchored on an ADCS, D-CDTF has integrated complementary effects from an intelligence and electronic warfare (IEW) battalion and an air-Cavalry squadron (ACS) to re-enable the division with organic cross-domain R&S capabilities. Grounded in Field Manual (FM) 3-0, *Operations*, "multidomain operations imperatives," and FM 3-98, *Reconnaissance and Security Operations*, "roles of Cavalry," 1st Cavalry Division's D-CDTF is developing into a very diverse, agile and cohesive team capable of enabling division operations, fighting for information, providing reaction time and maneuver space, and operating combined arms in LSCO. Simply put, the D-CDTF concept is proving to be an effective framework for reintroducing Cavalry and its evolving R&S capabilities to the division level and enabling it to better seek, sense, shape and fight a peer adversary in LSCO on the 2030 battlefield.

Observations from 1st Cav's D-CDTF concept

D-CDTF fills division's R&S gap in LSCO. With D-CDTF providing its enhanced R&S capabilities, the armored division (reinforced) is a more capable formation and better suited for the Army of 2030 and LSCO. Anchored on a robust ADCS, D-CDTF leverages the unique and synergistic effects of the IEW battalion and ACS into a layered system of R&S capabilities that have been largely absent from the division level for some time. Each of these three formations introduces a niche and specialized R&S capability that, when employed together, meets the demands of Army 2030 by enabling the division to conduct R&S in the land, air, space and cyber domains while engaging with the enemy through multiple forms of contact.

ADCS. ADCS is the anchor point of D-CDTF. It provides robust and lethal

all-weather R&S capabilities to the division. From a reconnaissance perspective, ADCS provides a division commander the ability to fight for information, helping to answer priority intelligence requirements and developing the situation without committing a BCT or other resources. ADCS has the armor, mobility and firepower to perform a multitude of critical reconnaissance tasks farther forward on the battlefield. ADCS can influence a division's axis of advance far earlier by fighting up to and assessing key river-crossing sites or by validating bridge suitability well in advance of the division's main body. ADCS can also conduct a deeper reconnaissance of enemy obstacles and defenses, identifying seams and gaps, recommending points of penetration for BCTs – all of which is providing a division commander more options and decision space earlier in the fight.

From a security perspective, ADCS has the punch to provide the division with far greater reaction time and maneuver space. ADCS can extend the division's reach while protecting the BCTs from unwanted or unnecessary decisive engagement, effectively preserving BCT combat power for the decisive point of an operation. By extending the division's reach/security zone, ADCS also enables the division to push fires, air defense and aviation assets farther forward because it can secure them, effectively extending relative ranges and weapons effects while providing greater protection to the division. All this allows a division to reach and shape farther out – a much-needed capability on the 2030 battlefield.

Finally, ADCS offers a division commander an economy-of-force option, achieving the greatest combat effects without consuming or committing BCT combat power. ADCS is fully capable of conducting an attack or a defense, and it can perform a multitude of tactical tasks like destroy, delay, secure, etc. Coupled with the IEW battalion's deep-sensing capabilities and ACS flying in support, ADCS offers the division a lethal capability to rapidly exploit an enemy weakness or mistake on the battlefield without having to commit or divert a larger force away from the decisive point.

IEW battalion. The IEW battalion provides seeking and sensing capability in the division deep area and beyond, effectively conducting reconnaissance through the space and cyber domains. The IEW battalion leverages data from joint and national sensors to provide division commanders with enhanced situation awareness and understanding, as well as targeting support. With that being said, the IEW battalion (or ACS, for that matter), cannot hold terrain or fight for information, and it can be susceptible to adverse weather and other types of interference. Taken alone, the IEW battalion's capabilities only answer part of the question; when incorporated into a broad and diverse R&S capability at the division level, it can be used to greater effect.

ACS. The ACS provides rotary-wing R&S capability in the division close and deep areas. With the ability to seek, sense and shape targets across the entire division battlefield, ACS can eliminate enemy sanctuary areas and exponentially increase the amount of reaction time and maneuver space available to the division. ACS's organic Shadow unmanned aerial system (UAS) allows D-CDTF to position sensors and conduct reconnaissance forward of ground elements for long periods of time, weather permitting.

This decreases the amount of time and level of coordination needed to generate timely and accurate reports to ADCS. The ACS's organic AH-64E Apaches employed in an air-cavalry role enhance a division commander's
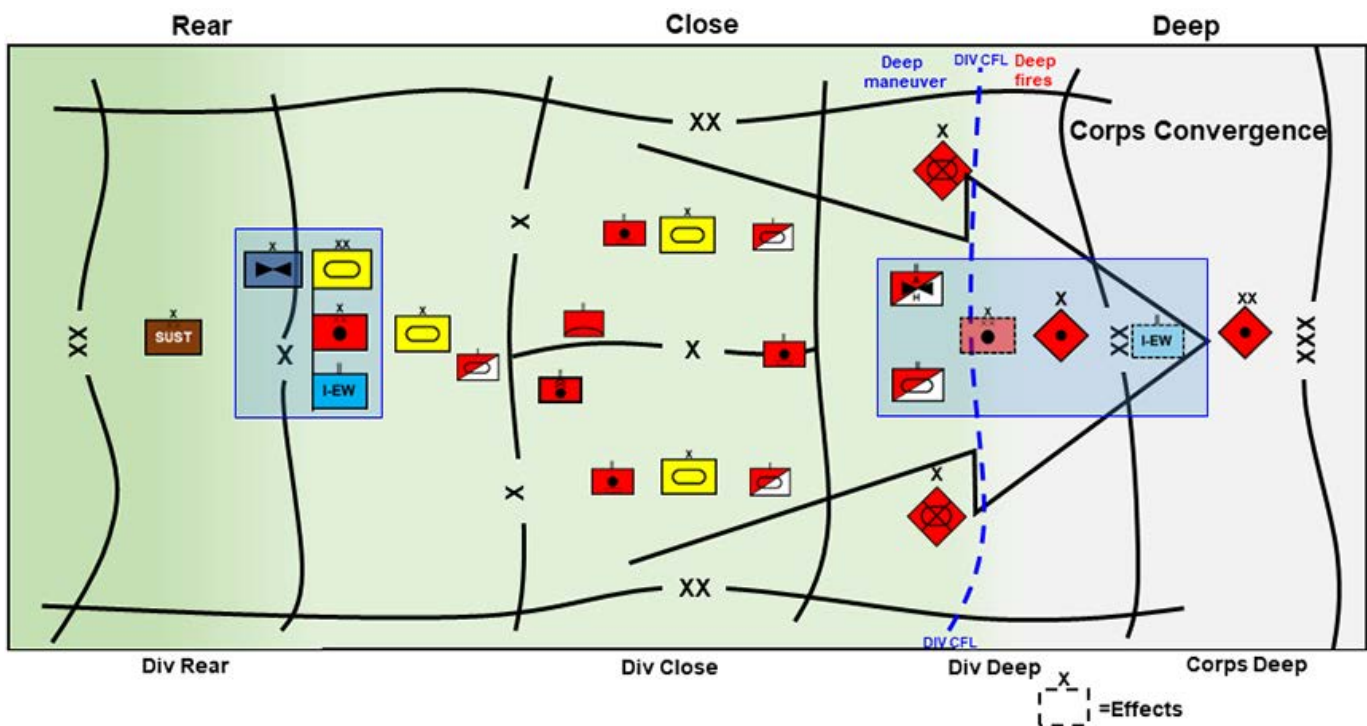

Figure 1. Proposed battlespace.

understanding of the enemy and environment, while simultaneously providing responsive and highly mobile attack-aviation support to increase the relative lethality of ADCS. Employment of the Shadows, together with the AH-64Es as a team, significantly increases aircraft survivability in a rapidly evolving threat environment.

By integrating the capabilities of ADCS, IEW battalion and ACS, supported by the combat-aviation brigade and division artillery, D-CDTF allows division commanders to combine arms in the R&S fight to seek targets, sense targets, shape targets and enable their destruction, while securing the division throughout the entire depth of the battlefield. Furthermore, D-CDTF better enables the division to gain a position of relative advantage by allowing it to operate earlier, faster, deeper and with less signature and risk. D-CDTF has considerable potential, addresses the cross-domain R&S capability gaps identified by CAC and the Army 2030 initiative, and it represents a much-needed evolutionary step in enabling divisions to fight in LSCO, 2030 and beyond.

D-CDTF is effective "landing spot" for new technology, capabilities. The concept of re-enabling the division with dedicated R&S capabilities is grounded in an idea and not a particular materiel solution. While D-CDTF employs the materiel available to a division today, 1st Cavalry Division intended D-CDTF to be an agile and innovative team, able to experiment with new ideas, capabilities and ways of operating to best conduct R&S and fulfill the roles of the Cavalry at the division level. This agile and innovative approach to R&S is coded into the D-CDTF's DNA, and thus makes it an optimal landing spot for the new and emerging technology and capabilities tied to Army 2030 and Army 2040 initiatives.[5]

Maximum effect. Because D-CDTF resides at the division level, its current R&S capabilities can be used to maximum effect on behalf of the division. This underpins the idea behind consolidating all fires assets at the division level. The division can easily control and mass a finite resource – its artillery – at a time and place of its choosing to achieve maximum effect for the division. In a resource-constrained environment, new and emerging technology and capabilities can quickly be integrated into whichever formation within D-CDTF makes most sense and yields the greatest effect for the division.

If, for example, a limited number of new robotics platforms were integrated into ADCS, they would likely be employed to have maximum effect for the division. If, however, pushed down to a BCT Cavalry squadron, they may only provide local benefit to a single BCT – a fraction of the greater division. New technology and R&S-oriented capabilities will likely have maximum impact and effect for the division when integrated into a D-CDTF.

Maximum support. An advantage of operating at the division level is direct access to the division command, its staff support and resources. There is naturally a gulf between division and BCT staff and resource capability and capacity given the size differentials between echelons. The 1st Cavalry Division has 23,000 Soldiers and a robust division staff with the maturity, experience and broad range of expertise to render support and concentrate resources on D-CDTF. This will be particularly useful when integrating and employing emerging technology and capabilities into D-CDTF. Because D-CDTF already benefits from close and habitual working relationships at the division level, elements of D-CDTF can quickly galvanize support and expertise directly from the division's pool of signals, intelligence, aviation, fires experts and resources, as well as that of its subordinate brigades.

We're already doing it. ADCS is a good example of being an appropriate landing spot for new technologies and capabilities. Part of the ADCS task-organization is a cross-domain troop, a company-sized element already designed to receive, integrate and employ new technology and equipment during ADCS missions. As of March 2023, the ADCS executed a Soldier touchpoint for Army Futures Command (AFC), employing an array of experimental autonomous vehicles, robots and UAS.

Furthermore, ADCS spent 75 days at the National Training Center in support of Project Convergence-22 (PC-22), the largest joint and multinational experiment ever conducted by AFC replicating the 2030 battlefield. As ADCS received and tested the new technologies and capabilities at PC-22, it was directly supported by the division command and staff and the wealth of expertise they brought to maximize the experiment.

ADCS is only one example of being an optimal landing spot for the Army 2030 initiatives pushing new technology and capabilities to the division for employment. ACS will continue to evolve its ability to conduct manned-unmanned teaming and incorporate new and advanced air-launched effects. The IEW battalion will receive several new capabilities as part of the Army 2030 initiative. D-CDTF is a good landing spot for these advancements because they can be quickly and effectively integrated given its access to the division command and, staff and its resources, and then employed to yield maximum effect as part of a broader division purpose.

More effective than *ad hoc* task organization

D-CDTF internal. The Army is a people business, and relationships matter. D-CDTF can more effectively execute R&S for the division as a cohesive and well-trained team than they could as an *ad hoc* set of capabilities quickly task-organized prior to or during an operation.

ADCS and ACS are prime examples of how organizations benefit from very close and habitual working relationships. ADCS and ACS partner in most aspects and echelons of their training. These two organizations plan and maneuver together from platoon-through division-level training, building combined experiences and efficiencies that only come from time training together and reps and sets.

D-CDTF is more than just a collection of unique R&S capabilities grouped together and working for the division; it's intended to be a synergistic team that capitalizes on the people aspect of the Army profession and the consistent and close working relationships

that help form strong and highly trained teams able to perform a complex mission in a complex operating environment (OE).

Working with the division. Beyond the close internal cooperation and relationships developing within D-CDTF, its relationships with the division also matter. D-CDTF is integrated in the division-headquarters operations process. Elements of D-CDTF collaborate with the division staff during mission planning, closely tying in with division processes to plan and synchronize intelligence collection, fire support and movement and maneuver. D-CDTF has seats at the division table and benefits from frequent interaction with the division commander and leadership, enabling all stakeholders to build mutual trust and understanding as well as develop close and more effective working relationships – again, through training time, reps and sets.

All this is not to say that units who establish *ad hoc* task organizations cannot accomplish their mission – it is meant to say that units who task-organize in an *ad hoc* manner are probably less effective than organizations that benefit from close and habitual ties that come through formal support relationships. What is important to recognize and is clearly identified in Army doctrine like FM 3-0 is that task-organization changes place burdens on subordinate units, no matter how agile they may be. Therefore leaders should consider less disruptive and more effective options.[6] D-CDTF is an effective option in enabling the division with trained and dedicated cross-domain R&S capabilities in LSCO.

Conclusion

The Army 2030 initiative has reestablished the division as the unit of action – the decisive tactical echelon needed to fight and win in LSCO. This initiated the first step of the Army's next transformation by acknowledging the need to reconsolidate certain resources at the division level to have maximum effect on both the 2030 battlefield and on today's potential battlefields.

The Cavalry and the R&S capabilities it brings are a critical component of that reconsolidation, given the uncertainty associated with future OEs. Divisions,

especially the proposed armored division (reinforced), need a dedicated, well-trained and cohesive cross-domain R&S capability that can rapidly integrate and employ new technologies and capabilities while enabling divisions to better seek, sense, shape and fight peer adversaries in LSCO today. Advances in sensors, communications, autonomous ground vehicles and UAS provide an ideal opportunity to evolve how we enable divisions with R&S capabilities.

D-CDTF is an effective initial solution for division cross-domain R&S capability gaps and meets the division-centric demands of Army 2030. D-CDTF remains based on a concept and employs the materiel that divisions have available today. But as new technology and capabilities become available, it must remain agile to quickly evolve. We don't have to get D-CDTF, or even its ADCS, entirely right, just close enough to adjust once better capabilities are accessible and our understanding of the future OE improves with the passage of time. Ultimately, our goal is to drive effective change in our formations, forcing our enemies to react to our innovations in how we fight instead of the opposite.

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LTC Brennan Speakes commands 1st Squadron, 7th Cavalry Regiment, Fort Cavazos. His previous assignments include executive officer to the commanding general, Combined Joint Task Force – Operation Inherent Resolve, Baghdad, Iraq; chief, U.S. Army Armor School Commandant's Initiatives Group, Fort Benning, GA; operations officer (S-3), 1st SFAB, Fort Benning; and executive officer, 1st ABCT, 3rd Infantry Division, Fort Stewart, GA. LTC Speakes' military schools include CLC, CGSC, interagency fellow, Scout Leader's Course, MCCC, AOBC and Air-Assault School. He has a bachelor's of science degree in business administration from Texas A&M and a master's degree in business administration from Columbus State University. His awards include the Bronze Star Medal with two OLCs, Defense Meritorious Service Medal with one OLC and the Meritorious Service Medal, three OLCs.

LTC William (Bill) Frederick commands 163rd IEW Battalion, Fort Cavazos, TX, where he is transitioning 163rd from a downward-reinforcing expeditionary military-intelligence brigade (EMIB) to an upward-integrating IEW battalion. His other assignments include deep-sensing and targeting subject-matter expert/adviser to the Department of the Army G-2; Army Intelligence, Surveillance and Reconnaissance Task Force; staff officer, DA G-2, Pentagon; S-3 officer, 201st EMIB, Joint Base Lewis-McChord, WA; and Joint Certified Targeting instructor/operations officer/Collateral Damage Estimation (CDE) Course Manager, Joint Targeting School, Dam Neck, VA. LTC Frederick's military schools include the Joint Targeting School (CDE/battle-damage assessment/weaponeering/joint targeting cycle). He has a bachelor's of arts degree in political science from the University of Wisconsin at Stevens Point and a master's of arts degree in strategy and national security from U.S. Naval War College. LTC Frederick's awards include the Bronze Star Medal with one OLC, Defense Meritorious Service Medal and Meritorious Service Medal with two OLCs. LTC Frederick has prior enlisted service as an M-1 Abrams tank crewman, military-occupation specialty (MOS) 19K, and as a Cavalry scout, MOS 19D.

Notes

1 LTC Kevin Hadley, MAJ Savannah Spencer and MAJ Justin Martens, *How the Army 2030 Divisions Fight (formerly known as WayPoint 2028)* [whitepaper] Version 3.5; U.S. Army Training and Doctrine Command (TRADOC) Proponent Office – Echelons Above Brigade, CAC, TRADOC, 2023.

2 Ibid.

3 Paraphrased from LTG Michael D. Lundy, "Meeting the Challenge of Large-Scale Combat Operations Today and Tomorrow," *Military Review*, September-October 2018. Accessed at https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/September-October-2018/Lundy-LSCO.

4 *How the Army 2030 Divisions Fight*.

5 Ibid.

6 FM 3-0, *Operations*, Oct. 1, 2022.

Multidomain Operations in Large-Scale Combat: A Cavalry Perspective

by CPT J.A. Perkins

The Chief of Staff of the Army (CSA) Paper 1, "Army Multidomain Transformation: Ready to Win in Competition and Conflict," presents the following military problem: "In conflict, how does the Joint Force fight operational campaigns across all domains to defeat state adversaries by winning first battles and avoiding global and strategic escalation?"[1]

In response to this problem, by 2035 the Army will provide the Joint Force with a multidomain Army able to "penetrate complex, high-end adversary defensive systems."[2] Conducting multidomain operations (MDO) as part of the Joint all-domain operations (JADO), the Army will exercise dominant land power to "sustain the fight, expand the battlespace, strike in-depth across domains, gain and maintain decision dominance, create overmatch and prevail in large-scale combat."[3]

Identifying problem

In 2017, GEN David Perkins, then-commanding general of U.S. Army Training and Doctrine Command (TRADOC), hosted a discussion as part of TRADOC G-2's "mad scientist" initiative. During the presentation, GEN Perkins said that to understand a military problem, try to reformulate the problem statement to determine if the subject is properly understood.[4]

"We [U.S. Army] actually usually solve the problems we define," said GEN Perkins. "We just define the wrong problems. Therefore the solution becomes irrelevant because it's not the solution to the problem we have."[5]

With the Joint Force problem and the Army MDO response in mind, this article reformulates the military problem from a Cavalry perspective to assess the Cavalry's preparedness for its role during conflict as part of the Army's MDO force. Is the Cavalry providing the proper solution to the right problem? I offer an initial assessment to that question.

The Army provides a multidomain Army to the Joint Force capable of penetrating and operating inside the enemy's anti-access/area-denial (A2/AD) zones to "provide credible, survivable capabilities that undermine area-denial stratagems."[6] What is the Cavalry's role?

Here is a distillation of the problem:

- How does the Cavalry enable the commander to understand the operational environment (OE) (reconnaissance)?
- How does the Cavalry provide reaction time and maneuver space for the commander that prevents the penetration force from becoming fixed by a fires-centric adversary to build combat power for the "inside force" (security)?[7]

Further, how does the Cavalry put the commander in a position of relative advantage in a multidomain penetration, increasing the commander's understanding of the OE during an initial penetration of an adversary's A2/AD?

This article focuses on the penetration of the adversary's A2/AD as an acknowledgment of the designation of 1st Cavalry Division as the Army's penetration division and the ongoing efforts to integrate the division Cavalry (divcav).

First, the commander's reconnaissance formation must aid the commander to understand and visualize the OE so the commander can describe his/her understanding to staff and subordinate commanders. Once shared understanding is achieved, the commander can direct forces within the OE.[8] The Cavalry unit increases the commander's ability to progress through the decision-making cycle based on the unit's ability to conduct reconnaissance missions and answer priority intelligence requirements (PIR) rapidly and accurately while remaining conscious of the latest time information is of value. Consequently, Cavalry enables the commander to gain and maintain decision dominance by getting inside an adversary's decision cycle.

This can be addressed directly by ensuring corps and division commanders have the appropriate Cavalry formations to conduct the necessary reconnaissance and security (R&S) missions. Specifically, the return of Cavalry regiments and the divCav squadron to be the eyes and ears of the corps and division commanders. If these formations are to execute their R&S missions in MDO successfully, they must adhere to the tenets of MDO:

calibrated force posture, multidomain formations and convergence.[9]

Calibrated force posture

The Army's Regionally Aligned Readiness and Modernization Model (ReARMM) ensures forward-presence forces lay the foundation for a calibrated force posture.[10] Capacity, capability, position and the ability to maneuver across strategic distances are the four factors used to determine if a calibrated force posture has been achieved.[11]

Strategic distances and position can be achieved at higher echelons and through ReARMM. Capacity is most readily achieved in expeditionary forces if the Cavalry formation is scalable. Cavalry regiments at corps level and Cavalry squadrons at division level provide scalability, especially if there is a habitual relationship between the Cavalry regiments and the multidomain task force (MDTF), the divCav and its cross-domain troop. Scalability and habitual relationships will maximize the capability to operate in multiple domains, and it reinforces the ability to maneuver across strategic distances.

Also, in reference to capabilities, forward-presence forces provide mission command and intelligence, among other advantages.[12] The bridge between mission command and intelligence is the Cavalry. Cavalry operations enable mission command by answering PIR developed by the G-2/S-2, G-3/S-3 and the commander. Answered PIR enable the commander to execute decisions captured on his/her decision-support matrix. Cavalry operations put the commander in a position of relative advantage on the battlefield.

For the identified Cavalry problem statements, a calibrated force posture would allow the commander to conduct reconnaissance to understand the OE. The commander's capabilities and capacity to operate in multiple domains at the appropriate scale will provide him/her with the reaction time and maneuver space to prevent becoming fixed by a fires-centric adversary to build combat power and employ forces.

Multidomain formations

To truly allow for MDO, the value of the MDTF cannot be understated. However, there is one gap within the current MDTF task organization. Specific to the People's Liberation Army Ground Force (PLAGF), the MDTF should include Cavalry forces to present land-domain dilemmas for PLAGF because the goal of the PLAGF is to fix the penetration force to destroy it with indirect fires.[13]

Positioning physical platforms operating at the front line of troops and using a scalable formation that can maneuver as part of a military deception or as a tactical deception, enables enhanced MDO because it leverages the land domain.[14] The current MDTF force structure does not have a true maneuver element to operate in the land domain in the reconnaissance fight.[15] This does not mean that the MDTF must be restructured to include a cavalry element. Creating a habitual relationship among the MDTF, a theater/corps asset and the corps commander's Cavalry regiment, with a liaison officer on the MDTF staff, would suffice.

Inside forces must persist inside the adversary's A2/AD networks, and an essential attribute for the inside force is resiliency.[16] Resiliency for land forces is the combination of "mobility, cover, concealment and deception."[17] These are key attributes of a Cavalry organization.

Avoiding the maneuver component is an unnecessary limitation because the use of a Cavalry formation will help sell the deception and force a reaction. For example, if the PLAGF know that the MTDF does not contain maneuver elements capable of executing reconnaissance missions and the adversary is spoofed, they may not react because they understand the MDTF force-structure limitation. The most straightforward manner to inject friction into the opposing commander's plan is to force him to maneuver – especially considering the PLAGF's desire to maintain "a four-to-one advantage in maneuver forces, between five-to-one and seven-to-one advantage in artillery firepower, and three army anti-tank systems for each anticipated en-

emy armor system."[18]

Fires-centric forces that rely on overwhelming numbers to overcome their inability to conduct combined-arms maneuver present opportunities to be seized by theater commanders. The larger the force of the deception operation, the larger the adversary's response to maintain those ratios. Ultimately, it is difficult for a fires-centric force to conduct combined-arms maneuver.

There are many opportunities to leverage a habitual relationship among the MDTF, Cavalry regiment, divCav and the cross-domain troop within the div-Cav. The CSA's Paper 2 states, "In an era of limited resources, the Army must maximize capabilities, activities and investments that contribute to the multiple dynamics of competition (narrative, direct and indirect) and that have tactical, operational and strategic benefits."[19]

This habitual relationship among all these formations is the driver for capabilities leverage, synergy and interoperability. As each formation begins to take shape and develop the threshold of their capabilities, tactics, techniques and procedures, etc., they can do so together in a collaborative way that allows for the maximum level of convergence.

As future locations for MDTF are determined, a natural part of the selection process can include locations of Cavalry regiments returning to corps commanders, e.g., III Corps, especially because the Army's penetration division has already been identified as 1st Cavalry Division. There is also an opportunity to align the MDTF, Cavalry regiment and divCav against the Joint Pacific Multinational Readiness Center (JPMRC). As the Pacific becomes more of a focus, JPMRC will allow these organizations to operate in an environment that more closely replicates what they will encounter in future conflict.[20]

At the Mad Scientist Forum in 2017, retired GEN Perkins said, "We [the Army] can't tell them [tactical leaders] where they're going to go in the world. We can't tell them who their coalition members are. We can't tell them who the enemy is. We can't tell them any

of that. The only thing we can tell them [is] you're not going to go there every 90 days and recon it. In fact, probably the first time you're going to deal with that problem is when you are there in combat."[21]

Lastly, there is an opportunity to be realized in personnel management: create key-development positions within the MDTF and the cross-domain troop to leverage talent to be shared at different echelons to the benefit of both the MDTF and the cross-domain troop. Both can work toward what is being discussed as the kill-web vs. the kill-chain.

An illustration of this concept is when a reconnaissance system, like a scout's Long-Range Advanced Scout Surveillance System, identifies a ZTZ-99A (Chinese third-generation main battle tank) formation and that is cross-referenced by a digital vehicle identification artificial intelligence program which connects directly to a Navy, Virginia-class vessel that fires a Tomahawk cruise missile or the MTDF strategic-fires battalion to destroy the enemy vehicle formation.

Convergence

The opening paragraphs of FM 3-98, ***Reconnaissance and Security Operations***, describe the role of Cavalry in unified land operations that are perfectly synchronized with the concept of convergence in MDO. TRADOC Pamphlet 525-3-1, ***The U.S. Army in Multidomain Operations 2028***, defines convergence as "rapid and continuous integration of capabilities in all domains, the electromagnetic spectrum and information environment that optimizes effects to overmatch the enemy through cross-domain synergy and multiple forms of attack all enabled by mission command and disciplined initiative."[22]

If convergence is underpinned by mission command and disciplined initiative, the Cavalry's R&S missions enable the commander to understand OE by answering the commander's critical information requirements, making contact under favorable conditions, identifying opportunities and preventing surprises.[23]

Historically, one of the primary roles

of the Cavalry is to restore command and control, especially for the corps and division commanders.[24] The Cavalry can do this by reestablishing physical contact or with the use of unmanned aerial vehicles that can move from unit to unit to pass messages to subordinate commanders. In the context of penetrating A2/AD zones, restoring mission-command capabilities will be vital to prevent enemy forces from fixing and isolating U.S. forces.

The potential for the relationship between the MDTF, Cavalry regiment and divCav to achieve convergence is high. The cross-domain troop and divCav squadron can present the enemy with dilemmas in multiple domains, including counter-reconnaissance.

They can also increase the effects of the MDTF capabilities. The regiment and squadron can create cross-domain dilemmas, amplified by the MDTF, to force the enemy to react, which necessarily induces friction into their operations since they are a fires-centric force and not a combined-arms maneuver force, thereby creating opportunities for the commander to achieve positions of relative advantage in a noncontiguous battlefield. Deception operations and convergence allow a commander to disintegrate an adversary's A2/AD to enable exploitation, and this is a role well suited to the combination of the regiment, squadron and MDTF working in tandem.[25]

Conclusion

The Army must be scalable in both operational framework and maneuver formations, and to simplify and clarify MDO at a scale appropriate to the Cavalry's mission. The intent is to contribute to the conversation in the hopes that others may refine the problem even more accurately and that Cavalry leaders might reach a shared understanding of what our contributions to MDO are and what they can be.

MDO and JADO cannot be reached through one organization or one formation. However, there are several critical contributions only the Cavalry can make that, without its inclusion, unnecessarily limit the ability of the corps and division to understand their OE, and protect their forces through early and accurate warning. The

Cavalry can provide a calibrated force posture, multidomain formations and convergence. Therefore, this answers the two original problem statements and demonstrates that the Cavalry can conduct R&S operations as part of MDO.

Recommendations for further study as new publications become available are Joint Publication 3-0, FM 3-0, FM 3-98, FM 3-90-2 and evaluations of the div-Cav post-combat-training-center rotations as the divCav force structure matures.

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Notes

[1] CSA, "Army Multidomain Transformation: Ready to Win in Competition and Conflict," Department of the Army, March 16, 2021.

[2] Ibid.

[3] Ibid.

[4] TRADOC G-2 OE Enterprise, "TRADOC Mad Scientist 2017 Georgetown: Multidomain Battle w/ GEN Perkins," YouTube, Aug. 8, 2017, https://m.youtube.com/watch?v=Xcq-Ok0mO8A.

[5] Ibid.

[6] CSA, "Army Multidomain Transformation: Ready to Win in Competition and Conflict."

[7] Ibid.

[8] FM 3-98, *Reconnaissance and Security Operations*, Department of the Army, January 2023.

[9] TRADOC Pamphlet 525-3-1, *The U.S. Army in Multidomain Operations 2028*, TRADOC, Dec. 6, 2018.

[10] CSA, "Army Multidomain Transformation: Ready to Win in Competition and Conflict."

[1] TRADOC Pamphlet 525-3-1.

[2] Ibid.

[3] Army Technical Publication (ATP) 7-100.3, *Chinese Tactics*, Department of the Army, Aug. 9, 2021.

[4] FM 3-13.4, *Army Support to Military Deception*, Department of the Army, Feb. 26, 2019.

[15] "The Army's Multidomain Task Force (MDTF)," Congressional Research Service, May 31, 2022, https://crsreports.congress.gov/product/pdf/IF/IF11797.

[16] CSA, "Army Multidomain

Transformation: Ready to Win in Competition and Conflict."

[7] Ibid.

[8] ATP 7-100.3.

[9] CSA, "The Army in Military Competition," Department of the Army, March 1, 2021.

[20] GEN Charles A. Flynn, "The Most Consequential Adversaries with GEN Charles A. Flynn," The Convergence – An Army Mad Scientist Podcast, May 19, 2022, https//theconvergence.castos.com/podcasts/5043/episodes/57-the-most-consequential-adversaries-with-gen-charles-a-flynn.

[2] TRADOC G-2 OE Enterprise.

[22] TRADOC Pamphlet 525-3-1.

[23] FM 3-98.

[24] FM 17-95, *Cavalry Operations*, Department of the Army, Dec. 24, 1996.

[25] TRADOC Pamphlet 525-3-1.

ACRONYM QUICK-SCAN

A2/AD – anti-access/area-denial
ATP – Army technical publication
CLC – Cavalry Leader's Course
CSA – Chief of Staff of the Army
Divcav – division cavalry
FM – field manual
JADO – Joint all-domain operations
JPMRC – Joint Pacific Multinational Readiness Center
MDO – multidomain operations
MDTF – multidomain task force
OE – operational environment
PIR – priority intelligence requirement
PLAGF – People's Liberation Army Ground Force

2023 Gainey Cup

by *ARMOR* staff and PFC David Dumas

The title of "best scout squad" has left the United States, at least for two years.

Troopers czompeted in the biennual 2023 Gainey Cup May 1-5 at Fort Moore, GA (formerly Fort Benning).

Winners were 42nd Brigade Reconnaissance Company, 13th Light Brigade, Royal Netherlands Army, Netherlands: 1LT Tristan Leyting, SGT Koen Pater, CPL Jasper de Ridder, CPL Ruben Leenaerts, CPL Maximiliaan Bonnema and CPL Koen Frecken.

Second place went to 2nd Squadron, 106th Cavalry, 33rd Infantry Brigade Combat Team (IBCT), Illinois National Guard: 1LT Charles Hardy, SSG Michael Gamble, SPC Evan Quinn, SPC Conor Mahoney, SPC William Pitney and PFC Jacob Bentle.

Other competitors:

- 6th Squadron, 1st Cavalry, 1st Armored Brigade Combat Team (ABCT), 1st Armored Division: PFC Tayvion Jones, SGT Ryan Austin, SPC Dade Horton, SPC Wyatt Carson, SPC Kadin Graham and SSG Rebiejo Zackery.

- 1st Squadron, 4th Cavalry, 1st ABCT, 1st Cavalry Division: SSG Levi Cowart, SPC Carlin Coomey, SPC Patricio Alduvin, SPC Michael Stitely, PFC Aiden Harris and PFC Aiden Hernley.

- 1st Battalion, 5th Cavalry, 2nd ABCT, 1st Cav Division: SSG Tyler Mehl, SGT Eric Szudy, SPC Gregory Harrington, SPC James Saul, PFC Itler Mbula and PFC Alexander Erickson.

- 4th Squadron, 3rd U.S. Cavalry Regiment, 1st Cavalry Division: SSG Noah Kokkeler, SGT Alberto Torres, SPC Corey Catron, PFC Cameron Waites, PV2 Iaza Ingoglia and PV2 Braxton Flicker.

- 8th Squadron, 1st Cavalry, 2nd Stryker Brigade Combat Team (SBCT), 2nd Infantry Division: SSG Nicolas Vallez, SGT Matthew Keylich, SPC Rasheed Wallace, PFC Eric Moldenhauer, PFC Skylur Hester and PFC Carson Ringler.

- 4th Squadron, 2nd Cavalry Regiment, 2nd CR, U.S. Army Europe and Africa (USAEUR-AF): SSG Ryan Cardiff, SGT John Wendt, SPC Brian Riverang, SPC Ryan Rocha, SPC Benjamin Walker and PFC David Doucette.

- 6th Squadron, 8th Cav, 2nd ABCT, 3rd Infantry Division: SGT Charles Johnson, SGT Casey Trull, SPC Jose Cota, SPC Cameron Palmer, PFC Ethan Conley and PFC Jordan Calfy.

- 2nd Squadron, 1st Cav, 1st SBCT, 4th Infantry Division: SSG Steven Bouton, SGT Liam Mackrell, SPC Travis Pembridge, SPC Christopher Cancel,

Figure 1. PV2 Iaga Ingoglia, assigned to 4th Squadron, 3rd U.S. Cavalry Regiment, participates in an obstacle course during the 2023 Gainey Cup May 3 at Fort Moore, GA. *(U.S. Army photo by PFC David Dumas)*

SPC Christian Suchite and PV2 Darren Manriquez.

- 1st Squadron, 14th Cav, 1st SBCT, 7th Infantry Division: SSG Wyatt Lilienthal, SGT Steven Reynoso, SPC Rafael Lopez, SPC Byron Kyger, SPC Guillermo Carrera and SPC Matthew Kiddle.

- 3rd Squadron, 89th Cav, 3rd IBCT, 10th Mountain Division: SSG Shawn Deen, SGT Joshua Valesco, SPC Tyler Deaton, SPC Adrian Fuentez, PFC Walter Moreno and PFC Henry Swearingen.

- 2nd Squadron, 11th Armored Cavalry Regiment (ACR), 11th ACR, National Training Center: SSG Hendryx-Steven Solis, SGT Gyres Fouelefack, SPC Dalton Langer, SPC John Pacheco, SPC Jonathan Whiteside and SPC Matthew Runk.

- 5th Squadron, 1st Cavalry, 1st IBCT, 11th Airborne Division: SSG Wayne Schultz, SGT Seth Marshall, PFC Cameron Patrick, PFC Damian Tapia, PFC Aiden Wood and PV2 Austin Heath.

- 2nd Squadron, 14th Cavalry, 2nd IBCT, 25th Infantry Division: SSG Jacob Lahti, SGT Michael Green, SPC Mason Golden, PFC Sebastien Barragan, PFC Diego Cade and PFC Damien Deleon.

- 1st Squadron, 73rd Cav, 2nd IBCT, 82nd Airborne Division: SSG Eric Nevadunsky, SGT Julian Glasser, SPC Mario Flamenco, SPC Andrew Rutherford, SPC Santos Portillo and SPC Parker Holland.

- 1st Squadron, 33rd Cav, 3rd Brigade Combat Team, 3rd IBCT, 101st Airborne Division: SSG Joseph Rosas, SGT Connor Pelletier, SPC Michael Joaquin, SPC Henry Wasserman, PFC Aidan Nelson and PFC Joseph Smith.

- 1st Armoured Cavalry Squadron, Ireland: LT Alex McNamara, SGT Kevin Conlon, CPL Anthony Sheehy, TPR Gabriel Garbencius, TPR Declan Behan and TPR Oisin Duffy.

- 1st Squadron, 91st Cav, 173rd Airborne Brigade, USAREUR-AF: SSG Graham Brown, SGT Jake Bullock, SPC Nicholas DuBois, SPC Anthony Valdez, PFC Jonathan Wilkey and PV2 Tyler Solaita.

- 1st Squadron, 221st Cav Regiment, 116th ABCT, Nevada Army National Guard: SSG Trevor Camacho, SGT

Figure 2. SPC Rasheed Wallace of 8-1 Cavalry, 2nd SBCT, 2nd Infantry Division, observes his surroundings. *(Photo by Robert Bell; photo copyright Robert Bell; all rights reserved)*

Winston-Adam Chu, SPC Seth Saxon, SPC Dylan Kirkendall, SPC Iasiah Buhecker and SPC Adam Smedley.

- British Columbia Regiment, 3rd Canada Division, Canada: SGT Nathan Palmer, MCPL Nathan Deringer, CPL Shao Chen Zhang, CPL Chris Yamauchi, TPR Matthew Green and TPR Iqbal Athwal.

- Army Reconnaissance School, Bundeswehr Armor School, Germany: CPT Arne Hoffmann, SGT Hauke Fiedler, SGT Dustin Hedeler, CPL Johannes Busch, CPL Felix Schoenemann and SPC Dennis Stritzel.

A competition that honors outstanding performance within the Armor Branch, the Gainey Cup bears the name of CSM William Gainey, a distinguished leader known for his unwavering military bearing symbolized by a steel ball bearing from an M1 Abrams main battle tank, which he carried in his pocket. Through his inspiring leadership, Gainey left a legacy of excellence that continues to motivate Soldiers to push themselves to new heights.

"The advice I give to all competitors is you are as fast as your slowest person, you are as strong as your weakest person. Stay together; nobody has ever won the Gainey Cup as an individual," said Gainey. "It was designed to be a team scout competition."

Composed of several significant events, the competition allows the Cavalry-scout troopers to demonstrate their competence, physical and mental stamina, and competitive spirit of serving in reconnaissance and security formations. Events of the competition included various public demonstrations, land navigation, knowledge of various weapon systems and physical and mental tests. The competition culminates with the final charge.

These events test the participants' physical and mental endurance, combat readiness and strategic-thinking abilities, making it a comprehensive evaluation of their skills. The Armor School evaluates and determines the top-performing scout squad.

"We worked hard to be here and are glad to represent. It's an amazing honor for everyone present." said SSG Noah Kokkeler, who participated in the Gainey Cup with 4th Squadron, 3rd U.S. Cavalry Regiment.

This highly anticipated competition provided a platform for schools to evaluate and refine their programs of instruction, ensuring they are equipped to meet the demands of the field and enable students to achieve mastery of their profession. It emphasizes the importance of mastering the fundamentals that maintain our fighting force and help us keep a decisive edge over potential adversaries.

Acronym Quick-Scan

ABCT – armored brigade combat team
ACR – armored cavalry regiment
CR – cavalry regiment
IBCT – infantry brigade combat team
SBCT – Stryker brigade combat team
USAEUR-AF – U.S. Army Europe and Africa

Figure 3. Team members from 2nd Cavalry Regiment compete in the casualty-evacuation event. *(Photo by Robert Bell; photo copyright Robert Bell; all rights reserved)*

Figure 4. SGT Alberto Torres of 4th Squadron, 3rd Cav Regiment, assesses a casualty during the trauma simulation. *(Photo by Robert Bell; photo copyright Robert Bell; all rights reserved)*

Figure 5. A team member from 101st Airborne's 1st Squadron, 33rd Cav, rappels during a Gainey Cup event. *(Photo by Robert Bell; photo copyright Robert Bell; all rights reserved)*

Figure 6. MG Curtis Buzzard, commander of the Maneuver Center of Excellence, Fort Moore, talks with the Brave Rifles team. *(Photo by Robert Bell; photo copyright Robert Bell; all rights reserved)*

Benefits of Blended Task Organizations:
Techniques for Effectively Integrating Strykers with Armor

by CPT Galen King

During two recent rotations at the National Training Center (NTC), brigade combat teams (BCT) employed atypical, blended task organizations coupling Stryker and armored battalions. By capitalizing on the complementary and reinforcing capabilities of both formations, these two BCTs were highly successful in combining arms in the close fight. Moreover, by employing these blended task organizations, leaders built critical combined-arms proficiency that is integral for armored divisions of 2030.

Understanding, preparing for future OE

Codified in Field Manual (FM) 3-0, *Operations*, doctrine highlights that the operational environment (OE) is the aggregate "of the conditions, circumstances and influences that affect the employment of capabilities and bear on the decisions of the commander." It includes components of the five domains understood in the human, physical and information dimensions. Peer threats and adversaries seek to contest the joint force's capability across these domains, dimensions and the threshold of conflict by using information warfare, systems warfare, preclusion, isolation and sanctuary.

Complemented by the proliferation of sensors, long-range precision fires and democratization of information, these methods create a hyper-lethal and transparent OE marked by "uncertainty, degraded communications and fleeting windows of opportunity." Multidomain operations (MDO) define how the Army contributes to the joint force in this OE during large-scale combat operations (LSCO). MDO prioritizes the tenets of agility, convergence, endurance and depth in building and generating combat power across five dynamics: leadership, firepower, information, mobility and survivability.

Understanding the scope of LSCO, doctrine identifies the division as the Army's principal tactical warfighting formation (PTWF). Waypoint 2028 (the Army's coherent and holistic approach to fight and win within the multidomain operations construct) and Army 2030 (latest update to warfighting doctrine) codify this shift, identifying five retooled division task organizations:

- The armored (reinforced);
- Armored;
- Light;
- Air assault; and
- Airborne divisions.

Projected to incorporate most of the Army's mechanized and motorized forces, the armored division is unique among the new force structures due to its combining two armored brigade combat teams (ABCT) with one Stryker brigade combat team (SBCT). The armored division's force structure is purpose-built to enable divisions and
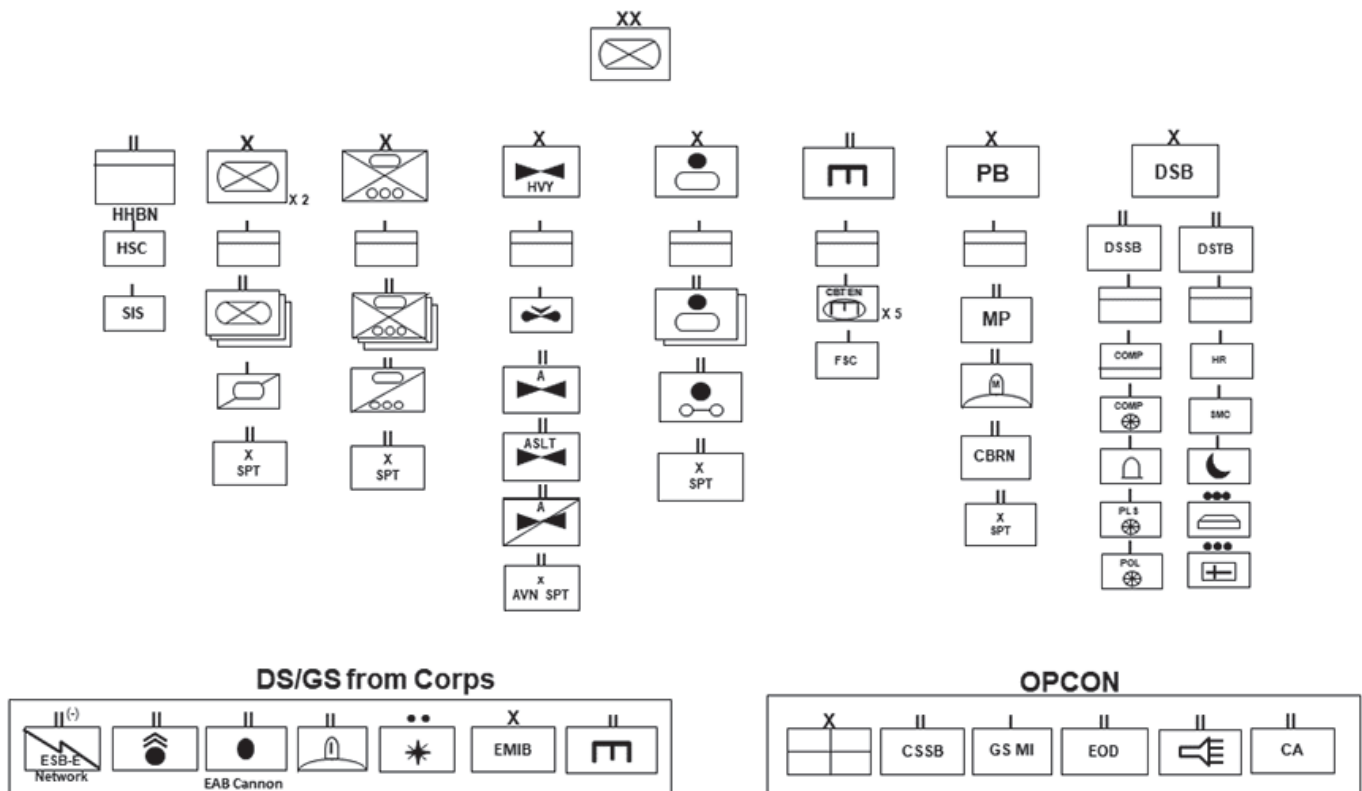

Figure 1. Army 2030 armored-division task organization.

BCTs to combine arms by blending the capabilities of both formations to amplify the division's combat power.

ABCT, SBCT in LSCO

The armored division is built around its two ABCTs with three combined-arms battalions each. Per FM 3-96, *The Brigade Combat Team*, the ABCT optimizes mobility, protection and firepower to concentrate overwhelming firepower, speed and precision during offensive operations. The ABCT and its subordinate battalions, however, have notable limitations.

The infantry combined-arms battalion's (CAB's) table of organization and equipment (ToE) maintains 18 nine-Soldier infantry squads and 12 Javelin command launch units (CLU) to optimize speed and protection. Compared to a current Stryker battalion, this ToE contains nine fewer infantry squads and 15 fewer Javelin CLUs. This excludes the CAB's force structure increases its vulnerability to enemy antitank (AT) systems and prevents the CAB from clearing or retaining complex restrictive, wooded or urban terrain. The CAB's vulnerability is compounded by its lack of organic indirect fires with its four 120mm mortars instead of the Stryker battalion's 10.

Lastly, the ABCT's increased

Figure 3. Army engineers deploy a JAB. *(U.S. Army photo by CPT Galen King)*

maintenance and logistical requirements present challenges to the formation's tactical endurance, especially with increasingly extended and contested lines of communication.

In contrast, the SBCT "is an expeditionary combined-arms force organized around mounted infantry," according to FM 3-96. While the Stryker battalion's reduced mounted protection and firepower limits cross-country tempo during the offense, its 27 nine-Soldier infantry squads, 27 Javelins and 10 mounted 120mm mortars enable the Stryker battalion to deliberately clear and retain complex terrain and population centers.

This capability is complemented by the formation's reduced logistical and maintenance requirement. As an expeditionary formation, Stryker companies maintain 72 hours of supply on hand and can travel about 300 miles before refueling. The Stryker battalion also maintains the capacity to transport 10,000 gallons of fuel via its forward-support company, tripling the formation's range and tactical endurance.

Stryker formations are also currently using a newer mission-command capability set than CABs. The SBCT's capability set includes the point-of-presence that is installed on select platforms at division, brigade and battalion echelons, enabling mobile mission command by providing on-the-move network connectivity via line-of-sight and beyond-line-of-sight, and it also includes Soldier Network Extension platforms. These capabilities enable a more accurate digital common operating picture and rapid digital fires processing from the battalion tactical-command post.

Stryker battalions also have two self-securing retransmission teams instead of one, as in a CAB. This added retransmission team enables increased line-of-sight communications for both lower and Upper Tactical Internet communication. Per their ToE, Stryker battalions also have more tactical-satellite systems, yielding redundant communication options at range.

Being built around mounted infantry, however, SBCTs lack the protected firepower, mobility and speed of the ABCT, especially over open terrain and

Figure 2. A Soldier prepares to fire a Javelin missile. *(U.S. Army photo by CPT Galen King)*

during a combined-arms breach. Relative to the SBCT, an ABCT's two engineer companies feature three M2A3 mounted-engineer platoons, four Joint Assault Bridges (JABs), six Assault Breacher Vehicles (ABVs) and six T9/D7R dozers.

Comparatively, the SBCT features Engineer Squad Vehicle-mounted-engineer platoons, four Rapidly Emplaced Bridge Systems, six mine-clearing explosive line-charge trailers and six T5/D6 dozers.

Based on this difference, the ABCT engineer company is far more capable of providing protected local security and mobility during complex breaches in an LSCO environment.

Best practices for integrating Strykers, Armor

By better understanding both formations' capabilities and limitations, combining these two formation types can demonstrably increase units' ability to combine arms during close operations. When attacking into an urban area, FM 3-0, *Operations,* highlights the ubiquity and complexity of combat in LSCO.

Based on the SBCT's ToE, Stryker formations are well-suited to support joint campaigns in complex urban terrain. The Stryker battalion can execute all three components of the breach organization (support, breach, assault) when augmented with an ABCT engineer company's breach squad and combat-engineer platoons. With the

Figure 4. Bradley Fighting Vehicle during urban operations. *(U.S. Army photo by CPT Galen King*

ABCT's combat-engineer platoons, three ABVs, two JABs, 250 dismounted-infantry Soldiers and 10 120mm mortars, this battalion team is capable of breaching complex obstacles, rapidly clearing urban terrain and transitioning to stability operations.

Vignette 1: During an attack on Objective Dodgers (Razish) at the NTC, a Stryker battalion was augmented with one mechanized-infantry company (-) and one engineer company (-). It was tasked as the main effort to seize key urban sites within Razish.

Prior to its attack, the BCT's two CABs would seize Objective Iron and establish support-by-fire (SBF) to enable the battalion's combined-arms breach. During the BCT's attack, however, the two CABs were heavily attritted by dismounted enemy AT positions and armor, so they were unable to establish the SBF north of Razish.

Recognizing the loss in combat power and tempo, the Stryker commander deployed one dismounted company along Axis South to clear the rugged terrain west of Razish and destroy enemy north of Razish. Using its nine Javelin CLUs, the company destroyed one mechanized platoon (+) north of Razish and identified the enemy AT systems.

Prior to the battalion's combined-arms breach, the battalion commander initiated accurate and responsive mortar suppression from the battalion's consolidated mortar firing point. Synchronized with the battalion's 10 120mm mortars, the attached mechanized company (-) and engineers breached a wired anti-vehicle ditch with its JAB.

Having rapidly breached the enemy's obstacles and maintained responsive mortar suppression, the Stryker battalion massed 25 nine Soldier infantry squads along two axes

to seize Razish and transition to a hasty defense. Due to the battalion's complementary use of its mechanized and motorized capabilities, it maintained tactical agility. Moreover, by optimizing its capabilities, the augmented Stryker battalion enabled the BCT to focus its field artillery (FA), army attack aviation (AAA) and other maneuver elements on attriting the enemy in depth and successfully transitioning to the BCT's deliberate defense.

Movement-to-contact. Defined in FM 3-96 as an offensive operation designed to develop the situation and establish or regain contact, a successful movement-to-contact (MTC) relies on making "initial contact with small, mobile, self-contained forces to avoid decisive engagement." To avoid making decisive contact with its main bodies, BCTs and battalions organize into an advance guard, flank, rear security and the main bodies.

Due to their increased density of infantry, dismounted AT systems, 120mm mortars and logistical endurance, Stryker companies and battalions are well-suited to gain and maintain enemy contact as an advance guard. By clearing restrictive or complex terrain as an advance guard, Stryker formations can reduce the threat of enemy AT systems and preserve the endurance of a larger armored formation.

Defend. As BCTs transition from an attack or MTC to a defense, motorized-mechanized teaming is again extremely effective. When augmented with an armored company or platoons, a Stryker battalion can effectively couple dismounted AT systems, tactical endurance and responsive mortar fire with the ability to engage the enemy at range, exploit or counterattack.

Vignette 2: During a recent rotation at NTC, a Stryker battalion deployed as part of an ABCT in place of one of its organic CABs. During the first phase, the ABCT conducted an eastward MTC that culminated in its defense along Phase Line (PL) Robert. During its defense, the Stryker battalion was augmented with a tank troop from the cavalry squadron and occupied the southern battle position to prevent the
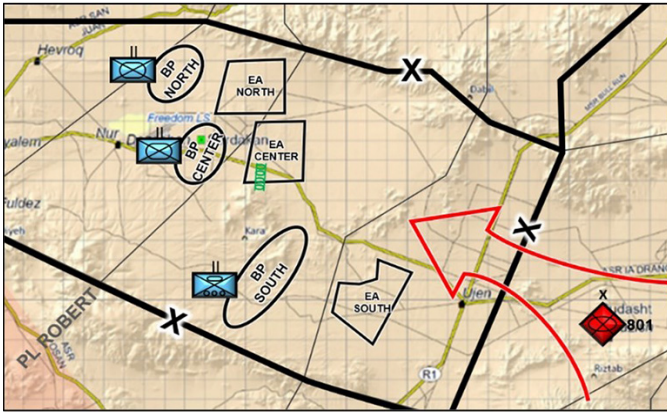
Figure 5. Map of attack on three objectives at NTC.

enemy brigade tactical group (BTG) from enveloping the BCT from the south.

As a supporting effort, the Stryker battalion would turn the enemy north into Engagement Area (EA) Center, where it would be destroyed by the BCT's main effort. The Stryker battalion anchored its battle position on its centrally located tank troop. Concealed in a wash, the tank troop's flanks were protected by three dismounted Stryker companies with 27 Javelin observation posts.

The BCT prioritized its FA, AAA and engineers to the main effort due to this control of restrictive terrain, protected, direct-fire lethality and organic mortar support. During the enemy's attack, the Stryker battalion rapidly destroyed one motorized-infantry company through a combination of its mortars, tank troop and dismounted Javelins. As the enemy deployed toward EA Center, the Stryker battalion simultaneously launched a counterattack with its tank troop and continued to attrit enemy from its concealed AT positions.

At the conclusion, the enemy BTG was unable to penetrate the BCT's northern battle positions, and the BCT initiated its attack on the city of Razish. Through its combined-arms employment of its blended task organization, the Stryker battalion enabled the ABCT to optimally prioritize key BCT assets to its weighted effort.

Techniques for effectively building blended battalion teams

Standardized processes. BCTs and battalions must codify their attachment/detachment procedures and checklists within widely known tactical standing operating procedures. Also, when units commonly operate together, codifying these habitual relationships enables subordinate leaders to rapidly execute task-organization changes.

Resourced enablers. Parent organizations must task-organize units with the requisite recovery, maintenance and sustainment support necessary for the unit to rapidly integrate into its new blended battalion or BCT team. Also, coupling armor and Stryker units requires persistent intra-brigade coordination between leaders at the brigade-support area, combat-trains command posts and maintenance-collection points to share commodities and field-service-representative expertise to regenerate combat power.

At the brigade, it is imperative that gaining units deliberately coordinate and plan for the accommodation of the task-organized element's common authorized stockage listing to their supply-support area. This coordination extends to units' mission-command systems as well. Here it is essential that task-organized units ensure critical Upper Tactical Internet terminals, services and accounts are validated and requested by their gaining headquarters to enable rapid mission command and digital-fires processing.

Integrated planning and effective rehearsals. After a unit completes attachment procedures with its gaining parent headquarters, it is essential that the unit's senior members heavily embed in the higher headquarters' planning. In addition to integrated planning, successful blended task-organizations also rely heavily on a variety of rehearsal techniques and types, focusing predominantly on rehearsing key complex actions like breaching, gap crossing and integration of mechanized vehicles and dismounted Stryker Soldiers.

Building combined-arms proficiency in preparation for an increasingly dynamic OE and the expanded role of the division as the PTWF, Regular Army (active component), National Guard and multinational Stryker and armored elements should increasingly train together during collective training. These opportunities train leaders to maximize the complementary and reinforcing capabilities of both formations while generating critical combined-arms proficiency now for the armored divisions of the future.

CPT Galen King is a maneuver planner at NTC, Fort Irwin, CA, where he extensively coaches combined-arms maneuver across all formation types. His previous assignments include task-force operations observer/coach/trainer at NTC, Fort Irwin; commander, Headquarters and Headquarters Company, 2nd Stryker BCT, 2nd Infantry Division, 7th Infantry Division, Joint Base Lewis-McChord, WA; battalion S-3, 1st Battalion, 17th Infantry Regiment, 2-2 SBCT; commander, Company C, 4th Battalion, 23rd Infantry Regiment, 2-2 SBCT; brigade chief of plans, 2-2 SBCT; executive officer, Company C, 3rd Battalion, 187th Infantry Regiment, 3rd BCT, 101st Airborne Division (Air Assault), Fort Campbell, KY; scout-platoon leader, 3rd Battalion, 187th Infantry Regiment, 3rd BCT, 101st Airborne Division; and rifle-platoon leader, Company B, 3rd Battalion, 187th Infantry Regiment, 3rd BCT, 101st Airborne Division. CPT King's military schools include the Infantry Basic Officer Leader Course, Ranger School, Airborne School, Air-Assault School, Pathfinder Course, Stryker Leader Course, Maneuver Captain's Career Course and Maneuver Leader Maintenance Course. He holds a bachelor's of arts degree in political science from Davidson College.

Acronym Quick-Scan

AAA – army attack aviation
ABCT – armored brigade combat team
ABV – Assault Breacher Vehicle
AT – antitank
BCT – brigade combat team
BP – battle position
BTG – brigade tactical group
CAB – combined-arms battalion
CLU – command launch unit

EA – engagement area
FA – field artillery
FM – field manual
JAB – Joint Assault Bridge
LSCO – large-scale combat operations
MDO – multidomain operations
MTC – movement-to-contact
NTC – National Training Center

OE – operational environment
PL – phase line
PTWF – principal tactical warfighting formation
SBCT – Stryker brigade combat team
SBF – support by fire
ToE – table of organization and equipment

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.

ROBINSON, JAMES H. PVT
Unit: Company B, 3rd Michigan Cavalry. Place and date of action: Brownsville, AR, Jan. 27, 1865. Entered service: Victor, MI. Born: Oakland County, MI. Date of issue: April 4, 1865. Citation: Successfully defended himself single-handedly against seven guerrillas, killing the leader (CPT W.C. Stephenson) and driving off the rest of the party.

RODENBOUGH, THEOPHILUS F. CPT
Unit: 2nd U.S. Cavalry. Place and date of action: Trevlhan Station, VA, June 11, 1864. Entered service: Pennsylvania. Born: Nov. 5, 1838, Easton, PA. Date of issue: Sept. 21, 1893. Citation: Handled the regiment with great skill and valor; was severely wounded.

ROHM, FERDINAND F.
Rank and unit: Chief bugler, 16th Pennsylvania Cavalry. Place and date of action: Reams Station, VA, Aug. 25, 1864. Entered service: Jumata County, PA. Born: Juniata County, PA. Date of issue: Oct. 16, 1897. Citation: While his regiment was retiring under fire, voluntarily remained behind to succor a wounded officer who was in great danger, secured assistance and removed the officer to a place of safety.

ROWAND, ARCHIBALD H. JR. PVT
Unit: Company K, 1st West Virginia Cavalry. Place and date of action: Winter of 1864-65. Entered service: Pittsburgh, PA. Born: March 6, 1845, Philadelphia, PA. Date of issue: March 3, 1873. Citation: Was one of two men who succeeded in getting through the enemy's lines with dispatches to GEN Grant.

Warrant Officers for Modern Cavalry Divisions

by Michael McCabe

Modern divisions would benefit greatly by introducing new warrant-officer roles. The current management-labor model, introduced to the Army in 1947, is proven for general-purpose needs but has gaps which, if filled with warrant officers, would do wonders for readiness, continuity, elite standards, efficiency and effectiveness.

The reason for this is simple: management-labor relies heavily on experience; while experience is invaluable, experience alone never grants the sum of institutional knowledge to every individual. Warrant officers possess both extensive experience and advanced training which, when performed correctly, impart the sum of institutional knowledge; they are a repository to ensure the same lessons don't need to be learned twice. High-tech war demands such elite specialists, but operating equipment is only the tip of the iceberg.

Expanding the roles of warrant officers throughout the Army would enable them to be used as "seedcorn," enabling new recruits to learn the ropes faster during periods of rapid mobilization or high turnover. Expanding warrant-officer roles would also improve their commander's ability to delegate. Leaders who excel at one arm / task would be able to find their niche and stay there instead of being promoted out of the jobs in which they excel into those jobs where they will not.

Although the following proposed roles are intended for a Cavalry / Armor audience, there will be some overlap applicable to non-Cavalry units.

Troop-level warrant officers

Cavalry troops currently do not have warrant officers apart from pilots, and this is a missed opportunity. Cavalry troops should have organic reconnaissance / intelligence and communications warrant officers, since every Soldier is meant to be a sensor – especially the Cavalry. These warrant officers can assist troop leaders in delegation, efficiently process and securely relay information, and give a permanent space for niche roles such as terrain analysts.

Using warrant officers would bring the subject-matter expertise down to a lower level in the chain of command without clogging small units with too many commissioned officers. This philosophy will enhance Cavalry's capabilities when they are in contact with friendly forces and will strengthen their self-reliance when they must operate in a communications vacuum.

A third possible role for warrant officers in Cavalry troops would be useful in dismounted actions. The job of commissioned officers in a firefight is to coordinate the many moving parts and keep looking / anticipating one step ahead. The noncommissioned officers (NCOs) are responsible for the specific tasks assigned to them by their officers, all of which form a whole greater than the sum of their parts. The third role, which does not have a permanent place in any table of organization and equipment, is a forceful personality at the back pushing everybody forward to maintain momentum, overcome inertia and rally anyone being pushed back.

This need is obviously less necessary

for mounted troops, but troops on foot (particularly inexperienced ones) can easily lose momentum when their officers' and NCOs' attention is on what lies ahead and not on who is slacking or falling behind.

While the need for a forceful personality in the back has not been an issue in recent low-intensity conflicts, it will be an important precaution for high-intensity conflicts where shock tactics will be more common. Shock shatters cohesion faster than maneuver and thus must be counteracted by someone standing by, ready to restore cohesion. This role is best performed by a familiar face rather than a stranger and therefore would ideally be filled by a warrant officer or senior NCO organic to the troop / platoon.

Tactical / operational expert roles

While each cavalry troop should gain S-2 and S-6 experts, tactical / operational experts are meant for larger forces, ideally battalion level. Tactical / operational experts would exist to provide subject-matter experts (SME) in fields such as armored-warfare tactics, convoy-escort tactics, cordon tactics, deep reconnaissance, road-clearing / minesweeping, and even counterinsurgency (COIN). While it is desirable that each officer and enlisted Soldier knows every possible Armor / Cavalry tactic inside and out, time and budget constraints frequently prevent this.

It is far easier to justify training warrant officers to this standard rather than enlisted Soldiers, provided those warrant officers are readily available to pass along knowledge as needed. Warrant officers can bring along obscure, one-in-a-million tricks and hacks that Soldiers would otherwise need to learn the hard way, and experts in the previously mentioned fields can be mixed or matched in a battalion as needed.

This new setup would prevent a repeat of the Army's experience in Vietnam, where best practices were published but not integrated into training, and experienced Soldiers who could have passed on invaluable lessons to the next wave of recruits were rotated out before they could do so. Without this

continuity and unity of vision, each new wave made the same amateurish mistakes year after year, leading to the quip that America did not have 10 years of experience but one year of experience repeated 10 times.

If new Cavalry / Armor units must be quickly raised, or old ones rebuilt after suffering heavy losses – or must simply shake off the dust from a period of inaction – the same problem will emerge. One or two tactical / operational warrant officers per battalion could tip the scale in America's favor.

America's army currently has no dedicated COIN units, and those calling for the establishment of such units may come to see cavalry divisions as an ideal solution due to their mobility and light footprint. While it is the author's opinion that terrain specialization is the better option, the advantages of Cavalry as a COIN force do not contradict the logic of increasing the warrant-officer footprint and should not be ignored.

If this comes to pass, Cavalry battalions would need certain staff officers not normally required in conventional formations. Using warrant officers would enable battalion staffs to be enhanced without making them top-heavy. Needs such as linguistics, gendarmerie tactics and civil-military cooperation would all be ripe for battalion warrant officers.

Terrain-specialization roles

In the Summer 2022 edition of *AR-MOR* magazine, the author wrote an essay proposing that Cavalry divisions embrace terrain specialization over general-purpose roles. Terrain specialization has always been difficult to retain in the American army, but using Cavalry divisions would be an ideal long-term fix.

Terrain-specific warrant-officer roles created specifically for this niche would be desirable for longevity and excellence at all levels of command. Every army has a minority of Soldiers who thrive in one particular extreme climate, and these talented Soldiers should not be wasted in general-purpose roles away from their best climate.

Even if their parent divisions were to be disbanded, warrant officers could be retained in case the divisions needed to be rebuilt in a hurry while ensuring the training programs remain current. This would entail creating three new warrant-officer roles for arctic, desert and jungle warfare, with the possibility of others in the future.

Non-doctrinal staff officers

Staff work is crucial to the Army's success, and warrant officers can enrich battalion staffs by supplying specialist SMEs to each of the staff-officer fields (for example, S-1 through S-9). While it is common to merge some of these for commissioned officers, warrant officers would not merge functions. The goal would be to imitate Andrew Carnegie, who surrounded himself with men smarter than he was.

A commissioned officer performing both S-3 and S-5 functions, for example, would benefit from having an S-3 warrant officer and an S-5 warrant officer directly under him to learn from their experience and to aid in delegation of tasks.

Stevedores

America's military has excellent logistics, but we can take a page from our enemy's handbook by establishing porter platoons led by stevedore warrant officers (one or two platoons per battalion). Porters were commonly used by Red armies throughout the Cold War as a way to reduce the burden carried by the infantryman. Adding them to our battalions would improve mounted and dismounted resupply.

While the Quartermaster Corps and brigade-support battalions handle most resupply, getting supplies to individuals in prolonged, high-intensity large-scale combat operations (LSCO) is difficult. These units can become overstretched in vast theaters. Porter platoons organic to a combat battalion can supply extra hands to ensure individual needs are met, thus making the per-capita workload lighter.

Porters would also enable dismounted battalions marching through difficult terrain to carry more ammunition, food, water, batteries and other

supplies on their backs without increasing the weight carried in each individual Soldier's rucksack. Besides mere resupply, porters would be versatile enough to also act as runners, stretcher-bearers and even riflemen in a pinch.

To lead porter platoons, stevedore warrant officers are better than commissioned officers due to the experience requirements. Stevedores trace their roots back to the shipping industry; loading and unloading a ship was a demanding, highly specialized line of work. Not only did every cubic inch of space need to be used, the ship had to also avoid being overloaded, changing its center of gravity, and require as little time to complete as possible.

Since troops in the field don't use shipping containers, stevedores will be desirable for ensuring every truck, helicopter, rivercraft and / or pack animal in use by the battalion is optimally packed and the contents speedily distributed. Such a role demands both extensive experience and the sum of institutional knowledge to be successful. Junior commissioned officers simply do not have the experience and training to replace stevedores, and there is no practical reason for porter platoons in a combat battalion to not be run by warrant officers.

Closing thoughts

New warrant-officer roles obviously must be approved by Congress, but if the Cavalry leads the way in introducing this warrant-officer-centric philosophy, it will be the most modern branch of the Army. America's way of war is high-tech, but its command structure dates from the age of hand-labor industrialism and universal conscription.

America likes to retain a small, elite army in peacetime, but one that can seamlessly mass-mobilize green recruits in wartime. Trying to preserve an elite, professional core cadre of commissioned officers is less effective and efficient than one comprised of warrant officers, as the former is top-heavy while the latter keeps long-serving career Soldiers in those middle roles which are hardest to fill because of time-in-service requirements.

This is also superior to the notion of slavishly copying the German army of World War II, popularized by the "military reformers" of the 1980s – the Wehrmacht had the same model but merely used senior NCOs to fill many leadership roles that are filled by commissioned officers in the U.S. Army. Not only was this model even more over-reliant on experience, it meant that the German army could not replace heavy losses in a timely fashion and fostered a culture of poor staff work, which cost Germany more than a few battles.

Embracing this new philosophy will allow the Cavalry to remain flexible and adaptable while preserving institutional knowledge. Enriching combat units with warrant officers will let the Cavalry weather peacetime better. Warrant-officer experts in extreme climate operations and / or COIN will be a beacon of stability to an army accustomed to ripsawing back and forth between LSCOs and COIN every five to 10 years.

War is a human endeavor, and a better balance between generalist commissioned officers and specialist warrant officers will get more out of our personnel than trying to create super-humans who can do both LSCO and COIN.

Michael McCabe is as a draftsman/designer at Newport News Shipbuilding in the Hampton Roads area of Virginia. He has been published on **Small Wars Journal** *under the pen name Michael Gladius, and some of his essays have been reposted on* **RealClearDefense.** *He holds a bachelor's of arts degree in biochemistry-molecular biology from Carroll College.*

ACRONYM QUICK-SCAN

COIN – counterinsurgency
LSCO – large-scale combat operations
NCO – noncommissioned officer
SME – subject-matter expert

Army Forts Renamed

ARMOR authors should use the new names (as of the fort's renaming ceremony) of their current assignment but can use the former names on assignments prior to the renaming ceremony.

Nine forts are being renamed. These installations have already had their renaming ceremonies:

- **Fort Pickett, VA.** Named after Van Barfoot, who received the Medal of Honor for his heroism during World War II and is of Native American descent. The post became Fort Barfoot as of March 24.

- **Fort Rucker, AL.** Named after Michael Novosel, a Medal of Honor recipient who flew combat aircraft in World War II and the wars in Korea and Vietnam. Fort Rucker became Fort Novosel as of April 7.

- **Fort Lee, VA.** Named after two individuals: Arthur Gregg, a former three-star general involved in logistics – the only living individual for whom a fort will be named – and Charity Adams, the first African-American woman to be an officer in the Women's Army Auxiliary Corps. Fort Lee became Fort Gregg-Adams April 24.

- **Fort Hood, TX.** Renamed after Richard E. Cavazos, the first Latino to reach the rank of a four-star general in the Army. The renaming ceremony to Fort Cavazos was May 9.

- **Fort Benning, GA.** Home of the U.S. Army Armor School, formerly named for Henry L. Benning, a Confederate general. Benning was renamed Fort Moore after LTG Hal Moore – a pioneer in the Air Cavalry whose Vietnam-era story was memorialized in the book and movie, ***We Were Soldiers*** – and his wife, Julia. The renaming ceremony for Benning was May 11.

These installations will have their renaming ceremonies within the next few months:

- **Fort Bragg, NC.** Named after GEN Braxton Bragg, a senior Confederate Army general, this post is being renamed as Fort Liberty, the only one of the bases named after a concept. Its renaming ceremony is scheduled June 2.

- **Fort Polk, LA.** To be renamed after William Henry Johnson, a soldier whose heroism in World War II was not honored with the Medal of Honor until 2015. The renaming ceremony to Fort Johnson is June 13.

- **Fort A.P. Hill, VA,** will be renamed after Dr. Mary Walker, a physician and women's-rights activist who received the Medal of Honor for her service during the Civil War. The renaming ceremony to Fort Walker is Aug. 25.

- **Fort Gordon, GA.** To be renamed after GEN Dwight D. Eisenhower, the Army general who led all Allied forces in Europe during World War II and later became president. Fort Gordon becomes Fort Eisenhower Oct. 12.

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.

RUTHERFORD, JOHN T. 1LT
Unit: Company L, 9th New York Cavalry. Place and date of action: Yellow Tavern, VA, May 11, 1864, and Hanovertown, VA, May 27, 1864. Entered service: Canton, NY. Date of issue: March 22, 1892. Citation: Made a successful charge at Yellow Tavern May 11, 1864, by which 90 prisoners were captured. On May 27, 1864, in a gallant dash on a superior force of the enemy and in a personal encounter, captured his opponent.

SAGELHURST, JOHN C. SGT
Unit: Company B, 1st New Jersey Cavalry. Place and date of action: Hatchers Run, VA, Feb. 6, 1865. Entered service: Buffalo, NY. Born: Buffalo, NY. Date of issue: Jan. 3, 1906. Citation: Under a heavy fire from the enemy, carried off the field a commissioned officer who was severely wounded and also led a charge on the enemy's rifle pits.

*SAVACOOL, EDWIN F. CPT
Unit: Company K, 1st New York (Lincoln) Cavalry. Place and date of action: Sailors Creek, VA, April 6, 1865. Entered service: Marshall, MI. Born: 1835, Jackson, MI. Date of issue: April 24, 1865. Citation: Capture of flag, during which he was wounded and died several days later in Washington, DC.

SCANLAN, PATRICK PVT
Unit: Company A, 4th Massachusetts Cavalry. Place and date of action: Ashepoo River, SC, May 24, 1864. Entered service: Spencer, MA. Born: Ireland. Date of issue: Jan. 21, 1897. Citation: Volunteered as a member of a boat crew that 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 during the entire time to heavy fire from a Confederate battery.

64TH ARMOR REGIMENT

WE PIERCE

The elephant symbolizes the heavy assault of a tank battalion. He was used in ancient times to lead the attack in a manner comparable to present-day armored organizations. The distinctive unit insignia was originally approved for 758th Tank Battalion Feb. 27, 1942. It was redesignated for 64th Tank Battalion April 30, 1952. The insignia was redesignated for 64th Armor Regiment April 3, 1963.

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