



# **ARMOR**

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Fall 2018

**SHAPING THE FIGHT**

# ARMOR

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# CHIEF OF ARMOR'S HATCH

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## Importance of Scout Squad

Cavalry formations “shape the battlefield for the commander to allow him to close with and destroy the enemy through maneuver and superior firepower at a time and place of his choosing.” (Field Manual 3-98). The scout squad is the cornerstone of our reconnaissance-and-security (R&S) force and serves as the commander’s eyes and the ears. Disciplined, trained and opportunistic scout squads enable quality commanders’ decision-making through enhanced situational understanding. Without it, commanders often struggle to understand the environment, and their staffs spend precious time and energy planning in a vacuum. We see this play out repeatedly across our combat-training centers.

Properly leveraging the scout squad requires discipline. The discipline required is more than just the conviction to do the right thing. The discipline I am talking about is the willingness at every level to put ourselves and our formations through exceptionally tough and realistic training. As GEN Mark Milley recently stated at AUSA 2018: “The objective [of this training] is to intentionally increase the stress

on ourselves so we face our first battle in training, not in combat. ... [Increase] the distances traveled; the hours awake; the command-post jumps; the obstacles breached; the live-fires conducted; skill of the [opposing force (OPFOR)] indirect-fire attacks; the OPFOR’s guerrilla and terrorist attacks; the OPFOR’s use of electronic warfare and cyber, rotary-wing and fixed-wing attack; ballistic missile attack; chemical and biological attack; and relentless enemy offensive infantry and armor combined-arms attack – all that and more.”

Our competency in R&S operations has atrophied considerably over the years. While it is true that we are incrementally improving cavalry-squadron proficiency through home-station training, our talent-management systems are not effectively slating the right leaders and Soldiers in our cavalry formations at the right time to capitalize on those hard-earned gains.

Also, we lack the requisite repetitive-assignments models we know we need to professionalize our cavalry formations. As a result, at echelon we are not able to retain the knowledge, skills

and attributes necessary to master the fundamentals of R&S and understand how to employ them in the execution of combined-arms maneuver.

While every leader in our cavalry formations needs to increase his or her knowledge and understanding of R&S operations, scout-squad leaders are the primary trainers and discipline-enforcers in our formations.

To this point, the 2019 Gainey Cup scout competition focuses on testing the scout squad’s ability to answer the commander’s questions and deliver results centered on R&S fundamentals. The competition is a crucible event that requires the knowledge of R&S and the discipline to put that knowledge to use in the toughest of conditions. We look forward to seeing you at the 2019 Gainey Cup the first week of May.

**Forge the Thunderbolt!**

### ACRONYM QUICK-SCAN

**OPFOR** – opposing force  
**R&S** – reconnaissance and security

# GUNNER'S SEAT

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



## Security through Tradecraft and Discipline

We Armor Branch noncommissioned officers must be masters of our trade. Whether it is a cavalry scout focused on his reconnaissance-and-security tasks or a tank crewmember focused on the decisive destruction of enemy formations, our tradecraft determines the effectiveness of not only individual Soldiers and small units, but also organizations at scale. Individual NCOs lacking in mastery of their craft will result in their Soldiers failing to grasp their individual and squad/crew tasks, which are vital to a unit's success on today's modern battlefield.

The tradecraft NCOs must master and teach to subordinates includes often-overlooked skills: camouflaging themselves, their equipment and battle positions, and mounted and dismounted observation posts; effectively communicating on the radio and with digital systems; operating with degraded communications, including cellphones; and maintaining overhead concealment as a part of route planning. These skills are vitally important in today's fight and require deliberate training and enforcement on behalf of NCOs. By instilling the discipline and skillset to do the hard right, the NCO enables

a unit to not only survive but to seize opportunities before and during an engagement.

Here are two recent examples during both combat and training that force a return of our focus to tradecraft and discipline:

- In Eastern Europe, a mechanized battalion was annihilated by a Multiple Launch Rocket System attack from across an international border. The unit's location was initially identified through multiple sources; once its location was confirmed, the rocket attack followed shortly with devastating effects.
- At the Joint Multinational Readiness Center, 1-4 Infantry Battalion (the opposing force) continuously has success against U.S. and allied/partner forces by leveraging sensors to build data on coalition forces' communications. Once the communication hubs' locations are confirmed, 1-4 Infantry quickly deploys armed quadcopters or calls for artillery to engage the discovered element, catching it by surprise and with crippling effects.

Although the Army doesn't have

policies prohibiting field cellphone usage or strict guidelines for acceptable radio and electronic transmission volume, leaders must understand the risk associated with large electronic signatures on the battlefield and how an adversary can use our signature against us, leveraging appropriate countermeasures. This electronic signature not only degrades the stealth and therefore the effectiveness of our scouts, but also exposes our armored main body to early detection and targeting.

We at the Armor School always stand ready to provide the institutional foundation for leaders to be effective on the modern battlefield, but it requires accepting short-term risk during the immediate training cycle to send leaders to functional courses like the Army Reconnaissance Course, Cavalry Leader's Course, Master Gunner Course and the upcoming Bradley Commander and Gunner Certification Course. The long-term reward is better-trained NCOs in the operational force with the tradecraft and discipline to facilitate organizational success. Success builds pride, and **PRIDE IS CONTAGIOUS!**

# LETTERS

Dear Editor,

COL Jay Bullock's excellent article in the Summer 2018 edition of *ARMOR* on the developing Synthetic Training Environment (STE) is in my view fully on the mark. Understanding the costs, the technology in place and emerging technology will be able to support a fully integrated, all-environments, individual- and collective-training capability that can support interactive unit training, regardless of the unit's location on the globe. The ultimate capability will seamlessly integrate units

and formations for training into a force operating in the same synthetic environment, an environment that will closely approximate the anticipated actual environment. This work is vital to force readiness in the developing threat situation we confront; the STE capability as it matures will be a combat force-multiplier.

The work in progress that Bullock outlines and suggests is also a testament to the hard work of the Army's training-developments team over the last

30-plus years. As a past director of the Collective Training Directorate, Office of the Deputy Chief of Staff, U. S. Army Training and Doctrine Command, I can attest to the hard work of this vital Army community. My article, "Future Training with the Armored Family of Vehicles," co-authored with retired MG Robert J. Sunnell (*Proceedings*, Nov. 30-Dec. 2, 1987), gives some sense of what many of us thought was possible and is now coming closer to application in the STE concept.

**Retired LTC Thomas R. Rozman**

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# It's Time for Cavalry to Get Serious about Cyber Reconnaissance

by COL Curt Taylor

On Feb. 23, 2015, Bato Dambeyez did something entirely unremarkable for a young man of his generation. He posted a picture of himself standing in his military uniform, weapon in hand, on social media. What made this post remarkable, even historic, was the fact that Dambeyez was a member of the Russian 37<sup>th</sup> Motorized Infantry Brigade based in Buryatia, Siberia, and the photo was taken inside the Donetsk region of Ukraine, more than 3,000 miles from his hometown.<sup>1</sup> This photo, along with others, provided clear and convincing evidence to a global audience that Russian conventional forces had invaded the sovereign territory of Ukraine.

In July 2014, John Reed, the Jerusalem Bureau chief for *Financial Times*, tweeted that he was observing the insurgent group Hamas firing rockets from a location near the al-Shifa hospital in Gaza. He was immediately met with a torrent of threats on social media accusing him of providing vital tactical intelligence to the Israeli military.<sup>2</sup>

In August 2017, 1<sup>st</sup> Brigade Combat Team (BCT), 4<sup>th</sup> Infantry Division, was conducting a reconnaissance-in-force at the National Training Center (NTC) when two lieutenants manning a provisional "cyber-recon team" reported two critical pieces of enemy information to the brigade.

An opposing-force (OPFOR) augmentee Marine Corps company was defending a critical chokepoint along the brigade's axis of advance, and an OPFOR artillery battery was operating from a firing point south of the Tiefert Mountain Range. Based on this information alone, the brigade redirected its lead battalion to avoid the ambush in restricted terrain and fired a pre-emptive rocket mission to destroy the OPFOR battery. What made this action remarkable was the fact that the cyber-recon team had acquired this information, including real-time location data, entirely through collection of open-source information gained through



**Figure 1. A Russian soldier's post on social media following the invasion of Ukraine.** (Photo accessed at <https://www.vox.com/2015/6/17/8795235/russia-ukraine-troops>)

Facebook, Snapchat and Tinder.<sup>3</sup>

These three incidents suggest that something fundamental is changing in the way information moves on the battlefield. In all three cases, actors in an ongoing conflict provided real-time, actionable tactical intelligence to a global audience. Collecting this real-time tactical information on the battlefield has long been the province of the cavalry scout. As this information gradually migrates from the land into the cyber domain, it may be time for the U.S. Army to reframe its very idea of what it means to do reconnaissance.

The Duke of Wellington famously quipped that "the whole art of war

consists of understanding what is on the other side of the hill."<sup>4</sup> For centuries, achieving that understanding has required commanders to put young Soldiers on the ground, under conditions of great danger, to peer over to the other side of that hill. Successful militaries have constructed elaborate, purpose-built reconnaissance organizations that are uniquely trained and equipped to accomplish this purpose.

These formations advance forward of the main body and employ the tools of both ground and air reconnaissance to fight for the information vital to effective battlefield decision-making.

While that requirement will certainly

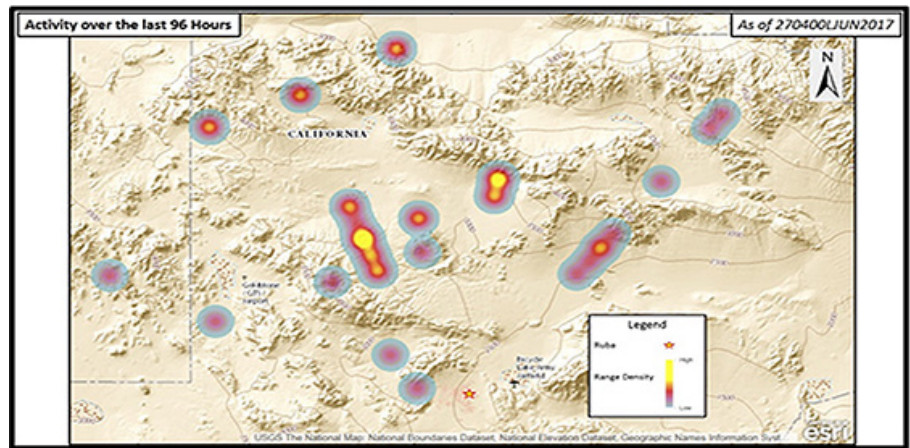
endure in the 21<sup>st</sup> Century, the growing ubiquity of digital sensors and diffusion of the tools of mass media suggest a new challenge. In this new world, much of the information essential to effective tactical decision-making may appear in cyberspace long before it is extracted through the dangerous and painstaking process of air and ground reconnaissance. Such an important shift requires a reframing of our traditional approach to reconnaissance. Is it now necessary to expand the concept of military reconnaissance to include the cyber domain? If so, how should such a capability be organized in the U.S. military? Who should do it and what are the hazards with such an approach?

This article will investigate the feasibility and limitations of cyber reconnaissance as a military concept. The investigation will demonstrate that the U.S. Army would gain an important competitive advantage in the coming decades by expanding the mission of its reconnaissance units into the cyber domain:

- The article will do this by first reviewing the Army's current reconnaissance doctrine and comparing it with the concept of "cross-domain maneuver" as outlined in the Army's future warfighting concept.<sup>5</sup>
- Second, this article will examine recent cases of military conflict in digitally empowered societies to identify emerging patterns that may suggest important changes in the character of future conflict.
- Third, this article will review several important tools already available on the commercial market that would provide a clear competitive advantage today.
- Fourth and finally, this article will review the perils of expanding military operations into the cyber domain, the potential effects on personal privacy and the blurring of the line between military and personal risk.

## Reconnaissance in multi-domain battle

Current U.S. Army doctrine defines the purpose of battlefield reconnaissance to "help commanders cope with uncertainty, make contact under favorable



**Figure 2. This heat map, produced by the 1/4 BCT cyber-recon team, shows the best estimate of OPFOR locations during an NTC rotation based entirely on social-media trolling. This estimate was surprisingly consistent with templated OPFOR locations derived from other sources.**

conditions, identify opportunities, prevent surprise and make timely decisions."<sup>6</sup> Historically these missions have fallen to cavalry units because of their superior mobility and agility.

Before the advent of motorized technology, the horse provided this essential mobility differential over the foot-bound infantryman. In the 20<sup>th</sup> Century, the horse was replaced by various forms of armored cars or light tanks that could move faster and farther than the formations they supported.<sup>7</sup>

From World War II through Operation Iraqi Freedom, organizational design in cavalry formations fluctuated from light and mobile to heavy and armored. The debate within the cavalry community throughout this period centered on the question of how best to simultaneously equip a cavalry unit with the essential mobility to gain and maintain contact with an enemy force over large distances, while preserving the versatility to respond to unexpected threats and fight for information once that contact was achieved.<sup>8</sup>

Because of this requirement for versatility, cavalry formations often incorporated combined arms at much lower echelons than other units.

Cavalry in the Cold War-era saw the close integration of attack and reconnaissance helicopters with ground tactical units at squadron level. This design gave the reconnaissance commander the flexibility to collect and fuse intelligence gathered in both the

air and land domains into a coherent picture.

In 2017, the U.S. Army published the functional concept for movement and maneuver, which sought to define how it would operate in the period from 2020 to 2040. Derived from the Army's future operating concept, "multi-domain battle," this document affirmed the importance of effective and capable reconnaissance operations in the future as one of its foundational principles.<sup>9</sup> It also introduced the concept of "cross-domain maneuver," which proposed that future U.S. Army forces would "create synergy with capabilities employed across all domains," including the cyber domain.<sup>10</sup>

Applying this principle of cross-domain maneuver to today's reconnaissance doctrine suggests that a future reconnaissance formation must possess the capability to engage the enemy with a versatile set of tools that extract vital information from the enemy and the environment in all three relevant domains: land, air and cyber.

For the same reason that 20<sup>th</sup>-Century cavalry units necessarily incorporated air and ground reconnaissance formations at the lowest possible echelon, future cavalry formations will likely find it essential to incorporate the information-collection capacity of ground, air and cyber reconnaissance formations at the lowest possible level of tactical employment.



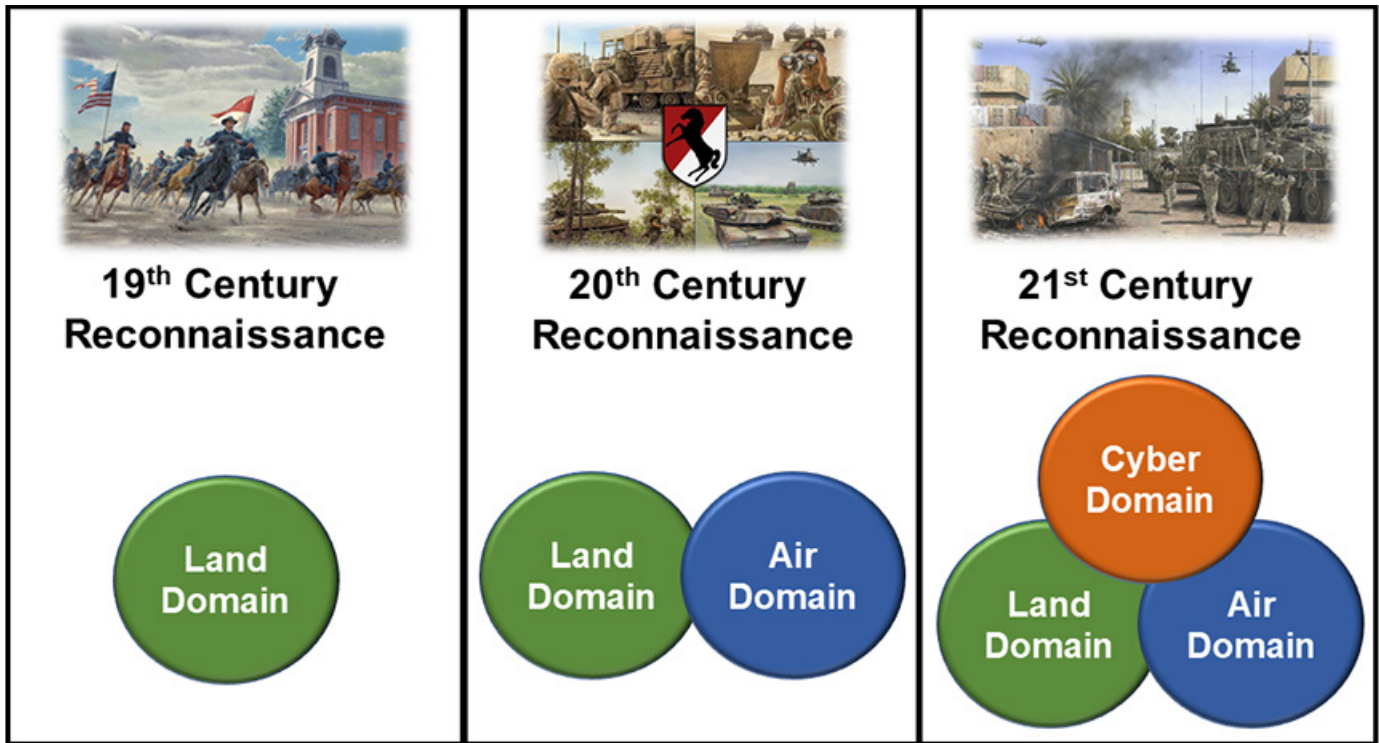


Figure 3. As warfare expands into more domains, our concept of reconnaissance operations must expand with it.

## Case Study 1: Operation Protective Edge

Before examining how a cyber capability might be designed inside a future cavalry formation, it is useful to examine contemporary conflicts where the exploitation of information from the cyber domain provided a marked tactical advantage to one side.

In July 2014, the kidnapping of three Israeli teenagers, followed by intermittent rocket exchanges between Hamas and Israeli Defense Forces (IDF), led the Israeli government to initiate Operation Protective Edge to reduce or eliminate the rocket threat from the Gaza Strip.<sup>11</sup> The operation lasted 51 days and eventually saw the deaths of thousands of Palestinians and 72 Israeli soldiers and citizens.<sup>12</sup> The campaign was unprecedented in its widespread use of social media and Twitter by both sides to shape the narrative.

The IDF had learned a great deal in their previous incursions into Gaza and understood the value of a capable and responsive social-media presence. For Operation Protective Edge, they stood up a 24-hour social-media response team called the Spokespersons Unit

that tailored messages to various media platforms with the IDF perspective on events.<sup>13</sup> To enable their messaging, the unit tracked all relevant social-media feeds emanating from the conflict zone.

A critical test of this cell's capability came July 28, when a flurry of tweets from reporters and bloggers within the Gaza Strip claimed that Israeli aircraft had struck both a hospital and a refugee camp with more than 30 civilian casualties. As the story spread rapidly across social media and into mainstream venues, the Spokespersons Unit tried to get clear answers from IDF commanders, who had no knowledge of the event. Within 80 minutes of the first tweet, the IDF assessed that both strikes had been the result of mis-fired Hamas rockets. Although 80 minutes was an eternity in the context of modern media, the ability to respond quickly with a clear and convincing counter-narrative avoided a much greater setback for the IDF.<sup>14</sup> The ability to see the social-media activity of the battlefield in real time was critical to this rapid response.

While the battle of competing narratives is an important aspect of cyber activity in modern warfare, there is

another important lesson to be drawn from this experience. For that critical 80-minute period, it was the Spokespersons Unit and not the tactical commander on the ground who had the dominant situational understanding.

The elaborate network of relationships they had established with digitally-enabled citizens in the conflict zone gave them an improved view of the battlefield.

In traditional cavalry language, they had, in effect, established a virtual reconnaissance screen that provided the IDF with early warning of enemy activity – warning they would never have been able to gain through traditional ground-reconnaissance techniques. The Spokespersons Unit was never intended to be a reconnaissance unit but, for those critical minutes, that was exactly what it became. The information it extracted from cyberspace was only useful when it was merged with an ongoing view of the battlefield from the ground maneuver unit.

## Case Study 2: Russia in the Donetsk Region

On July 17, 2014, Malaysian Flight 17 was making its way from Amsterdam to Kuala Lumpur on a route that took

it directly over the troubled Donetsk region of eastern Ukraine. As it transited Ukrainian airspace, a Russian SA-11 anti-aircraft system engaged the airliner, killing all 283 passengers on board. The Russian military responded quickly by blaming Ukrainian forces for the shoot-down. Equipped with the world's most sophisticated propaganda machine, they quickly produced documents and evidence showing that a Ukrainian fighter jet and anti-aircraft system were within range of the airliner when it crashed.<sup>15</sup>

Eliot Higgins, a private United Kingdom citizen with no intelligence training and no security clearance, did not buy the Russian version of events. Armed only with an Internet connection and a community of amateur enthusiasts connected by his blogsite Bellingcat, he started to unravel the Russian narrative. Using a single photograph of the SA-11 provided by the Ukrainian military, he and his team were able to painstakingly recreate the precise route the vehicle had taken on the date of the attack by geolocating images drawn from various YouTube videos of the area and open-source satellite imagery.<sup>16</sup> They eventually identified the vehicle as Buk 332 of 53<sup>rd</sup> Anti-aircraft Rocket Brigade.

Within months, Higgins' team expanded their research to show evidence of the vehicle's movement from its home base in Kursk all the way to the Ukrainian border. When the Joint Investigative Team assembled by the Dutch government published its final report two years later, it relied heavily on the Bellingcat evidence and discredited the Russian government's contradictory narrative.

This incident, like the one in Gaza, presents a compelling case. Relatively minor tactical actions like the movement of a military vehicle or the firing of a single rocket now leave an indelible fingerprint in cyberspace. That fingerprint is visible to anyone with the persistence, tools and training to view it. This presents a new way of seeing the battlefield. Finding rocket launchers and anti-aircraft weapons on the battlefield in real-time has traditionally been the vocation of reconnaissance formations. Now those reconnaissance organizations must develop new ways



**Figure 4. Using this photograph posted on a Russian social-media site, Bellingcat established that Buk 332 had transited Russia prior to shooting down Malaysian Flight 17. (Photo accessed at <https://www.bellingcat.com/news/uk-and-europe/2015/07/16/russias-colin-powell-moment-how-the-russian-governments-mh17-lies-were-exposed>)**

of following that information into the cyber domain.

Future reconnaissance organizations that are equipped with the ability to merge ground and air collection with this type of capability in cyberspace will possess a competitive advantage on the 21<sup>st</sup>-Century battlefield.

## Crowd-sourced surveillance and future of Internet

Preparing U.S. military forces for the next conflict requires a reasonable forecast of the future operating environment. By 2030, more than 60 percent of the world's 8.3 billion people will live in cities.<sup>17</sup> Rapid urbanization will likely lead to vast slums operating outside of legitimate government control, where political instability and conflict over scarce resources will create a demand for external military intervention. As humanity moves to the city, so too will the warfare it produces.

By 2030, more than 125 billion computers, sensors and appliances will be connected to the Worldwide Web – roughly 15 for every person alive.<sup>18</sup> By that time, nearly 80 percent of the data moving on broadband networks will be video.<sup>19</sup> It is reasonable to assume that these two trends will combine to create a ubiquitous network of crowd-sourced surveillance, where nearly every event in public space is

recorded and uploaded to the Web by private, commercial or government actors.

Recent advances in image-recognition technology brought on by machine learning show the potential to transform the utility of this growing mountain of data. Higgins and his team of amateur researchers at Bellingcat were able to geolocate a single vehicle as it transited Russia only after months of painstaking analysis. Image-recognition software may soon compress this process to a matter of hours, if not minutes and seconds.<sup>20</sup> The military formation that can best leverage modern analytical tools to tease out critical information from this vast crowd-sourced surveillance network will have a clear advantage on the dense urban battlefields of the future.

## Emerging tools of cyber reconnaissance

History suggests that many of the most significant advances in military technology began first as commercial technologies. Radar, for example, was originally developed as a tool to avoid ship collisions during limited visibility.<sup>21</sup> This section of the article will examine three categories of cyber tools already available in commercial markets that, with adaptation, might provide a real advantage to reconnaissance formations.

**Situational understanding through**

**social-media analysis.** Humanity today tweets about 6,000 times per second,<sup>22</sup> and this number is expected to rise rapidly over the next 15 years. This storm of data includes commentary and first-person accounts on virtually every event of significance. Modern sentiment-analysis techniques can be applied to this data set to extract opinion trends specific to both topic and location.<sup>23</sup> This technology is increasingly being adapted for its utility in conflict zones where official government accounts are often incomplete and misleading.

For example, Ushahidi, a crowd-sourced application that promotes “social activism for marginalized voices,” was created in the violent aftermath of the disputed presidential election in Kenya.<sup>24</sup> Actors in the conflict could submit eyewitness accounts, which were then plotted on a map to show overall trends as violence spread. As just one example, Ushahidi’s Syria-Tracker currently provides very detailed, location-specific information that could provide vital insights to a ground-maneuver commander.<sup>25</sup>

Military activity by its very nature is dramatic and tends to draw the interest of onlookers. Whether it is the citizens of Washington flocking to Bull Run with their picnic baskets to observe the

first battle of the American Civil War<sup>26</sup> or curious Russians uploading video of a convoy of anti-aircraft weapons on their way to Ukraine, military activity captures human interest and attention. Today and in the future, that interest will almost certainly manifest itself as real-time intelligence across social-media platforms. Intervening amid an internal conflict or outright civil war presents a daunting challenge to an outsider. Tapping into this enormously valuable information stream has the potential to provide superior situational awareness to the commander who can adequately harness it.

**Route reconnaissance using Global Positioning System-enabled device-pattern analysis.** The fitness data company Strava recently came under fire when it was discovered that its global heatmap, which aggregated millions of geotracked devices, inadvertently revealed the location and outline of U.S. military bases in conflict areas.<sup>27</sup> While this incident provides a useful reminder about the importance of operational security, it reveals a much more valuable message about the future of route reconnaissance as a military operation.

Moving a large military force over unfamiliar terrain presents a formidable challenge. As a result, reconnaissance

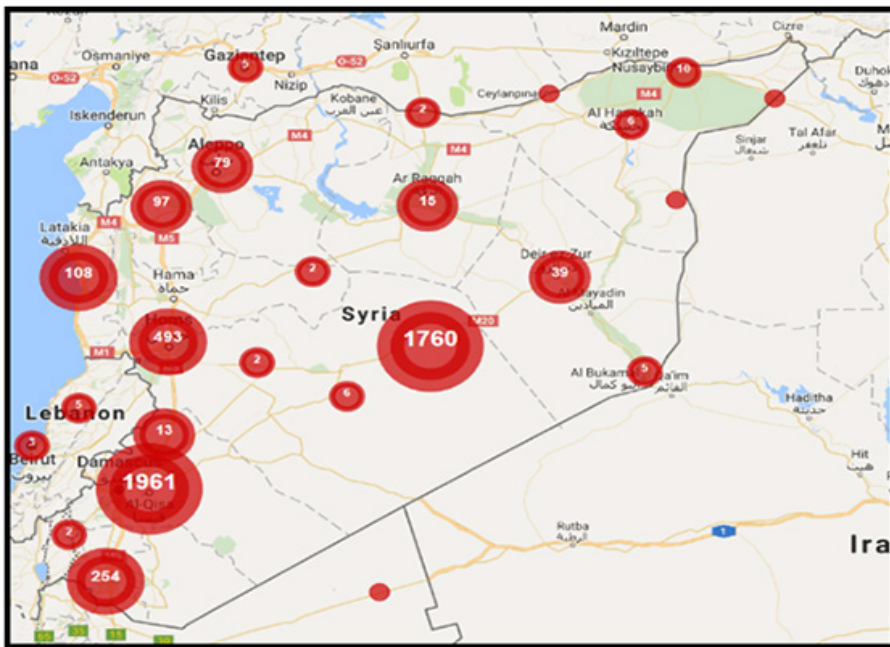
formations have traditionally needed to reconnoiter ahead of the main body to assess the trafficability of routes. Like Strava, modern digital-map applications on most smartphones use a process of extracting location from celltowers to determine rates of movement along roadways.<sup>28</sup> Over time, this anonymized data provides a useful pattern that can show where vehicle traffic is unrestricted, moderately restricted or impassable. It can, therefore, be a powerful tool to augment the often-dangerous task of ground route reconnaissance. In addition, when merged with Ground Moving Target Indicator data from aerial reconnaissance platforms, this data can also provide a useful analytical tool to distinguish between civilian and military vehicle movement.

**Near-real-time commercial-satellite imagery.** The rapid growth of commercially available satellite imagery has had a profound effect on the utility of aerial surveillance. Today, Digital Globe, the world’s largest public repository of satellite imagery, estimates that it retains a dataset of 100,000 terabytes (Tb) of data that grows daily by 100 Tb.<sup>29</sup> Digital Globe’s recent deployment of constellations of tiny commercial CubeSats will further expand this data-collection capacity by dramatically reducing refresh times for new imagery down from a matter of days to a matter of hours.<sup>30</sup> With this emerging capability, it is entirely reasonable in the near future to expect commercial users to obtain sub-meter-resolution satellite imagery less than 24 hours after image capture.

The timeliness of this information flow moves spaced-based intelligence collection from the strategic and operational level to the tactical level. It would make little sense to send military formations into a dangerous area without the benefit of current high-resolution imagery that is less than 24 hours old and freely available to commercial users with a subscription to Digital Globe or a similar dataset.

## Cyber reconnaissance perils, challenges

The expansion of reconnaissance into the cyber domain presents some unsettling challenges to our familiar



**Figure 5. Ushahidi’s Syria tracker provides real-world situational awareness of battlefield activity based entirely on social-media posts.** (See <https://www.ushahidi.com/case-studies/syria-tracker>, accessed May 27, 2018)

concept of warfare as a purely public and professional activity separate and distinct from our personal lives. Because of its ability to transcend geography, the cyber domain blurs the distinction between public and private life. For example, the Bellingcat investigation discussed earlier led to a blog-site where mothers of Soldiers in 53<sup>rd</sup> Anti-aircraft Rocket Brigade shared pictures of their sons.<sup>31</sup> If a U.S. cyber scout had arrived at this site, would it be lawful to extract military intelligence from a mother's social-media post? Would it be ethical not to if that intelligence could protect friendly forces from harm? Likewise, is it ethical to use a crowd-sourced Website like Ushahidi that seeks to give a voice to victims of political violence as a tool of military reconnaissance?

Considering how a future adversary might employ the tools outlined above to conduct his own version of cyber reconnaissance presents an even more daunting challenge. In 2014, the Islamic State in Iraq and Syria (ISIS) published a "kill list" with the home addresses of 100 U.S. servicemembers that it believed were associated with the air campaign in Iraq and Syria.<sup>32</sup> While no hostile action resulted from the kill list, it presents a significant challenge to the very idea of military service in a free and open society. The emergence of reliable face-matching technology will only make it more difficult to separate personal and professional identities.

The military utility of the cyber domain presents some fundamental questions about the proper boundaries of military activity in that space, and these will require careful examination and clear policy guidelines as this capability is fully exploited.

A second peril of using the cyber reconnaissance to inform battlefield decision is that, like other forms of intelligence, it can simply be wrong. Big data does not necessarily mean good data. The recent experience of Google Flu provides a useful example. In 2008, Google began predicting the progress of flu outbreaks across the United States by tracking flu-related search terms on its Website. Initially, the data appeared to provide more rapid indicators of flu outbreaks than the

standard methods of hospital reporting used by the Centers for Disease Control. This rapid-response time, however, came at a price in terms of the accuracy of reporting and sensitivity to false positives. Ultimately, Google scrapped the project because of its potential to produce very specific, highly-credible but entirely inaccurate information.<sup>33</sup>

There is a real risk of cyber-reconnaissance efforts providing equally compelling yet misleading false positives, especially in the face of a concerted effort to confuse or distract that reconnaissance with the employment of Twitter bots or other tools that create a false footprint of activity in the cyber domain. Intelligence gathered from the cyber domain is no different from intelligence extracted from more traditional domains. It should be carefully vetted against other sources of information gathered from complementary methods of reconnaissance.

## Isn't this someone else's job?

It might be tempting to dismiss cyber reconnaissance as unsoldierly work that should be carried out by some department of "other people" far from the battlefield. The problem with this approach is that reconnaissance information is only useful when it is narrowly focused on a commander's specific and immediate needs, and when it is fused with information gained from other sources. Both conditions emerge at the tactical edge, where the rapidly changing dynamics of the battlefield create a constant stream of new information requirements and where fleeting opportunities are seized and exploited. Cavalry formations directly support maneuver commanders and have operated in this chaotic space since their inception. As a result, they are uniquely qualified to provide the most responsive support to the maneuver commander.

The cyber scout is not in the business of producing military effects in the cyber domain and therefore does not need the extensive authorities of a more traditional cyber warrior. While he may "fight for information" in cyberspace in some very limited circumstances, his primary task is to master

the tools of open-source information collection and to harness those tools in pursuit of his commander's priority information requirements. He does not need to be an experienced hacker, but he does need to understand the very specific information requirements of the maneuver commander he supports. The two lieutenants in 1/4 BCT's cyber-recon team succeeded not because they were experts on social media but because they understood the fundamentals of good reconnaissance and could apply those creatively in a different domain. Likewise, the cyber scout must be "born" a scout first and then taught to apply his trade in a new domain.

It may seem farfetched today to envision a future cyber-recon platoon sitting at a bank of Internet terminals, surfing Twitter and YouTube feeds to assist a cavalry troop on a screen line. But it does not require an excess of imagination to see its obvious utility, particularly in a world that has 15 Internet-enabled devices for every human alive. Cavalry organizations have traditionally succeeded when they were designed with inherent versatility by combining all the various means of information collection into agile organic small-unit formations. We cannot succeed by relegating this tactical information-collection activity to some department that is organizationally and geographically separated from the customer it supports. Expanding the role of cavalry into the cyber domain will require the same commitment to combined-arms capability that made our 20<sup>th</sup>-Century cavalry squadrons so effective.

## Conclusions

Professional armies have a long-established track record of fighting today's wars with yesterday's thinking. History demonstrates that the bureaucratic and institutional pressures to favor well-established experience in the face of technological change are nearly insurmountable, absent some compelling urgency to act. For example, the concept of aerial reconnaissance was first born in 1794 when the world's first surveillance balloon lifted above the battle of Fleurus in France. More than a century would pass before professional armies would invest enough

energy to overcome the technical challenges associated with using aerial reconnaissance effectively. Once they mastered it, more than a century later in World War I, it had a profound effect on the character of conflict.

The only thing harder than getting new ideas in is getting the old ones out. A cursory review of *Cavalry Journals* in the 1930s will provide a modern cavalryman with a surreal experience. Well-respected and thoughtful leaders as late as 1939 argued repeatedly that proper reconnaissance, even in the mechanized battles to come in Europe, could only happen on horseback.<sup>34</sup> The horse had been the primary tool of the scout for centuries, and most could not imagine battlefield reconnaissance occurring without it. Unfortunately, history reminds us often that nostalgia is a poor force-design principle.

Experienced cavalry leaders today may argue that effective reconnaissance cannot be done from the sanctuary of a computer screen. In this they are partially correct. Nothing will replace the scout on the ground in visual contact with the enemy. But to send that scout into harm's way to collect information freely available in some unexplored corner of the Internet is a travesty. Battlefield information is migrating into the cyber domain, and the scouts who hunt for that information must follow it there. What we need is the ability to effectively fuse complementary sources of information from the ground, air and cyber domains to paint a coherent picture for our battlefield decision-makers.

When the United States and its allies invaded Iraq in 2003, Facebook and Twitter did not exist, and the smartphone was nothing more than a design concept. Since that time, these tools of individual empowerment have diffused traditional sources of power to topple governments and transform societies. In 2003, surveillance was the business of government. Since that time, the emergence of a ubiquitous, crowd-sourced surveillance network composed of billions of Internet-enabled devices marks one of the most profound shifts in our society today. These changes have fundamentally altered the boundaries between public and private life and between war and

peace. As recent conflicts have already shown, this transformation will alter the way wars are fought in the future. If reconnaissance is about the business of fighting for information, then the U.S. Army must rethink and reframe its approach to reconnaissance in the Information Age.

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## Notes

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<sup>9</sup> TRADOC Pamphlet 525-3-6.

<sup>10</sup> Ibid.

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### ACRONYM QUICK-SCAN

**BCT** – brigade combat team

**CGSC** – Command and General Staff College

**IDF** – Israeli Defense Forces

**ISIS** – Islamic State in Iraq and Syria

**NTC** – National Training Center

**OPFOR** – opposing force

**TB** – terabyte

**TRADOC** – (U.S. Army) Training and Doctrine Command

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# Integration of Signals Intelligence, Electronic Warfare in Reconnaissance Troop: Seeing Where the Eye Cannot See

by CPT Doni Wong, 1LT Theodore Lipsky, CPT Brigid Calhoun and CW2 Pablo Cruz

In the ongoing debate of how to win against a near-peer adversary in a complex operating environment, senior Army leaders have posited several solutions to the question of tactical electronic warfare (EW) employment.

As the most proximate U.S. light infantry brigade combat team (IBCT) to Russia, 173<sup>rd</sup> IBCT (Airborne) tested an integrated EW and signals-intelligence (SIGINT) platoon to bridge the capabilities gap between the unit and its near-peer Russian adversary, whose armed forces demonstrated renewed EW capability in its 2014 conquest of Crimea.

The test was conducted in February 2018 when 173<sup>rd</sup> IBCT (Airborne) consolidated its EW and SIGINT Soldiers into a combat EW intelligence (CEWI) platoon within its military-intelligence company (MiCo). The brigade initially tested the concept with moderate success during Exercise Swift Response 17.2 at Hohenfels Training Area (HTA), Germany, in September 2017. To maximize the CEWI teams' collection reach, the brigade leadership task-organized them under Troop A (aka "Anvil Troop"), 1<sup>st</sup> Squadron, 91<sup>st</sup> Cavalry Regiment (Airborne). The concept was tested during 173<sup>rd</sup> IBCT's next two exercises at HTA in January and April 2018.

This article offers lessons-learned and recommendations from these three training exercises, specifically regarding the utility of habitually integrating the CEWI teams with the brigade's reconnaissance platoons. Although a nascent potential solution to the tactical EW question, the CEWI teams of 173<sup>rd</sup> IBCT (Airborne) met their brigade commander's initial intent by locating enemy emitters, succinctly communicating their locations across multiple spectrums to the commander and providing the commander with options for enemy signal disruption.

## CEWI platoon established

COL James B. Bartholomees, commander of 173<sup>rd</sup> IBCT (Airborne), approved the consolidation in February 2018 of the brigade's EW and SIGINT Soldiers into a CEWI platoon in 54<sup>th</sup> Brigade Engineer Battalion's MiCo. The brigade initially tested the integrated-platoon concept with moderate success during two previous exercises at HTA in September 2017 and January 2018. However, the platoon's performance fell short of its full capability because of its inability to train as a single platoon ahead of the exercises.

After task-organization changes in February and March 2018, new-equipment training (NET) and new-equipment fielding (NEF) of the Versatile Radio Observation and Direction (VROD), VROD Modular Adaptive Transmit (VMAX), Saber Fury (a system that manages the electromagnetic environment while on the move without network connection) and Raven Claw (a system used with EW planning tools), the MiCo stood up the CEWI platoon according to the Army's *Multi-Functional Intelligence and Electronic Warfare Concept of Operations*, Version 1.<sup>1</sup>

The brigade commander charged the platoon with three responsibilities that drove the train-up to the April 2018 Joint Warfighter Assessment (JWA) 18.1:

- Locate enemy signal emitters;
- Succinctly communicate their locations across multiple spectrums to the commander; and
- Provide the commander with options for enemy signal disruption.

Although the platoon and MiCo leadership acknowledged the long-term need for advanced fieldcraft and call-for-fire capability, plus training on the Raven unmanned aerial system (UAS) and/or Puma (small, battery-powered, hand-launched UAS), the leadership

prioritized system cross-training, reporting and communication-platform proficiency between January and April 2018.

The CEWI platoon's relationship with Anvil Troop began during Exercise Bayonet Guard (see related article, this edition) in January 2018, a month before the consolidation directive. The MiCo leadership decided to attach the platoon to a maneuver unit during the force-on-force exercise to optimize the teams' ability to conduct continuous 24-hour operations. The platoon operated below modified table of organization and equipment strength during Bayonet Guard because only four of eight EW Soldiers were released by their parent battalions to participate. The undermanned teams struggled to simultaneously execute collection operations while providing their own security. Therefore, Anvil Troop provided perimeter security, logistics support and a troop headquarters for mission command, enabling the CEWI teams to focus solely on survey and collection activities. This also leveraged the troop's organic Ravens and 120mm mortars to fix and finish actionable targets.

Building on this initial success, for JWA in April 2018, the brigade once again attached the CEWI platoon to Anvil Troop and placed the MiCo commander in the brigade tactical-operations center (TOC) to serve as the brigade's chief of reconnaissance. Because the brigade intelligence-support element (BISE) remained co-located with the brigade TOC, the MiCo commander could exercise mission command over the company while synchronizing the brigade's reconnaissance and collection efforts. Although the CEWI teams would be tactically controlled by Anvil Troop, they would also report to the cyber-EW activities (CEMA) cell in the BISE, which was comprised of the traditional SIGINT leadership of cryptological-support team (CST) and EW

leadership formerly aligned under the brigade operations section.

## JWA

Anvil Troop's mission during JWA was to conduct an advance guard east of the task force to protect it from direct fires, observed indirect fires and intelligence collection. The troop's plan divided the mission into five phases:

- During Phase I, the troop planned and prepared. Notably, this phase included deliberate coordination with the troop's attachments to develop a common operating picture and best integrate attachment capabilities into the overall plan.
- Phase II saw the beginning of tactical operations. During this phase, the troop entered the area of operations (AO) and established a screen along Phase Line (PL) Abrams. This screen protected the task force as it built

combat power through the air-land sequence.

- Phase III encompassed the troop's movement eastward from PL Abrams to PL Daily. During this movement, Anvil Troop provided the advance guard for the task force as it moved to contact.
- Following this eastward advance guard, the troop transitioned to Phase IV, in which it screened along the task force's southern flank. This screen permitted the task force time and maneuver space to seize Objective Florida.
- During Phase V, the troop consolidated and reorganized. At the completion of Phase V, the troop stood ready to receive follow-on missions.

## Integration of CEWI platoon

The two CEWI teams were each

attached to an Anvil platoon: one in the northernmost part of the AO and one in the southernmost part of the AO. The plan split the CEWI platoon to take advantage of the elevation to the north and south, affording the SIGINT and EW systems the best possible lines of sight and lines of bearing.

While operating with the scout platoons, the teams received the autonomy to decide where to position their survey and collection assets, with the sole condition that they remain to the rear of the platoon's front-line trace and within supporting distance. This autonomy afforded the CEWI teams the flexibility to best emplace and leverage their systems while remaining nested in the scout platoons' security perimeter.

The CEWI teams maintained communications locally with their scout platoon

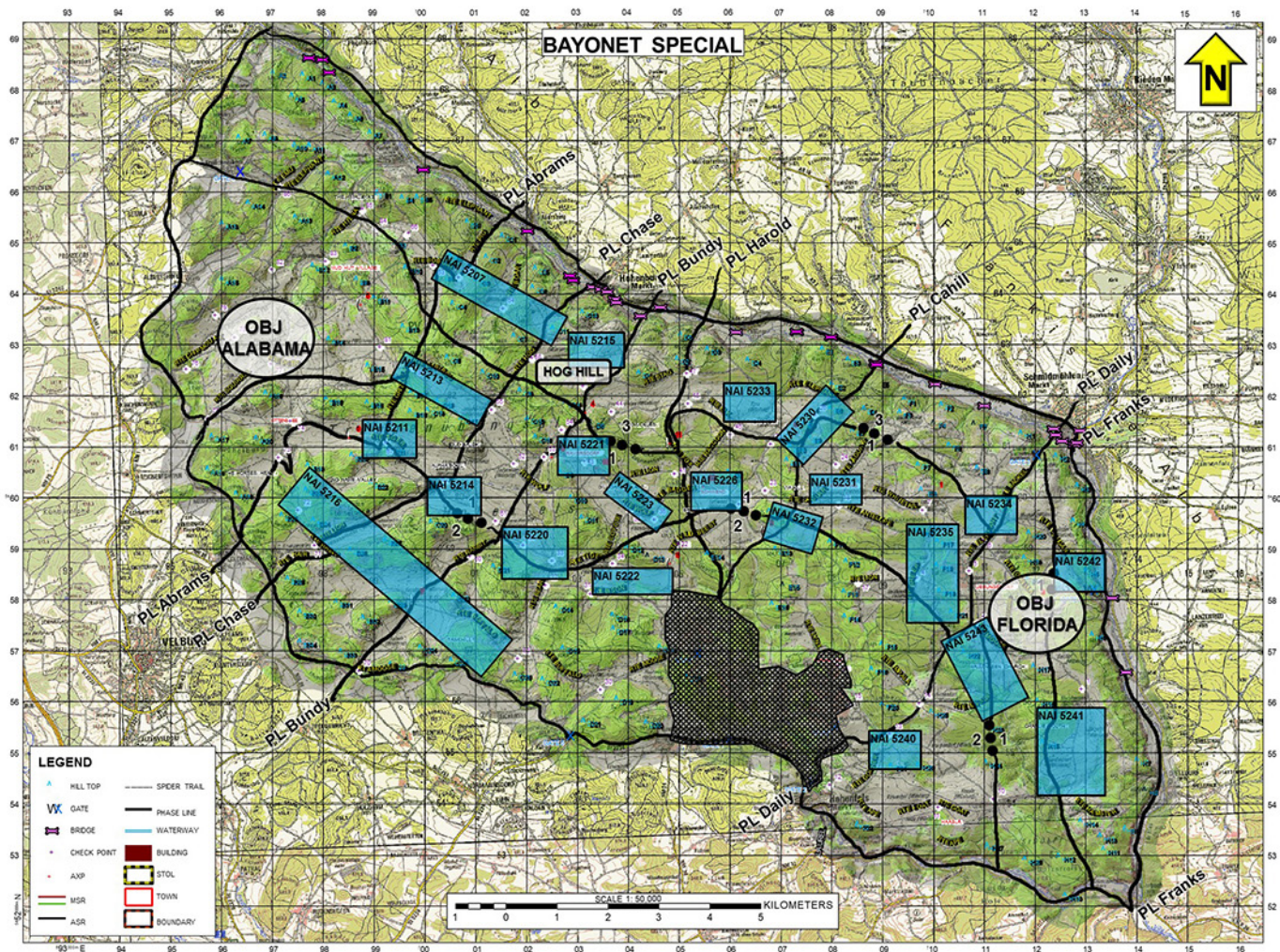


Figure 1. Map of HTA with the task force's phase lines, objectives, NAIs and Anvil Troop's platoon boundaries. (Map by CPT Doni Wong)





**Figure 2.** Map of HTA with the task forces' NAIs. (Mapboard by CPT Doni Wong)

using very-high-frequency (VHF) radios. The troop used Joint Capabilities Release (JCR) and satellite communications to communicate with the commander and the BISE. The CEWI-team leaders could send intelligence that required immediate attention over VHF radio while sending less urgent intelligence over JCR. The CEWI teams' employment of JCR ensured they did not burden tactical nets and could receive updated priority intelligence requirements and named areas of interest (NAIs) from the BISE. It also reduced the troop's overall electronic signature.

Also, the JCR enabled the CEWI teams to send thorough written reports to the troop commander and CEMA cell in the BISE. The CEMA cell contextualized these reports with collection from other intelligence disciplines and provided refined collection guidance to the CEWI teams.

### CEWI enables recon

The mission demanded that the troop constantly transition from security tasks (such as screen) to reconnaissance tasks (such as area and route reconnaissance). The CEWI platoon overcame this high tempo by identifying and relaying changes to the enemy situation and potential targets of opportunity.

In one such instance, as the troop approached PL Bundy during route reconnaissance, the CEWI team attached to 3<sup>rd</sup> Platoon detected enemy positions near NAI 5215 (Hog Hill). This report confirmed the task force S-2's templated enemy observation post at the same position, and it drove the troop's decision to take an alternate route to bypass Hog Hill. Third Platoon subsequently conducted forward-passage-of-lines of a company team from Task Force Eagle, comprised of one tank platoon and two infantry platoons, along

the secured route reconnoitered by the scouts. The company team then maneuvered to the target's location and destroyed the enemy while sustaining no casualties.

In another instance, while conducting a screen along PL Harold, the CEWI teams determined the location and time for an enemy resupply operation. The detection increased the range in which Anvil Troop could conduct its reconnaissance mission, as the identified location was beyond-line-of-sight. The troop used the report to process an indirect-fire mission that effectively disrupted and desynchronized the enemy's operations.

### Scouts enable CEWI

Just as the CEWI platoon enabled the troop's reconnaissance, the troop enabled CEWI operations in three ways: by providing coaching on camouflage and fieldcraft; by providing the

security necessary for sustained CEWI operations; and by conducting the route reconnaissance necessary to confidently position CEWI platforms where they could best operate.

Anvil Troop learned the importance of camouflaging the CEWI teams during Exercise Bayonet Guard in January 2018. Though the CEWI teams employed their systems competently, they lacked expertise and experience with mounted movement and maneuver. This issue required immediate attention, as the mine-resistant ambush-protected all-terrain vehicles (M-ATVs) and their multiple antennae possess a unique physical signature and present a high-value target (HVT) for the enemy.

Anvil Troop coordinated with the CEWI platoon before beginning operations to adequately camouflage the M-ATVs and discuss tactically sound routes. The CEWI platoon, without hesitation, learned the Anvil Troop

vehicle-camouflage standard operating procedure (SOP) and applied it to their M-ATVs. This early coordination ensured that the M-ATVs avoided detection at any point during the JWA.

As previously noted, during Bayonet Guard the unmanned CEWI platoon struggled to simultaneously conduct collection and security tasks. Therefore, Anvil Troop responded by adopting the practice of keeping its scouts near CEWI positions. The scouts assumed the responsibility of local security to best enable CEWI intelligence collection, which in turn helped drive the scouts' scheme of maneuver, including



**Figure 4. The CEWI team operates while remaining hidden from visual contact, often within 500 meters or less of enemy positions.** (U.S. Army photo by CSM Paul Fedorisin)

counter-reconnaissance. This symbiotic relationship explains much of Anvil Troop's success.

Third, Anvil Troop reconnoitered routes ahead of the CEWI attachments, mitigating the M-ATV's cumbersome mobility and lack of stealth. It also aided the CEWI teams' ability to position themselves on advantageous terrain. Finally, it allowed the platoon and troop to maintain momentum instead of slowing down for a mired M-ATV or turning around at a dead end.

## Acting on CEWI intel

Throughout JWA, the troop had to decide how it would act on the intelligence its CEWI assets provided. The troop's chosen courses of action (CoA) fell into four categories: continue to monitor, employ indirect fires, conduct electronic attack and conduct a direct ground attack.

The first CoA was to continue gathering intelligence through the vulnerability exploited to acquire a higher payoff target without the risk of the enemy detecting the Blue Force's (BLUFOR) collection efforts. For example, ahead of the final assault onto Objective Florida, Anvil Troop recommended no direct action be taken on intelligence that indicated a meeting location between two leaders. As a result, this decision enabled the CEWI team to continue its collection mission; the CEWI team learned where the opposing force's daily resupply would occur.

The second CoA leveraged indirect fires in an effort to neutralize the



**Figure 3. A CEWI team's M-ATV conducts surveillance and collection missions while hidden near the forward-line-of-own-troops (FLOT).** (U.S. Army photo by CSM Paul Fedorisin)

target or disrupt the enemy's operations. This was best accomplished using a UAS asset as a primary observer for clearance of fires against static positions such as a battle position or a logistical or mission-command node. Defensive positions are preferred targets because indirect fires will not have to chase a moving target, and they provide a high payoff by disrupting the enemy's defenses or supporting efforts without unmasking BLUFOR ground forces.

In the third CoA, the CEWI teams conducted an electronic attack to desynchronize enemy maneuvers and/or deny their ability to report on BLUFOR actions to adjacent or higher units. This was best implemented during enemy offensive operations or right before a BLUFOR attack. The ground commander assumed risk with this CoA because the CEWI team conducting the electronic attack radiated a strong, constant signal and became vulnerable to enemy collection and countermeasures.

The fourth and final CoA available to the maneuvering unit upon receipt of CEWI intelligence was to conduct a direct ground attack. This was particularly prudent when the destruction of an HVT was a priority or when indirect fires were not practical or available. Anvil Troop achieved decisive action when acting upon this fourth option during the JWA. While screening on PL Daily prior to the task force's seizure of Objective Florida, the CEWI platoon detected the enemy's assembly area location, scheme of maneuver and execution timeline. After reporting this intelligence to the task force, the troop identified that the target location was located between the FLoT and the main body, posing a serious threat to the task force and eliminating indirect fire as a feasible CoA.

The troop instead maneuvered two platoons to attack the assembly area. One platoon conducted the assault, and the second one provided support by fire. Owing to rapid collection of and action on the intelligence, the troop conducted the attack while the enemy maintained minimal security in its assembly area conducting priorities of work, so the enemy could not muster a counterattack on the task force.

This action was a prime example of dynamic targeting using the "find, fix, track, target, engage and assess" methodology at the troop level while maintaining situational awareness for the task force.

## Current limitations

Currently, the three main limitations are the size of the M-ATV and its mobility, its large target signature and its dependency on external security.

The CEWI platoon's current vehicle configuration employs M-ATVs. While the M-ATV provides the crew with some protection and mobility, when maneuvering off-road or through the woods, the platform becomes restricted. At times during the JWA, the M-ATVs could not follow the scouts to which they were attached because humvees could traverse terrain inaccessible to M-ATVs. To adapt, the scouts conducted route reconnaissance ahead of their attached CEWI teams and then pulled the teams forward on known passable routes.

To decrease the CEWI's vehicle signature, the scouts assisted the CEWI

teams in camouflaging their vehicles. The scouts also shared their SOPs and lessons-learned on vehicle emplacement into hide sites.

In addition to the M-ATV's size, SIGINT and EW activities that the CEWI teams conducted broadcast a significant signature over the electromagnetic spectrum. This makes the teams susceptible to enemy collection efforts. Therefore it's critical for the team and the command it supports to understand the risk they assume when the CEWI team executes different SIGINT and EW tasks.

As stated before, the CEWI teams rely on an external security element, especially when positioned near the FLoT. At this point in the CEWI platoon's training glidepath, the MiCo commander and CEWI platoon leadership prioritized system cross-training and reporting over tactical combat skills. Because of this, the team relied on good visual camouflage, disciplined use of their EW equipment and a maneuver unit to provide security to maximize their capabilities and survivability.



**Figure 5. The 1-91 Cavalry camouflage SOP requires all lights and reflectors to be taped, burlap to be placed over the headlights and foliage applied to break up the geometric outline of the vehicle. (Photo by CSM Paul Fedorisin)**

## Way ahead

The JWA validated the CEWI-platoon concept and the benefit of its early integration with ground reconnaissance units. The teams met the brigade commander's intent by locating enemy emitters, succinctly communicating their locations across multiple spectrums to the commander and providing the commander with options for enemy signal disruption. A sustained habitual relationship with 1-91 Cavalry Squadron, specifically with Anvil Troop, will only increase the brigade reconnaissance enterprise's efficiency and effectiveness over time.

When afforded time to train together, SIGINT and EW Soldiers grew as a team and gained trust in one another and their equipment. Future cross-training during the next 12-18 months may enable the brigade to field more teams. The complementary capabilities of the VROD, VMAX and PRD-13 dismounted systems underscore the utility of CEWI consolidation. The NET/NEF of the VROD and VMAX should be sustained, and units should send both military-occupation specialty 29-series and 35-series Soldiers to training.

The mounted EW systems, however, require further development and testing. The M-ATV platform should be replaced by a more mobile vehicle that has a similar visual signature to scout vehicles. The 173<sup>rd</sup> IBCT (Airborne) fielded two Razor vehicles in July 2018 equipped with more electronic-search and electronic-attack equipment. Future fielding of new CEWI equipment, however, must incorporate a unit testing phase before deployment to a major training exercise.

The brigade received the prototype Saber Fury and Raven Claw systems in late March 2018 and executed its JWA three weeks later. Unfortunately, the field-service representatives (FSR) attempted a software upgrade to both systems the day before the JWA's execution, resulting in more system complications. Thus, the systems' capabilities did not meet the unit's expectation. Also, the systems were fielded with laptop and Medusa cable shortages that prevented the BISE from pulling all the data collected by the forward teams. Abundant FSR support

during the JWA mitigated several of the Saber Fury and Raven Claw issues, but a rapidly deployable unit will not always have the luxury of FSR support in a deployed environment.

The CEWI platoon is participating in the brigade combat-training-center rotation, Exercise Saber Junction 18, which started in September at HTA. The brigade once again attached the platoon to 1-91 Cav. The platoon's training priorities are focused on:

- Refined communications practices and reporting formats;
- Integrating the Puma UAS systems that were fielded in early April 2018; and
- Integrating the Razor vehicles.

The UAS systems elevate the CEWI platoon into a multi-sensor team concept, leveraging UAS to target and integrate fires. The long-term plan for the CEWI platoon will involve sending the platoon leadership and squad leaders to the Reconnaissance and Surveillance Leader's Course and all platoon members to the Low-Level Voice Intercept Operators' Course.

The CEWI platoon concept has progressed significantly since its first employment in October 2017, and with proper training and equipping, it will function as an optimal force multiplier within the brigade's reconnaissance enterprise.

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## Notes

<sup>1</sup> U.S. Army Intelligence Center of Excellence, **Integrated Intelligence and [CEMA] Operations at Echelons Corps and Below: Multi-Functional Intelligence and Electronic Warfare Concept of Operations**, Version 1.0, Dec. 21, 2017.

## ACRONYM QUICK-SCAN

**ABOLC** – Armor Basic Officer Leader's Course  
**AO** – area of operations  
**BISE** – brigade intelligence-support element  
**BLUFOR** – Blue Force  
**CEMA** – cyberspace electromagnetic activities  
**CEWI** – combat electronic warfare intelligence  
**CoA** – course of action  
**CST** – cryptologic support team  
**EW** – electronic warfare

**FLoT** – forward-line-of-own-troops  
**FSR** – field-service representative  
**HTA** – Hohenfels Training Area  
**HVT** – high-value target  
**IBCT** – infantry brigade combat team  
**JCR** – Joint Capability Release  
**JWA** – joint warfighter assessment  
**M-ATV** – mine-resistant ambush-protected all-terrain vehicle  
**MiCo** – military-intelligence company  
**NAI** – named area of interest  
**NEF** – new-equipment fielding  
**NET** – new-equipment training

**OIC** – officer in charge  
**PL** – phase line  
**SIGINT** – signals intelligence  
**SOP** – standard operating procedure  
**TOC** – tactical-operations center  
**UAS** – unmanned aerial system  
**USMA** – U.S. Military Academy  
**VHF** – very high frequency  
**VMAX** – VROD Modular Adaptive Transmit  
**VROD** – Versatile Radio Observation and Direction

# 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.

**ADAMS, JAMES F. PVT**

Unit: Company D, 1st West Virginia Cavalry. Place and date of action: Nineveh, VA, Nov. 12, 1864. Born: Cabell County, VA. Date of issue: Nov. 26, 1864. Citation: Capture of flag of 14th Virginia Cavalry (CSA).

**ANDERSON, CHARLES W. PVT**

Unit: Company K, 1st New York (Lincoln) Cavalry. Place and date of action: Waynesboro, VA, March 2, 1865. Born: New Orleans, LA. Date of issue: March 26, 1865. Citation: Capture of unknown Confederate flag.

**ANDERSON, EVERETT W. SGT**

Unit: Company M, 15th Pennsylvania Cavalry. Place and date of action: Crosbys Creek, TN, Jan. 14, 1864. Entered service: Philadelphia, PA. Born: Louisiana. Date of issue: Dec. 3, 1894. Citation: Single-handedly captured Confederate BG Robert B. Vance during a charge upon the enemy.

**ANDERSON, THOMAS CPL**

Unit: Company I, 1st West Virginia Cavalry. Place and date of action: Appomattox Station, VA, April 8, 1865. Born: Washington County, PA. Date of issue: May 3, 1865. Citation: Capture of Confederate flag.

**ARNOLD, ABRAHAM K. CPT**

Unit: 5th U.S. Cavalry. Place and date of action: Davenport Bridge, VA, May 10, 1864. Entered service: Bedford, PA. Born: March 24, 1837, Bedford, PA. Date of issue: Sept. 1, 1893. Citation: By a gallant charge against a superior force of the enemy, extricated his command from a perilous position into which it had been ordered.



# Reconnaissance and Surveillance Leader's Course Enables Scout Squads' Success

by promotable CPT Joshua J. LaFleur

A well-positioned scout element can shape future operations or alter the course of a battle with proper observation, reporting, fires employment and the integration of enablers. To prepare these scouts, the Reconnaissance and Surveillance Leader's Course (RSLC) at Fort Benning, GA, trains its students to serve as a commander's insurance policy that mitigates risk when employing scout squads and teams.

RSLC students are taught to move to a position of relative advantage, report information to the commander and employ operational techniques to increase their survivability. As such, the course's mission is to develop the combat-arms-related functional skills of officers and noncommissioned officers whose primary focus is to conduct reconnaissance and security (R&S) operations.

RSLC remains the capstone school for scout-squad leaders in all types of brigade combat teams (BCTs). The skills taught at RSLC are still necessary for any small element to extend the security zone. The knowledge taught in RSLC, originally designed for units operating up to 180 kilometers forward, is now just as applicable to current formations operating within supporting fires. The requirement for these trained, dismounted recon leaders has increased due to the significant changes to cavalry organizations and scout platoons transitioning to the 6 (platform) x 36 (Soldiers), or 6x36 model, that supports additional dismounted scout squads.

Despite the increased requirement for dismounted recon leaders, there are some people who question the requirement for RSLC. They cite the Army's deactivation of long-range surveillance (LRS) units as a reason to discontinue the RSLC requirement. Contrary to this perception, organizational changes in all BCT types have increased the need for dismounted R&S missions, especially since peer adversaries will challenge U.S. dominance in electronic

and unmanned surveillance capabilities. That expected challenge is why the Army recognized the need to increase proficiency in these fundamental R&S skills among its infantry brigade combat teams (IBCTs), Stryker brigade combat teams (SBCTs) and armored brigade combat teams (ABCTs). The increased proficiency in these skills – trained at RSLC – will enhance effectiveness and survivability across the various types of units in the force.

## The course

RSLC is a physically and mentally demanding course where one block of instruction builds on the previous one, resulting in a multi-day, graded field-training exercise (FTX). Students answer the commander's priority information requirements in both urban and austere woodland environments. They are evaluated on high frequency (HF) beyond-line-of-site radio communications, which enable them to maintain contact with their higher headquarters regardless of terrain and distance.

Student teams conduct detailed mission planning, emphasizing intelligence preparation of the battlefield and contingencies. They learn the importance of reporting useable information by

using techniques to collect information accurately, report the facts and quantify each report with imagery. Detection avoidance is integral in every aspect of the course from squad-movement techniques, camouflage and reduced emissions from radio-wave frequencies.

RSLC students are trained to excel in denied operational environments. They are prepared for encounters where systems are jammed or must be turned off to avoid electronic targeting, and they must operate within the commanders' intent when communications with headquarters are severed.

RSLC prepares students to operate in a small-team environment and to be skilled, adaptive and confident. Upon the successful completion of the 33-day course, graduates are authorized the 6B additional-skill identifier (ASI).

The target audience for RSLC is scout-squad leaders and team leaders. It is open to 33 military-occupation specialties (MOSs) and to the Army's sister services, but it primarily trains infantry (65 percent) and armor/cavalry scouts (15 percent). The other 20 percent of RSLC students are comprised of Special Operations Forces (5 percent), as well



**Figure 1. A three-man element conceals itself in a sub-surface surveillance site while observing its objective. (U.S. Army photo by CPT Josh LaFleur)**

as field artillery, signal corps and military-intelligence Soldiers. The course is part of the leadership progression for 19- and 11-series MOS scouts who are directly responsible for training and execution (sergeants or staff sergeants), or for those who will plan for and employ scout platoons and companies (second lieutenants to captains).

## Small-unit tactics

RSLC emphasizes camouflage, concealment, counter-tracking and small-unit tactics that enable scouts to have the confidence to patrol undetected, increasing their survivability. Students are organized into six- to eight-Soldier scout teams early on, which allows them to develop into a cohesive unit before the FTX.

Students are free to develop their own standard operating procedures (SOP) for formations and their own order-of-movement and battle drills. Students may share techniques, with guidance from the cadre, from across the Army. The basics of camouflage and concealment are reinforced throughout each lesson as well as counter-tracking techniques, which must be implemented during the FTX.

Students learn that a team-sized element cannot just carry more firepower; its survivability depends on reducing signature, avoiding detection and integrating enablers.

## Advanced land navigation

The ability to evaluate terrain for threat and friendly use is pertinent to gaining the advantage in battle. Therefore, RSLC emphasizes unaided land navigation to counter the over-reliance on satellite technology in the force.

Students are tested on written map reading and practical-exercise land navigation, which is a cross-country course conducted in restrictive terrain on Fort Benning. To pass, students must locate five out of five points within seven hours. They will travel about 13 km while avoiding roads, carrying a 25-pound rucksack containing safety items, during good or limited visibility. Unlike typical land-navigation tests where students use roads to locate a stake in the ground hidden behind a bush, RSLC points are military vehicles

positioned on a main road and on a major terrain feature which simulates finding an objective or rendezvous point.

The intent is to ensure that those who graduate are physically indomitable, possess the critical-thinking skills to continually evaluate the situation and can focus under stress.

## Mission planning

RSLC instructs on an in-depth deliberate planning method that then allows students to better conduct troop-leading procedures (TLPs) in conjunction with their supported headquarters' rapid-decision-making synchronization process and field fragmentary order (FRAGO). RSLC seamlessly merges the higher headquarters operations process with small-unit TLPs. This deliberate planning method mitigates risk for a six- to eight-Soldier team deployed at the edge of supporting fires. Students are able to synthesize a road-to-war brief, conduct information preparation of the battlefield and plan for claymore-mine emplacement at the individual-Soldier level. The student team leader leads the planning process

through formalized briefs to the commander, following the steps of the military decision-making process. Students collaborate during mission planning by task-organizing components of the operations order based on their roles within the team.

As an example, the radio-telephone operator briefs Paragraph 5 of the operations order, including a communications primary-alternate-contingency-emergency plan and priority of antenna based on environment and communications windows. The senior scout observer develops primary and alternate routes, insertion methods and multiple contingencies for each phase of the operation. The students are evaluated on deliberate 24- to 36-hour mission-planning exercises to set an effective planning knowledge base in a garrison planning facility, as well as tested on seven iterations of rapid field planning and FRAGOs that are integrated into the FTX.

RSLC graduates provide added capability within their scout element. They are able to integrate into the battalion or squadron planning process, and they are well prepared to tailor the



**Figure 2.** Students conduct mission planning prior to the cadre-assisted situational-training exercise (STX). (U.S. Army photo by CPT Josh LaFleur)

format learned at RSLC to their home-station requirements.

## Collection and reporting

RSLC focuses on rapid, accurate reporting to the supported maneuver commander. Reconnaissance begins during infiltration, where students are expected to record military aspects of the terrain, identify potential pickup zones, conduct route assessments and recognize signs of recent activity. This information is recorded in a logbook and transmitted using standardized North Atlantic Treaty Organization (NATO) report formats, which also enhance

interoperability between units and their NATO allies.

Students construct their observation post. From it, they learn the roles and responsibilities for surveillance and hide sites. Operating from their observation post, students are taught proper techniques for efficient collection by visually organizing the objective, varying optic strength and developing naming conventions between observer and recorder. The team's information-collection plan is stress-tested during the FTX in a changing scenario involving military equipment, vehicles and people. This validates their ability to ensure useable information is accurately

reported to the command. The team must maintain continuous observation, correctly identify information requirements and send critical reports by latest-time-information-is-of-value to accomplish the mission.

## Communications

Students receive robust communications instruction during RSLC. They are introduced to radio-wave propagation and antenna theory before advancing to practical exercises in frequency modulation, HF, ultra-high frequency and tactical-satellite communications. They are taught field-expedient antenna construction and best practices based on environment, time of day and atmospheric conditions.

RSLC also emphasizes radio-frequency emissions control through scheduled communications windows, low-powered data transmissions and directional antenna that reduce the probability of detection. Students are tested on their communications knowledge as they continue to build on it before the FTX.

The knowledge that students gain in the course allows them to understand inherent platform vulnerabilities and how to optimize equipment in any company's inventory to enhance the reliability of communications.

## Survival, evasion and recovery

RSLC students are taught the basics of survival training, which gives them the confidence to extend operations to the edge of sustainment limitations. A team's survivability in a worst-case scenario depends on how well its members planned for hard and soft compromises, link-up points and coordinated for recovery. These contingencies, developed for extended evasion scenarios, must be applied when a small unit maneuvers to a position of relative advantage, potentially without direct-fire support.

Students receive rudimentary fieldcraft techniques for survival, including how to properly build hasty shelters, start fires using primitive methods, gather food and procure water. As said previously, RSLC students are also taught how to navigate without a compass by using the stars, how to build a



**Figure 3. Students send reports on the AN/PRC-150 radio with CF19 Toughbook. (U.S. Army photo by SSG Ian Redmund)**





**Figure 4. Students learn how to build a shelter from a parachute during survival training.** (U.S. Army photo by SFC Joel Rockhill)

**Figure 5, right. Students break contact during evasion training.** (U.S. Army photo by SSG Sergio Hernandez)



field-expedient compass and how to determine the constants of true north in the environment.

## Insertion, extraction techniques

RSLC provides students concrete experience in several insertion and extraction techniques so they can better plan and execute them during the FTX. The course cadre is charged by the Maneuver Center of Excellence to maintain proficiency in these specialized techniques and provide subject-matter expertise to requesting units.

Airborne-qualified students have the opportunity conduct a static-line airborne insertion with an MC-6 steerable parachute from a UH-60 Blackhawk helicopter. Military freefall personnel can also be accommodated. There are two jumps throughout the course where students progress from a non-tactical or “Hollywood” jump to a combat-equipment jump into the STX.

Unique to RSLC, students plan their own air-movement corridors and false insertions, and they coordinate directly with the UH-60 pilots. The pilots accommodate the team’s plan for either the Fast-Rope-Insertion Extraction System (FRIES) or Special-Purpose-Insertion Extraction System. Students also are taught how to properly use vehicle-drop off and vehicle-pickup procedures, using techniques to minimize their vulnerability.

## Way ahead

RSLC continues to receive international interest and often provides feedback to NATO allies on the course’s iterative training methodology and cutting-edge operational techniques. The course also has initiatives to evaluate emerging technology. Therefore RSLC incorporates cyber, electronic warfare (EW) and subterranean threats to enhance the scenario and student experience. The course is postured to provide baseline instruction for EW, cyber- and signals-intelligence leaders to deploy independently or as enablers for various reconnaissance missions.

RSLC course leaders plan to place greater emphasis on current threat vehicles, weapons and mission-command node identification. RSLC has lengthen



**Figure 6. The team leader coordinates an air-movement corridor and false insertion with the UH-60 pilot prior to the FRIES insertion. (U.S. Army photo by SSG Sergio Hernandez)**

**Figure 7, right. A team inserts into the FTX via FRIES. (U.S. Army photo by CPT Josh LaFleur)**



ed the course to 33 days to provide training and/or retraining to students in land navigation because there has been a measurable decline in proficiency in unaided land navigation in the operational force due to current reliance on Global Positioning System (GPS) assistance.

There is a loyal customer base from IBCT and SBCT scout platoons, who have recognized an increased requirement for ASI 6B qualified leaders. A broader audience in cavalry squadrons in ABCTs and CABs is emerging, particularly with the transition to the 6x36 scout platoon model and its associated increase in the need for dismounted scout squads.

## Conclusion

RSLC remains the Army's premier dismounted reconnaissance course that trains leaders to find, collect and report in support of the commander's information-collection plan and reconnaissance guidance. The course institutionalized the enduring lessons developed from the long-range reconnaissance patrols in Vietnam, the former reconnaissance and commando, also known as RECONDO, schools and LRS units. Core lessons originally developed from Vietnam are just as relevant on the modern battlefield, even as technological advancements emerge globally.

RSLC-trained leaders mitigate risk for a maneuver commander's R&S operations while increasing overall effectiveness. Commanders still need to gain and maintain enemy contact using the smallest element possible, and they must be able to trust their dismounted scouts with more responsibility to survive, fight and win on the battlefield. RSLC remains the key to ensuring the maneuver commander's trust in the scouts.

RSLC is located at Camp Cornett, "the Recon Compound," on Fort Benning, home of the headquarters for the Department of Reconnaissance and Security, which includes the Army Reconnaissance Course and Cavalry Leader's Course (CLC). More course information can be found on the Fort Benning Website or on Facebook.

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## ACRONYM QUICK-SCAN

<b>ABCT</b> – armored brigade combat team	<b>LRS</b> – long-range surveillance
<b>ASI</b> – additional-skill identifier	<b>MOS</b> – military-occupation specialty
<b>BCT</b> – brigade combat team	<b>NATO</b> – North Atlantic Treaty Organization
<b>CAB</b> – combined-arms battalion	<b>R&amp;S</b> – reconnaissance and security
<b>CLC</b> – Cavalry Leader's Course	<b>RSLC</b> – Reconnaissance and Surveillance Leader's Course
<b>EW</b> – electronic warfare	<b>RUT</b> – resident unit training
<b>FRIES</b> – Fast-Rope-Insertion Extraction System	<b>SBCT</b> – Stryker brigade combat team
<b>FRAGO</b> – fragmentary order	<b>SOP</b> – standard operating procedure
<b>FTX</b> – field-training exercise	<b>STX</b> – situational-training exercise
<b>HF</b> – high frequency	<b>TLP</b> – troop-leading procedure
<b>IBCT</b> – infantry brigade combat team	
<b>Km</b> – kilometer	

# Training Opportunities

RSLC is able to export training to Active or National Guard units while tailoring it to the customer's requirements. Most recently (June 2018), a cavalry squadron in 82<sup>nd</sup> Airborne Division requested resident unit training (RUT) at Fort Benning, with another session scheduled in September 2018.

Instructors routinely export menu-based training (MBT) at the unit's request. Units have recently included the North Dakota National Guard, Fort Hood, TX, and Fort Bragg, NC.

There are seven resident courses for Fiscal Year 2019, accepting 40 students per class.

### RUT:

- Unit "buys out" a class and executes it at Fort Benning.
- RSLC will tailor the lesson plan to the unit's training objectives.
- RSLC can use the supported unit's communications and digital imagery-collection equipment.
- The training task-organizes organic teams to develop the unit SOP.
- The training gives credit toward Objective-T requirements.

### MBT:

- The unit selects portions of the lesson plans to train at home station; the plan is tailored to unit requirements.

- Three to five days for the training are optimal.
- Training most requested is HF communications, field-expedient antenna, surveillance-site construction and small-unit tactics.
- This option is attractive to units who have a high operational tempo and deployment cycles.

**Observer/controller support.** The unit requests experienced cadre to assist validation in home-station consolidated training.

**Mobile training team.** Executed at supported unit's home station (ASI-producing).

# Observations from Army Reconnaissance Course

by CPT Patrick M. Zang

Significant transformation came to the Army Reconnaissance Course (ARC) during the last 16 months. Part of this was command-directed to help emphasize reconnaissance and security (R&S) operations across the Army. A second part resulted from 3<sup>rd</sup> Squadron (Blackheart), 16<sup>th</sup> Cavalry Regiment, aligning itself more with the Army's University Model and the subsequent organizational structure change.

The Blackheart Squadron created the Department of Reconnaissance and Security (DoRS) that now manages the following courses:

- Reconnaissance and Surveillance Leader's Course (RSLC);
- ARC;
- Cavalry Leader's Course (CLC); and
- Small Unmanned Aerial Systems Master Trainer Course.

The DoRS concept continues R&S training throughout the development of leaders. RSLC is designed for team and squad leaders; ARC for platoon-level leaders; and CLC for troop and squadron leaders. In conjunction with this change, the ARC pendulum swung from training section and platoon leaders to focusing solely on platoon-level leaders (staff sergeants to first lieutenants).

The change to ARC was codified into the officer corps when ARC became a requirement for all Armor Branch lieutenants, according to Department of the Army (DA) Pamphlet (PAM) 600-3, Paragraph 4a(1), dated June 2017. However, this directly contradicts the ARC prerequisites in the Army Training Requirements and Resource System (ATRRS), which state that to attend ARC, "one must be serving in or projected to serve in a reconnaissance billet." Currently there are commanders at the highest echelon emphasizing the requirement in DA PAM 600-3. However, no such champion exists for the noncommissioned officer (NCO) corps to emphasize the ARC requirement.

Despite the conflict between DA PAM 600-3 and ATRRS pertaining to ARC, a fundamental change will occur within the NCO ranks regarding the course in Fiscal Year 2020. Historically, the platoon-sergeant position has contained a positional additional skill identifier (ASI) for ARC. In accordance with the Chief of Armor's initiatives and directives, the positional ASI will shift to reflect two staff sergeants per scout platoon across the Army effective Oct. 1, 2019.

In the Active Component alone, there are 307 scout platoons (nine scout platoons per armored brigade combat team (ABCT) times 10 ABCTs; nine scout platoons per Stryker brigade combat team (SBCT) times seven SBCTs; and 11 scout platoons per infantry brigade combat team (IBCT) times 14 IBCTs). These numbers reflect the Army's organization as of Dec. 31, 2017, and include 2<sup>nd</sup> and 3<sup>rd</sup> Cavalry Regiments as SBCTs, and all airborne and air-assault brigades as IBCTs. Ultimately there are 614 staff sergeants in the Active Component who are to be ARC graduates and who are currently serving in a reconnaissance billet. The assumption is that all platoon sergeants are already ARC graduates.

The bottom line is that ARC presents a dichotomous scenario to the Army. All Armor Branch lieutenants must remain at Fort Benning, GA, until they at least attempt ARC. Simultaneously, there is a 2-to-1 ratio of NCOs to officers that according to ASIs are to be ARC graduates.

This situation presents a misconception that NCOs are unable to attend ARC due to officer needs. The reality lies in the fact that due to operations tempo and forecasting issues, the operational force has a difficult time securing a reserved seat for its NCOs. Given this, the schoolhouse at Fort Benning is able to more rapidly and easily forecast and reserve seats in ARC, thereby making the course dynamics skewed toward the officer. (Typical course dynamics are out of 60

students, 50 are officers.) The recommendation is that the same emphasis placed on officer education be placed on NCO education. The lieutenant is incapable of single-handedly changing a platoon. However, it is the NCO with years of operational experience – coupled with institutional knowledge and training – who is able to complement the young officer to greatly enhance the platoon's capability and lethality.

## Familiar components remain

While possessing a revised focus, ARC maintains many components that are recognizable across generations of leaders. The first week of the course is still Operation Bushmaster. This strenuous dismounted field-training exercise (FTX) is centered on mastery of land-navigation techniques. The culmination of Operation Bushmaster is a land-navigation star course the students must pass individually.

Upon successful completion of this atrophied (minus-10-point level) task, students enter Teach Week. Topics of instruction include:

- Reconnaissance missions and organizations;
- Intelligence preparation of the battlefield (IPB);
- Evaluating routes and obstacles;
- Zone reconnaissance and screen operations;
- Air-ground operations;
- Indirect-fires (IDF) planning; and
- Continuous reconnaissance (managing the transition between R&S/fighter management).

Students are then given a troop-level operations order (OPORD) they must subsequently prepare to deliver in a one-on-one setting. ARC premises its OPORD assessments on the CLC model; it is a tactical-decision exercise, where the student is presented with a "thinking and adaptive" enemy. The student's plan must compensate for this enemy's actions to succeed. Rather than merely "checking the block"

and putting words on every sentence in their respective OPORD shell, the student is challenged to adhere to R&S fundamentals at all times.

The last week-plus of ARC is field time in the form of two FTXs: Operation Eagle Eye (the tactics and fieldcraft of being a scout, coupled with smaller, more manageable missions in accordance with the Army's crawl, walk, run training methodology) and Operation Last Stand, a seven-mission FTX encompassing most Fort Benning training areas and built on a 12-hour timeline (five hours for troop-leading procedures (TLPs), six hours for execution and one hour for an after-action review and reset).

During Operation Last Stand, the students are not provided with dedicated "sleep" time and must execute area-reconnaissance, zone-reconnaissance, route-reconnaissance, screen and area-security missions. The threat is ever-evolving given emerging tactics, techniques and procedures learned from the Army's combat-training centers (CTCs), open-source intelligence and media sources. Areas of threat emphasis consist of (but are not limited to):

- Red unmanned aerial systems (UAS) serving as observers for massed indirect-fires attacks;
- Contested electronic-warfare environment; and
- In accordance with the U.S. Army's understanding of Russian new-generation warfare, the use of hybrid maneuver (conventional uniformed forces conjoined with non-state, non-uniformed "proxies").

Some of the noticeable changes implemented in the course include:

- No requirement for an airborne physical;
- No Army Physical Fitness Test administered;
- Entrance examination conducted on Day 1 focused on operational terms and graphics, land navigation, R&S doctrine and vehicle identification; and
- OPORD assessments.

Given the fact that ALC is a course prerequisite for NCOs, units that send their NCOs to the course should make a concerted and dedicated effort to prepare their Soldiers accordingly. All study materials and an OPORD shell is

offered on the course Website: <http://www.benning.army.mil/Armor/316thCav/ARC/>.

The following sections will serve as compilation of observations of areas of difficulty for junior leaders, coupled with recommendations and resources to rectify the situation. Also, most identified issues coincide with areas identified during the 2017 Gainey Cup competition.

## Communications/ reporting

There is, and always will be, the requirement for scouts to communicate effectively using beyond-line-of-sight (BLOS) communications systems. Unfortunately, this is another skill that has atrophied due to the proliferation of new technologies (such as Force XXI Battle Command Brigade and Below and Joint Capabilities Release, the Army's next-generation friendly-force tracking system currently fielded to Afghanistan), and a superiority in communications and technology compared to our adversaries for the past two decades. With this challenge in mind, the use of standardized reporting formats (see Army Technical Publication (ATP)

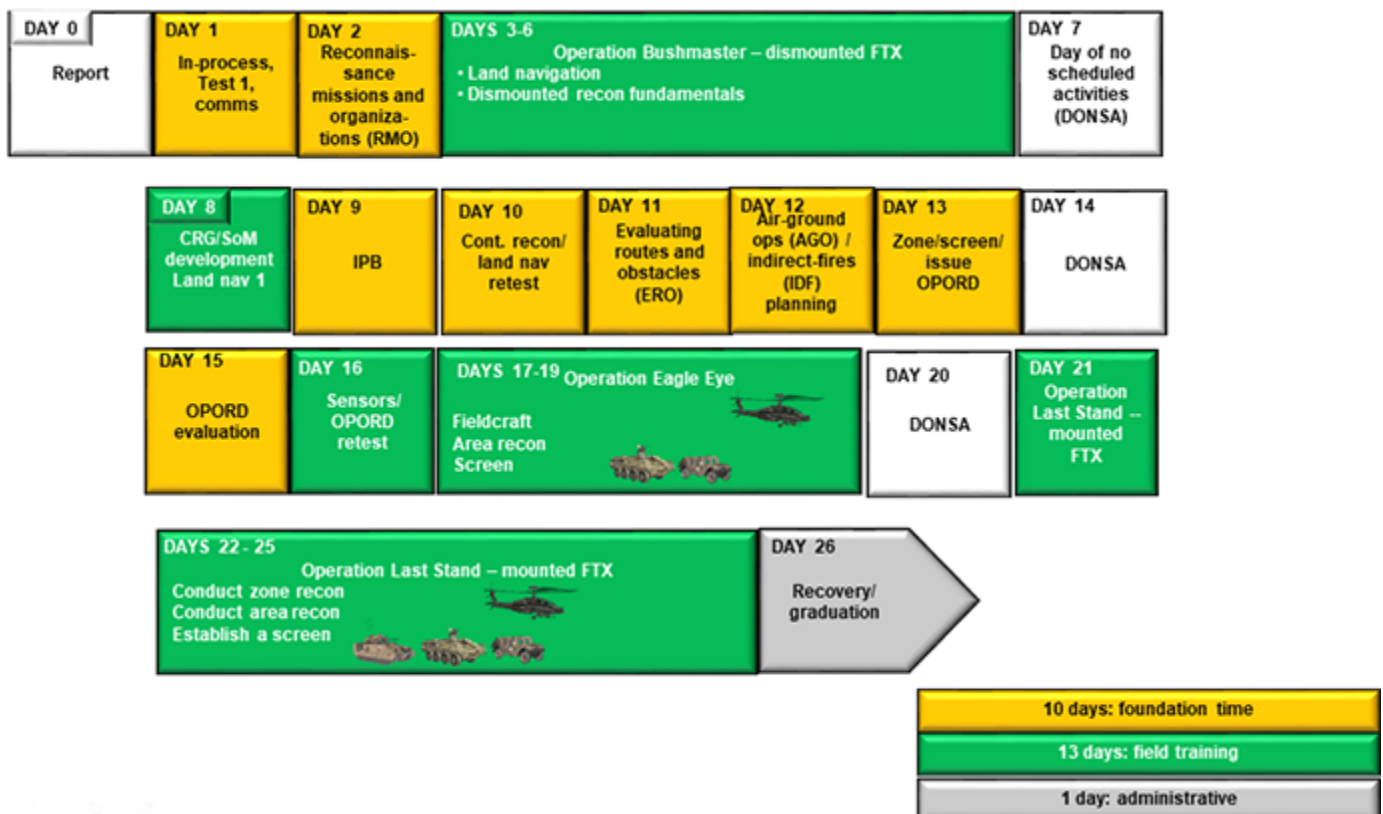


Figure 1. ARC course map.

3-20.98, **Reconnaissance Platoon**, Appendix A), communications windows and radio systems beyond mere frequency modulation (FM) are simple fixes that platoon-level leaders can implement during Sergeant's Time training to increase platoon capacity and lethality.

The reconnaissance community encourages scouts to use someone else's bullets to bring an effect against the enemy. Therefore, a scout who cannot communicate with the fires direction center, the fires battalion main or the squadron main is useless to the commander. To improve communication abilities, ARC introduces students to high frequency (HF) radios. By no means is an ARC graduate a master of the HF radio. However, the concepts and capabilities introduced during the course resound across monthly observations from the CTCs and the Center for Army Lessons-Learned (CALL).

It is a matter of tribal lore that the scout's best weapon is the radio. Therefore, a scout must possess the capability to communicate BLOS to bring effects against the enemy and provide options – and thereby an advantage to the commander. It is opined that many shy away from the HF radio due to its complexity. CALL Handbook 17-20 is readily accessible and presents a step-by-step how-to guide for all the Army's common radio systems. Many commanders keep a copy of this handbook in their vehicle at all times, and all ARC students are provided a hard copy of this invaluable resource.

## Land navigation

Platoon-level leaders struggle to understand the ever-changing dynamics of the modern battlefield, more specifically the threat's capability to institute a contested electromagnetic spectrum. It is open-source knowledge that during the conflict in Ukraine, Russia and/or its proxies spoofed Ukrainian Global Positioning Systems, causing a violation of international territory and a massive retaliatory Multiple Launch Rocket System attack on an entire battalion.

A simple remedy for this type of threat is to move beyond the 21<sup>st</sup>-Century reliance on technology and return to the basics of a map, compass and

protractor. That's why the preceding course overview makes it clear that ARC emphasizes land navigation, terrain association and route planning. For example, students are challenged physically and mentally to plan and execute a route focused on their understanding of terrain association, time-distance analysis, backstops, attack points, catching features and the ability to self-locate during Operation Bushmaster.

The Army recognizes that land navigation is a perishable and vital skill, yet training geared toward keeping this skillset fresh in the minds of Soldiers is lacking. A perceived problem is overreliance on technology during the Iraq/Afghanistan fights. Leaders have become complacent due to informational and technological overmatch. This complacency allowed an erosion of the basics.

One of those basics, unaided land navigation across uneven terrain, is the hallmark of military operations. Scouts who are unable to successfully navigate put themselves at risk and detract from their unit's combat power. Furthermore, the mission of the scout is to be in the right place at the right time, able to collect information to answer a priority intelligence requirement (PIR), allowing the commander to make a timely and accurate decision. To facilitate proficiency among scouts, basic skills like determining road distance, elevation based on contour lines, intersection, resection and understanding the G-M angle are concepts that must be strongly revisited – if not taught from scratch – among students.

## Actions on contact

Given the dichotomous nature of the Armor Branch (tank and scout), many students struggle to grasp the concept of making contact on "your" terms and with the smallest element. There is a prevailing infantry-centric mindset in which a "knife fight" is the preferred method of contact. However, it is important to understand that as scouts, one of the fundamentals of reconnaissance is to gain and **maintain** contact with the enemy. There are eight forms of contact. Given this, it is acceptable and within the bounds of doctrine to make contact with the enemy from a

purely observational perspective. This enables the scout element to retain freedom of maneuver and maintain contact with the enemy while continuing to orient on the reconnaissance objective and answer PIR for the commander.

When it comes to contact with the enemy, we stress to our students that the primary-alternate-contingency-emergency (PACE) plan is not solely limited to Paragraph 5 of the OPORD. It is critical to develop, brief and understand a PACE plan in everything we do. More specifically, during the scheme-of-maneuver (SoM)-development portion of the OPORD process, the scout leader must account for all enemy templated on the situational template.

Also, scouts need to possess more than one way to account for said enemy. This doesn't mean there must be four proposed means to handle the enemy presented, but there needs to be more than one course of action (CoA) with a plan. For example, if the enemy is templated to possess an observation post, the scout's primary means may be through an indirect-fires target from the artillery battery. The alternate CoA could be an indirect-fires target from the troop mortar section; the contingency CoA could be direct-fire weapons systems from the mounted element; and the emergency CoA could be from a dismounted M240L light machinegun from a scout squad.

Another challenge among scouts today is a distinct lack of emphasis on dismounted operations. Platoon-level leaders must plan and account for their dismounted element. They must understand that dismounts are not mere "crunchies" in the back of the vehicle. They are combat multipliers capable of extending the width of the screen, capable of stealthily infiltrating to a named area of interest in support of an area reconnaissance or capable of clearing an intervisibility line (a relative, localized, pattern of limitations on observation, caused by (often subtle) variations in terrain elevation) to provide better local security for the mounted element.

## TLPs

Armor and cavalry doctrine is distinctly lacking when it comes to a how-to

guide and an adequate explanation of TLPs. Field Manual (FM) 3-21.10, *Infantry Rifle Company*, Chapter 2, is a 56-page breakdown of the TLPs. Armor and cavalry manuals currently consist of little more than a listing of the TLPs' eight steps. This void in armor and cavalry doctrine stunts the growth of our junior leaders.

Upon graduation from Armor Basic Officer Leader's Course (ABOLC) and ARC, operational-force commanders should expect these young officers to be, at a minimum, a "P" at platoon-level TLPs. The truth is far from this, however. Young leaders struggle with time management and focus, providing a clear task and purpose to subordinates and conducting events simultaneously (as opposed to sequentially). As a result, leaders struggle to issue clear and concise guidance to their subordinates; instead, the entire leadership isolates itself from the entire organization in an attempt to plan by committee. To correct this, junior leaders must become proficient at decentralized planning and the issuance of FM fragmentary orders.

## Mission command

There is a fundamental misunderstanding of mission command among junior leaders. It is as if they are conditioned and trained to believe that conducting leader checks or backbriefs, asking questions, etc., are tantamount to micromanagement. However, Army Doctrinal Publication (ADP) 6-0 defines mission command as "the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower leaders in the conduct of unified land operations." I opine that mission command is the new "mission, enemy, terrain, troops available, time and civilian considerations" (otherwise known as METT-TC) of the Army, a cop-out that leaders use to shirk their responsibilities. Yes, as leaders it is understood that the goal is to provide subordinates the "what," not the "how." However, there are times when a commander is forced to exercise detailed command, or command and control.

Mission command is best achieved through trust. Trust is achieved through training. Junior leaders need

not be afraid to question their subordinates. At the end of the day, the platoon leader is responsible for everything the platoon does or fails to do. Leaders in the military are charged with one of the most awesome responsibilities that exists in the world: the care of America's sons and daughters. Given this, providing oversight, asking questions, requiring backbriefs and "micromanaging" with subordinates who have not earned "trust" should not be perceived as negative but rather as the standard.

## Commander's recon guidance

Commander's R&S guidance is the bread and butter of cavalry operations. Granted, there is no codified position in doctrine where the commander's reconnaissance guidance (CRG) is to be placed within the OPORD; however, it is the opinion of the ARC team that the CRG is an extension of the commander's Intent. It should be briefed immediately following the endstate in Paragraph 3. A second option is to brief CRG after the concept of the operations and then brief changes to the overarching CRG by phase during the scheme of maneuver.

No matter where it is briefed, it is critically important and often misunderstood. A disproportionate amount of the problem stems from

counterintuitive terms (rapid, disengage and displacement). Another problem is that the "go to" manual for a clear understanding of CRG is FM 3-98, which is viewed by junior leaders as a brigade-level manual. Cavalry doctrine provides a disservice to leaders at the squadron and below level.

Figure 2 has led scouts over the years to believe that there are solely two combinations (rapid and forceful, or stealthy and deliberate). However, this is one of the great misnomers of cavalry operations.

The following (italicized text) is from a section from Chapter 3 of the ATP 3-20.98 rewrite now pending:

*Focus defines the scout platoon's area of emphasis and can consist of one of four categories (threat, infrastructure, terrain and weather effects, and society). Providing focus enables the scout platoon to develop their scheme of maneuver and operate within the higher commander's information needs. An example of focus would be in an ABCT cavalry squadron conducting a zone reconnaissance, the lead platoon is threat-focused to provide freedom of maneuver for the trail platoon that is terrain-focused.*

*The reconnaissance focus must be further refined by the commander into reconnaissance objectives. A reconnaissance objective is a terrain feature,*

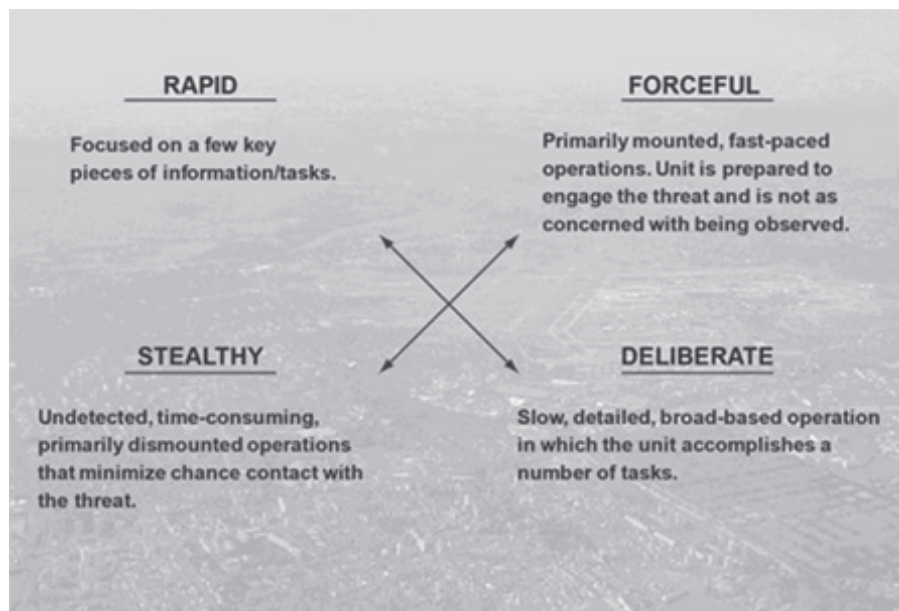


Figure 2. This graphic has been used for years in armor and cavalry doctrine to illustrate the tempo portion of the CRG. (Adapted from Figure 4-2, FM 3-98)

geographic area or an enemy force about which the commander wants to obtain additional information. The reconnaissance objective must directly support the endstate defined in the commander's Intent.

Tempo of reconnaissance refers to the level of detail and the level of covertness required by the scout platoon to best accomplish its mission. Tempo is described by four terms: rapid, deliberate, stealthy and forceful. Rapid and deliberate are levels of detail and are mutually exclusive, meaning a scout platoon cannot be rapid and deliberate at the same time. Stealthy and forceful are mutually exclusive levels of covertness, meaning a scout platoon cannot be stealthy and forceful at the same time. **Note:** The tempo of a reconnaissance operation can change by phase. Therefore, the tempo issued in the OPORD covers the breadth of the mission and not necessarily every part of the operation. When the scout-platoon leader issues his or her reconnaissance guidance, the tempo is always issued as two words. There the four distinct terms associated with reconnaissance tempo comprise four possible combinations.

**Rapid tempo** indicates that the level of detail for the reconnaissance operation is limited to a certain number of prescribed tasks or PIR. Rapid tempo has nothing to do with the speed with which the operation is conducted. An example of this would be a rapid route reconnaissance in which the commander is only concerned with the ability of

a bridge to support follow-on forces.

**Deliberate tempo** implies that all tasks of the mission must be accomplished to ensure overall mission success. An example of this would be when an organization is new to its area of operations and possesses limited information about a main route that it wishes to use as a main supply route for future operations. Given this scenario, the scout platoon would be ordered to conduct a deliberate route reconnaissance of the main supply route, following all the critical tasks associated with a route reconnaissance and creating a route reconnaissance overlay for the commander.

**Stealthy tempo** emphasizes avoiding detection and generally consists of restrictive engagement criteria. Stealthy reconnaissance takes more time and uses dismounted reconnaissance methods to maximize the use of cover and concealment to reduce friendly signatures. Stealthy reconnaissance is used when time is available, detailed reconnaissance is required, enemy threat contact is likely, or when terrain restricts the use of mounted reconnaissance elements.

**Forceful tempo** develops the situation rapidly by employing ground and air assets to develop the situation rapidly and "fight for information." Forceful reconnaissance relies on the use of standoff weapons and optics to rapidly seize the initiative and answer the commander's information needs. Forceful reconnaissance is used when

time is limited, detailed information is not required, terrain is open or when dismounted reconnaissance elements cannot answer the information requirements in the time allotted.

**Engagement criteria** are protocols that specify those circumstances for initiating engagement with an enemy force. They can be either restrictive or permissive. The scout-platoon leader must define the size and type of force he or she expects subordinate units to engage and avoid. This enables the planning of the use of direct and indirect fires. Engagement criteria must be extremely precise so as to avoid confusion. Example, if the engagement criteria for 1<sup>st</sup> Platoon issued by the commander (a scout platoon in an SBCT cavalry squadron) is nine or fewer dismounts, two or fewer boyevaya razvedyvatelnaya dozornaya mashinas (BRDMs) (Russian scout vehicle) or one boyeva mashina pekhoty (BMP) (Russian fighting vehicle), the scout-platoon leader, operating in a two-section concept, can break down the engagement criteria to the section level as follows: five or fewer dismounts, one BRDM, only engage the BMP with dismounted anti-tank weapons systems at less than 1,000 meters.

**Note:** The scout platoon must develop a PACE plan for initiating contact with the enemy. For example, if the scout platoon is to destroy an enemy BMP as part of its scheme of maneuver, the primary means to destroy the BMP may be a priority fires target from the artillery battalion. An alternate means to destroy the BMP may be using troop mortars. A contingency may be direct fire from an anti-tank weapons system, and an emergency means may be a dismounted anti-tank weapons system.

Engagement criteria needs to be thought of as the size of the enemy element that can be rapidly destroyed by the organic firepower on hand in the scout platoon. This enables the scout platoon to avoid becoming decisively engaged and retain freedom of maneuver.

**Disengagement criteria** are protocols that specify those circumstance of avoiding contact or when to disengage from a fight so as to avoid becoming decisively engaged and retain the

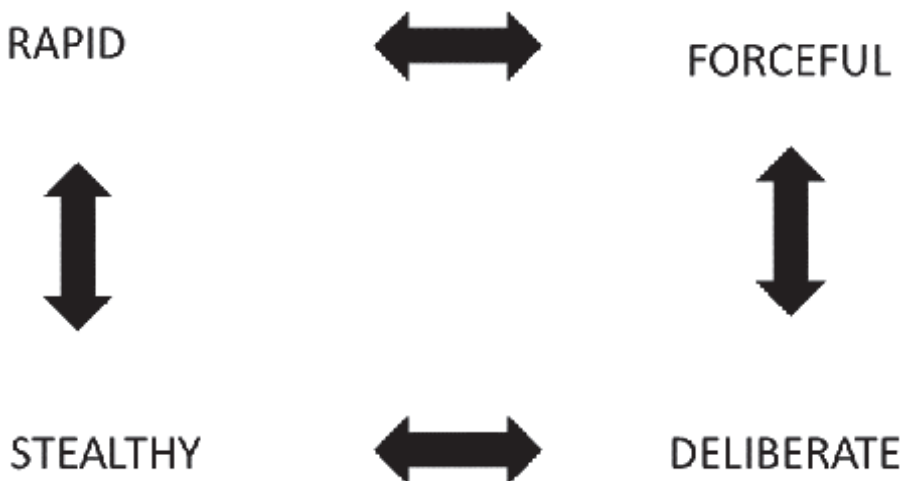


Figure 3. CRG tempo. Note that there are four tempos that can be given to a scout platoon: rapid and stealthy, rapid and forceful, deliberate and stealthy, and deliberate and forceful.



freedom of maneuver. If a scout platoon does not understand or violates its disengagement criteria, it will likely become decisively engaged and have to fight the battle to its conclusion. Using the example from engagement criteria listed above, if an individual section encounters three BMPs, they are to disengage. While the section may possess enough anti-tank weapon systems to gain a small tactical victory, the chances of becoming decisively engaged and failing to orient on the reconnaissance objective are too great. In this scenario, the scout section would seek to avoid a direct-fire engagement and move, if necessary, to an alternate location to maintain threat contact while avoiding engagement.

Displacement criteria are triggers for a planned withdrawal, passage of lines or a reconnaissance handover between units. Displacement criteria are conditions that are either event-driven (example: associated PIR being met), time-driven (example: latest-time-in-formation-of-value trigger is met) or threat-driven (example: identification of enemy reserve).

Allow Figure 4 to enhance the way we

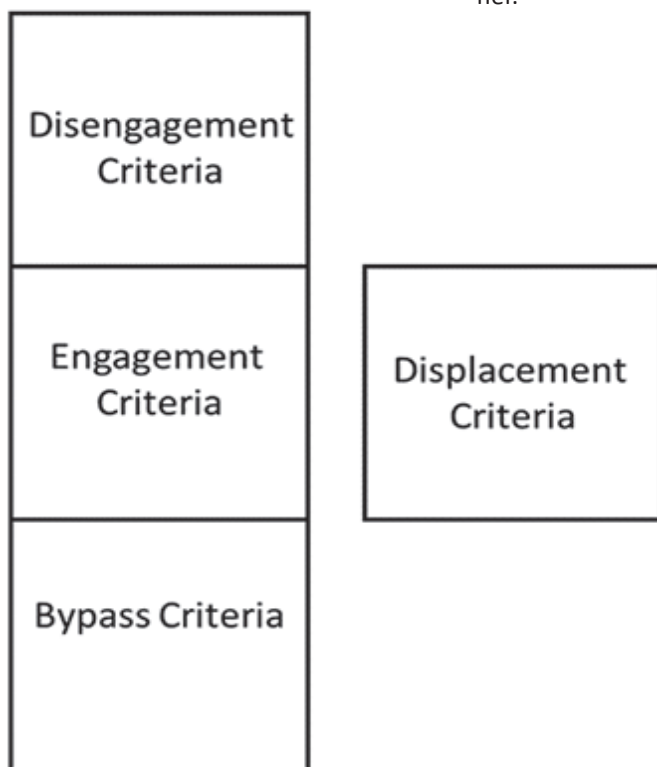


Figure 4. Disengagement criteria, engagement criteria, displacement criteria and bypass criteria.

understand CRG. The figure is to be viewed as the strike zone in baseball. Bypass criteria is the pitch below the batter's knees. While the hitter is capable of turning this pitch into something positive, it is, generally speaking, something not worth the hitter's time and therefore should be bypassed and reported. Engagement criteria, or the middle of the strike zone, are threat elements that the commander is 100-percent comfortable with the subordinate element engaging and destroying without outside assistance. Disengagement criteria can be thought of as the pitch coming straight for the batter's head. While one could stand in there and allow oneself to get "hit" in the interest of getting on base and advancing the team's ability, one could also end up in the hospital or worse. Therefore, disengagement criteria is a threat element the commander is uncomfortable with the subordinate element engaging for fear of becoming decisively engaged and requiring assistance for extrication. Lastly, displacement criteria can be easily construed as Ball 4. In essence, this is a change of mission for the hitter; he is no longer a batter in the box attempting to win his one-on-one engagement with the pitcher but instead is now a baserunner.

This nuanced athletic example is how the concept was explained to me by my CLC instructor and has demonstrated noticeable dividends when instructing ARC students.

### Platoon operating distances

Fort Benning, due to its distinctive lack of mounted-maneuver training area, presents young leaders with a false understanding of the capabilities of weapons systems and optics, and how to array their formation

across the depth and breadth of the battlefield. It is virtually unfathomable to be presented a situation on Fort Benning in which a Long-Range Advanced Scout Surveillance System mounted on a humvee can observe a target beyond one to two kilometers. Further, the restrictive and vegetated terrain severely limits the student's ability to approach anything resembling the doctrinal operating distances outlined in ATP 3-20.97, Appendix B. The notion of a cavalry troop executing a screen across an 18-kilometer front is completely foreign and unimaginable to the students.

With this in mind, operational-force leaders must account for and adjust for this deficiency. Table 1, with Figure 5, describe how.

Understand that a screen is not synonymous with a "line." The term "screen line" is yet another misnomer in cavalry doctrine and needs to be stricken from our lexicon. It is critically important to understand the necessity of depth in conducting a screen. Army Doctrinal Reference Publication (ADRP) 1-02 defines a screen as "a security task that primarily provides early warning to the protected force." As such, the platoon's ability to create depth is created by using and combining dismounted observation posts and UAS, and applying supporting range and distance to the platoon's organic-vehicle platforms. This process enables the platoon to adhere to the reconnaissance-management techniques (cueing, mixing and redundancy) while executing target and reconnaissance handovers and maximizing the fundamentals of security. This provides early and accurate warning, and it also provides reaction time and maneuver space.

### Recommendations

Operational-force commanders must rely on their ARC graduates to augment the respective formation with doctrinal knowledge to bridge the gap, concurrent with a reliance on "outdated doctrine." The ARC cadre provided a significant portion of the manpower to rewrite ATP 3-20.98. That manual is now in draft form and its publication date has not yet been determined. In the interim, some useful references are the following:

Screen width = (1/2 the maximum effective range of the weapons system) x (.75 the number of vehicles) x terrain + flank security.

Regarding the terrain portion of the formula:

- Use 1 for unrestricted;
- Use .5 for restricted; or

- Use .25 for severely restricted.
- Flank security is calculated using the maximum effective range of the weapons system.

Given the following conditions:

- An ABCT cavalry troop platoon with six Bradleys in unrestrictive terrain could screen a width of 9,750 meters

and a depth of 4,875 meters.

- Width = (.5 x 3,000) x (.75 x 6) x 1 + 3,000 = 9,750 meters.

**Note:** 3,000 is used for the maximum effective range of the M242 Bushmaster. Screen depth = width/2.

Table 1.

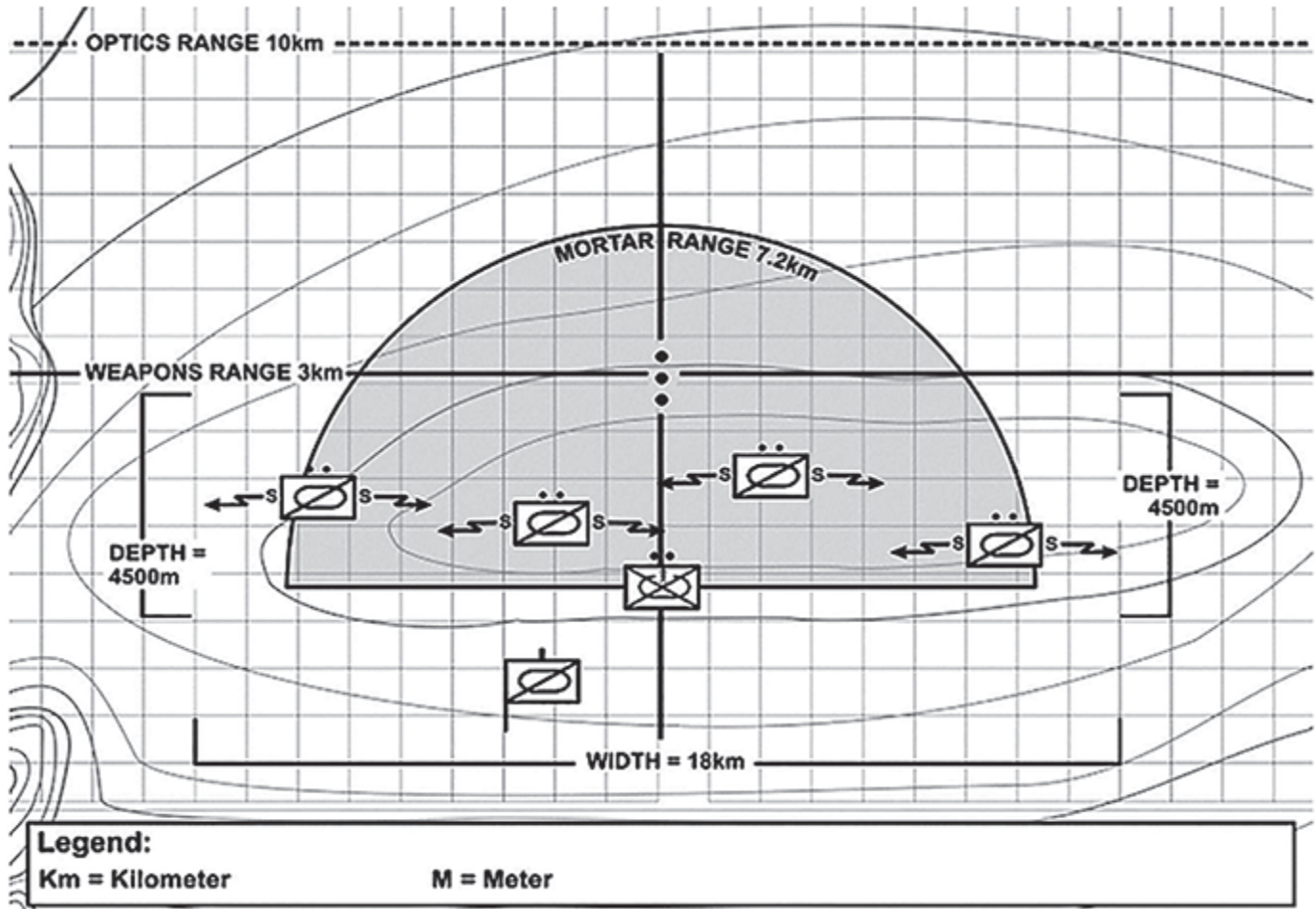


Figure 5. (Adapted from Figure B-2, ATP 3-20.97)

- FM 17-98, September 1994;
- Soldier's Manual (SM) 3-20.96, February 2017;
- FM 5-20a and 5-20b, 1944; and
- FM 21-75, 1944.

Furthermore, it is imperative for NCOs to attend ARC. Their presence enhances the course through their operational experience. Also, the NCO Education System (NCOES) has deteriorated to such a point that graduates of the Advanced Leader's Course (ALC) and

Senior Leader's Course (SLC) routinely report that they learned absolutely nothing related to their military-occupation specialty (MOS). This is a travesty of the highest degree. Given the fact that NCOs' only permanent-change-of-station move to the "schoolhouse" is for the Sergeants Major Academy, it is incumbent on leaders to ensure the most-quality training is being delivered at each step. If NCOs are not provided the opportunity to enhance subject-matter expertise in their MOS at Fort Benning during mandated

professional-development courses, where is this to occur? ARC cannot single-handedly pick up the slack for the lack of reconnaissance training in ABOLC and the abject failure of ALC and SLC to teach anything beyond the route-reconnaissance overlay.

The institutional domain is to supplement the operational domain. The Army cannot continue in its belief that the officer corps, through an over-reliance on institutional knowledge, can single-handedly change the culture of

the Army as a whole and provide the requisite emphasis and skills to bring R&S operations back to a pre-9/11 state. The NCO, the backbone of the Army, is still expected to serve as the subject-matter expert and primary developer of the young lieutenant. Therefore, a refocused and restructured approach must be undertaken.

At the end of the day, this article is merely a blend of information. Do not view this article as a shameless ploy to emphasize the importance of the course; that is not the intent. From a holistic perspective, this article is meant to inform the force and dispel rumors about what the course is and what it is not.

ARC has changed significantly, and it will continue to undertake a wholesale approach to its methodology to retain relevancy for the operational force. I ask the operational force to emphasize NCO education beyond basic NCOES

when it comes to efforts to continue the proliferation of cavalry knowledge and fieldcraft. Due to the fact that cavalry is a mindset and not a branch, it is imperative to move our doctrinal understanding forward through education, not merely the use of a “bard” style of passing tribal lore across generations.

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## ACRONYM QUICK-SCAN

**ABCT** – armored brigade combat team  
**ABOLC** – Armor Basic Officer Leader’s Course  
**ADP** – Army doctrinal publication  
**ADRP** – Army doctrinal reference publication  
**ALC** – Advanced Leader’s Course  
**ARC** – Army Reconnaissance Course  
**ASI** – additional skill identifier  
**ATP** – Army technical publication  
**ATRRS** – Army Training Requirements and Resource System  
**BLOS** – beyond-line-of-sight  
**BMP** – *boyeva mashina pekhoty* (Russian fighting vehicle)  
**BRDM** – *boyevaya razvedyvatelnaya dozornaya mashina* (Russian scout vehicle)  
**CALL** – Center for Army Lessons Learned  
**CoA** – course of action  
**CRG** – commander’s reconnaissance guidance  
**CLC** – Cavalry Leader’s Course  
**CTC** – combat training center  
**DA** – Department of the Army  
**DONSA** – day of no scheduled activities  
**DoRS** – Department of Reconnaissance and Security  
**EW** – electronic warfare  
**FM** – field manual  
**FM** – frequency modulation  
**FTX** – field-training exercise  
**HF** – high frequency  
**IBCT** – infantry brigade combat team  
**IDF** – indirect fires  
**IPB** – intelligence preparation of the battlefield  
**METT-TC** – mission, enemy, terrain, troops available, time and civilian considerations  
**MOS** – military-occupation specialty  
**NCO** – noncommissioned officer  
**NCOES** – Noncommissioned Officer Education System  
**OPORD** – operations order  
**PACE** – primary, alternate, contingency and emergency  
**PAM** – pamphlet  
**PIR** – priority intelligence requirement  
**R&S** – reconnaissance and security  
**RSLC** – Reconnaissance and Surveillance Leader’s Course  
**SBCT** – Stryker brigade combat team  
**SLC** – Senior Leader’s Course  
**SM** – Soldier’s manual  
**SoM** – scheme of maneuver  
**TLP** – troop-leading procedure  
**UAS** – unmanned aerial system

# Modern Application of Mechanized-Cavalry Groups for Cavalry Echelons Above Brigade

by MAJ Joseph J. Dumas

The Army faces a dilemma much like it did at the onset of World War II: although the war provided an opportunity to rapidly codify cavalry organizations and doctrine, the Army squandered the opportunity to do so in the period before the war, when the branch bifurcated and the Army's mounted arm floundered.

This bifurcation had repercussions on the United States' warfighting ability as it entered World War II. Branch identity then – tied to the platform known as the “noble companion” (the horse) – stifled organizational and doctrinal development right up to the nation's entrance into the war.

Consequently, mechanized-cavalry formations entered combat with theoretical concepts about their employment and their vehicle platforms underpowered against the Axis.<sup>1</sup>

As an example of this mismatch in

theoretical concepts, the early mechanized-cavalry doctrine peddled stealthy reconnaissance, but combat experience in North Africa during Operation Torch didn't validate pre-war doctrinal theory.<sup>2</sup> However, organization of the mechanized-cavalry groups (MCGs) created effective formations (see Figure 1)<sup>3</sup> even if the platforms they fought from were not always optimal.

In spite of these problems, the MCGs' performance in the European Theater of Operations (ETO) during World War II made a profound impression of operational relevancy on Army senior leaders who fought in the ETO.<sup>4</sup> As noted by Armor Branch historian Dr. Robert S. Cameron, MCGs – enabled with combined-arms attachments – became capable combat organizations able to execute a broad range of mission sets for their assigned corps headquarters.<sup>5</sup>

Like its World War II predecessor, it seems as if today's Army has some

capability gaps and some relevancy concerns regarding cavalry organizations and doctrine. Just as we missed the mark on filling these the gaps correctly after World War II, the Army needs to ensure history does not repeat itself. This article looks back on historical concepts, then forward with some ideas to consider.

## 'Back to the future'

Just as the “past can be prologue” to today's operations, MCG experiences in the World War II ETO provided many doctrinal lessons at operational level during large-scale ground combat.<sup>6</sup> When the Army published its post-World War II assessment of mechanized-cavalry operations – General Board Report Study Number 49, “Mechanized Cavalry Units” – in November 1945, the study encapsulated the nuanced differences of cavalry doctrinal utility at corps and division levels, among many other operational- and tactical-application

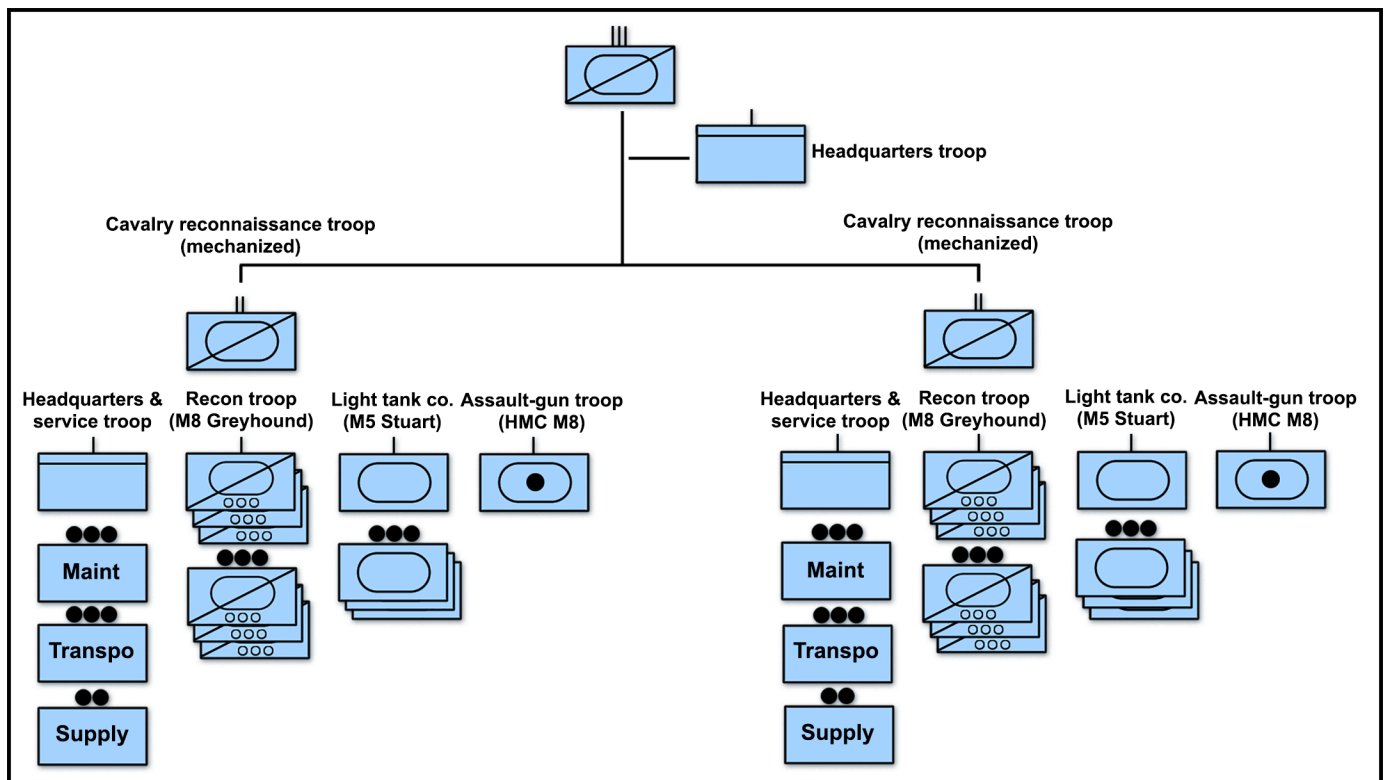


Figure 1. MCG structure in World War II.

lessons. The study showed that, at echelon, mechanized-cavalry units executed the traditional range of cavalry missions, but depending on the echelon, the frequency of those type of missions varied greatly.<sup>7</sup>

Noted as a “continuation of cavalry,” the Armor Branch was officially established in 1950 as a basic branch of the U.S. Army,<sup>8</sup> but concepts of cavalry organization have not remained static. In fact, since the mounted branch’s redesignation, institutionally the Army has continued to revisit the echelon, force structure and capabilities of cavalry organizations. This is not to say that cavalry-organization concepts are considered a failure; in fact, this is a clear indication of their effectiveness and utility across transformative periods within the Army. The last 17 years of persistent conflict have been such a transformative period, in which the Army has optimized cavalry squadrons for modular brigade combat teams (BCTs) that execute limited contingency operations.

Today’s leaders should adapt to the current transformative period and not be enamored of expunged cavalry organizations of the past, but now must recalibrate their thinking in organizing cavalry formations for success during large-scale ground-combat operations (LSGCO).<sup>9</sup> Converging intellectual efforts with the Army’s current operational capstone doctrine, Field Manual (FM) 3-0, **Operations**, will attest to the ingenuity of cavalry leaders and their ability to enable operational capacity during LSGCO.

As the Army continues to realign itself along its four strategic roles as part of the joint force (shape operational environments, prevent conflict, conduct large-scale ground combat and consolidate gains), it is forcing institutional change, both culturally and doctrinally, focused on large-scale combat operations. As leaders address readiness gaps, historical precedence can serve as a start point – the World War II MCG organizations can serve as a framework to fill current cavalry organizational gaps in the Army for echelons above brigade (EAB).

## R&S challenges

Corps and division commanders are

forced to rely on passive intelligence, surveillance and reconnaissance (ISR) platforms to gain and maintain contact with enemy formations. The over-reliance on passive ISR is a carryover from our combat experiences in Iraq and Afghanistan. However, our adversaries have invested ample effort into building their military capacity to challenge our organizational gaps and, in some cases, have exceeded U.S. Army capacity.

Army senior leaders have made strides to institute cultural, training and doctrinal changes to address today’s complexities. However, technological reliance and organizational optimization hinder success against a peer or near-peer threat. For example, corps and division commanders no longer possess an organic cavalry organization at echelon to execute tactically enabling functions to create favorable conditions that would allow BCTs success in the close area.<sup>10</sup>

Current doctrine clearly states considerations for employing a BCT to fulfill the reconnaissance and security (R&S) role at EAB. This includes allowing the designated BCT to train for this mission to increase proficiency. The risk associated with rotating the R&S BCT duty between brigades is also identified.<sup>11</sup>

Both theories are outlined in FM 3-98, **Reconnaissance and Security Operations**, published in 2015. As articulated in current doctrine, corps and division commanders can elect to task a subordinate organization to execute R&S missions.

Training includes warfighter exercises (WfX), which provide corps and divisions the opportunity to prepare for LSGCO. The Mission Command Training Program facilitates these exercises across the Army and annually produces key observations published through the Center of Army Lessons-Learned (CALL).

It should not be a surprise that in the Fiscal Year (FY) 2016 observations, divisions participating in WfXs struggled to continuously plan R&S operations tied to commander’s critical information requirements (CCIR) to enable operations.<sup>12</sup> During WfXs, divisions generally executed tactics, techniques and procedures (TTP) by forming an *ad hoc*

cavalry formation.

Results vary on the application of *ad hoc* cavalry task forces created to mitigate loss of organic division-cavalry squadrons. At division level, leaders lack understanding about the application of cavalry organizations to reconnaissance, security and economy-of-force missions. This is primarily because the Army hasn’t had to practice application of EAB cavalry operations. Therefore, command support relationships are not optimized for EAB operations, and staff planning ends after the initial orders production for operations. Leaders must move beyond the over-reliance on passive ISR. The application of *ad hoc* division-cavalry organizations often varies in size, scope of tasks and success facilitating command decision-making.

With that in mind, commanders should consider the following to enable a greater degree of success if electing to form a cavalry organization at EAB:

- Define command support relationships with reconnaissance organization to the higher headquarters;
- Provide clear R&S guidance, focusing early to drive active multi-domain collection to answer CCIR;
- Continuously refine beyond the shaping phase to enable operational flexibility;
- Organize the staff to enable continual R&S planning; and
- Task-organize for combat early and focus training toward R&S tasks at EAB.

## Effects of R&S gaps

Today’s operating environment is far too complex to wait for organizational concepts such as the R&S strike group, a cavalry organizational theory described as part of the multi-domain operations concept.<sup>13</sup> Senior Armor Branch leaders are now addressing the cultural-gap issue. For example, Armor Branch officers are now being encouraged to professionally track themselves to a specific BCT type.<sup>14</sup> This effort starts with platoon-level leaders as a way to target increased lethality among BCTs. The path needed to increase readiness among combat formations is a degree of branch

specialization that incorporates additional skill identifiers, updating Department of the Army Pamphlets 600-25 and 600-3, and developing tracking systems for assigning officers to inform the best placement of troopers based on experience.<sup>15</sup>

This guidance is a step in the right direction, cultivating greater institutional knowledge among leaders, but it still doesn't address the current experience gap at EAB.

Because of this problem, corps and division commanders are no longer enabled by an all-weather cavalry organization with capacity to execute R&S missions. Today's leaders are forced to mitigate risk by looking within their respective formations to find solutions. Currently there is no near-term growth within Total Army Analysis 21-25, nor

are funds allocated within Program Objective Memorandum 22-26 to address growing cavalry organizations at EAB. This leaves the Army without a cavalry organization to enable corps and divisions to address today's fight during LSGCO at least for the next decade. However, this should not dissuade Armor Branch leaders from creative applications commensurate with branch heredity. Innovation has almost become an enduring attribute among Armor Branch leaders since the time of mechanization prior to World War II. For nearly 90 years, the Army has continually reinvented its approach to executing cavalry missions based on the ever-changing operating environment.

### Recommended solutions

Steps have been taken to address the

gap in organizational capacity. From April 2016 to April 2017, 1<sup>st</sup> Stryker Brigade Combat Team (SBCT), 4<sup>th</sup> Infantry Division, executed an R&S excursion to test the feasibility of an SBCT to meet the operational R&S needs of corps and divisions.

Highlighted in the Raider Brigade whitepaper following this training period, COL Curtis Taylor (then brigade commander) and MAJ Joe Byerly (then brigade executive officer) recorded the process undertaken by the brigade and the key lessons-learned during the excursion.

The whitepaper doesn't show the performance of the Raider Brigade through a rose-colored lens. In fact, Taylor and Byerly succinctly describe both the pros and cons of the SBCT during its R&S role. Organizational

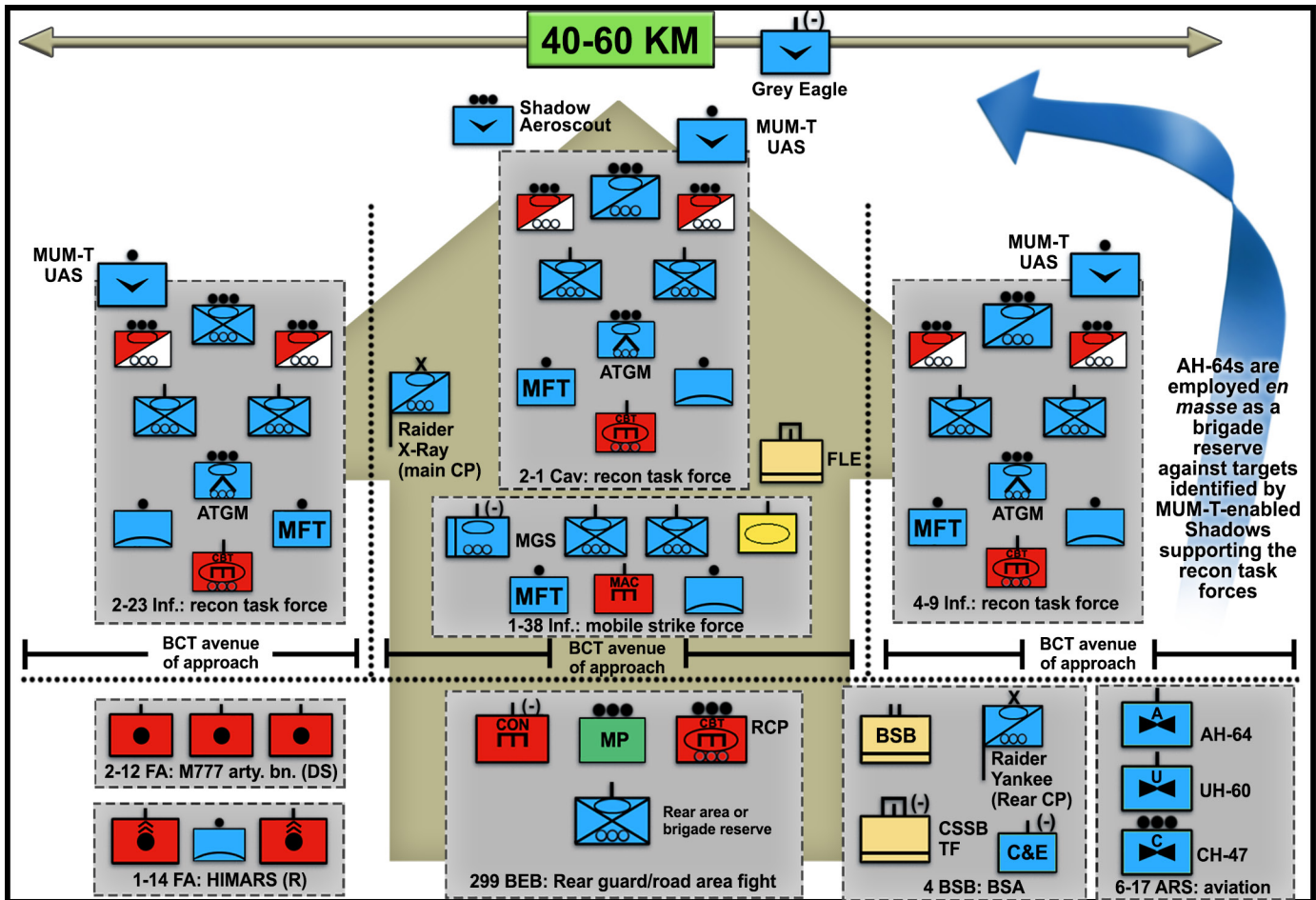


Figure 2. Modern application of the corps MCG: the corps cavalry group (BCT). Task-organization of the baseline BCT would be required into three reconnaissance task forces, a mobile strike force and a consolidated area force. This TTP would be a zero-growth solution to provide corps commanders with cavalry capability. Employment recommendations include that (1) the corps retains control of a cavalry group (BCT) to execute R&S missions; (2) the corps provides tactical control of a cavalry group (BCT) to a specific division in a direct-support (DS) role; or (3) the corps provides tactical control of reconnaissance task forces to a specific division in a DS role. (Illustration adapted from Raider Brigade R&S excursion whitepaper, September 2017)

considerations and the cultural mindset associated with R&S were two key areas emphasized. Insights throughout the whitepaper provide a framework for SBCT R&S operations organizationally, with the required cultural investment and the training progression needed to enable future successful application.<sup>16</sup>

So how can the Army create solutions without force-structure growth and funding? Innovation with current force structure will have to be applied, coupled with cultural and training time investments by all leaders. The following recommendations are “a way” for the Army to address cavalry organizational capacity gaps at both corps and division echelons.

Figure 2 illustrates the organization of the R&S BCT depicted in FM 3-98.<sup>17</sup> It provides a recommendation for the Army to align an R&S BCT with each current corps headquarters. This would provide a direct-reporting cavalry group (R&S BCT) to enable corps commanders with a fighting formation focused on R&S tasks. The proposal doesn’t require additional force-structure growth and associated doctrine, organization, training, materiel,

leadership and education, personnel and facilities considerations. As part of this recommendation, 2<sup>nd</sup> Cavalry Regiment would align itself with XVIII Airborne Corps, and 14<sup>th</sup> Cavalry Regiment would be reactivated in whole, redesignated from a current SBCT, to serve as the corps cavalry group (R&S BCT) under I Corps.

This would require 1<sup>st</sup> Squadron, 14<sup>th</sup> Cavalry Regiment, and 2<sup>nd</sup> Squadron, 14<sup>th</sup> Cavalry Regiment, both Active-Component units, to reflag under another regimental lineage. The 3<sup>rd</sup> Cavalry Regiment would continue to serve III Armored Corps but reflag from its current modified table of organization and equipment as an SBCT to an armored brigade combat team.

Figure 3 illustrates the task-organization undertaken by 1<sup>st</sup> SBCT, 4<sup>th</sup> Infantry Division, during its R&S excursion. The brigade reorganized itself into capability-focused task forces to enhance its overall effectiveness as an R&S BCT. Similar to the MCGs of World War II, an adaptable base formation can incorporate enablers, increasing flexibility of range in tactical function. The functional alignment of 1<sup>st</sup> SBCT, 4<sup>th</sup> Infantry Division, provides modern

application of the characteristics from General Board Report Study Number 49: mobility, firepower, adaptability, self-sufficiency and fighting ability.<sup>18</sup> As a corps-level enabler, the corps cavalry group (R&S BCT) would be in direct support of its parent corps headquarters during LSGCO.

Another option of using the cavalry group would be to provide it in a tactical-control relationship to subordinate divisions, especially those deemed the corps’ main effort. If the operational conditions are not met for a corps to provide its cavalry group in direct support of a division, then the following recommendation addresses cavalry capacity at division level.

Figure 4 depicts “a way” solution that a division could resource internally to answer the R&S capability gap. Similar to the construct of the World War II-era MCG, the recommended division-cavalry group (DCG) could serve as an agile base formation easily activated to execute reconnaissance, security and economy-of-force missions for the division. Modeling the DCG in this fashion would provide a standardized organization and mission-command structure that could incorporate any

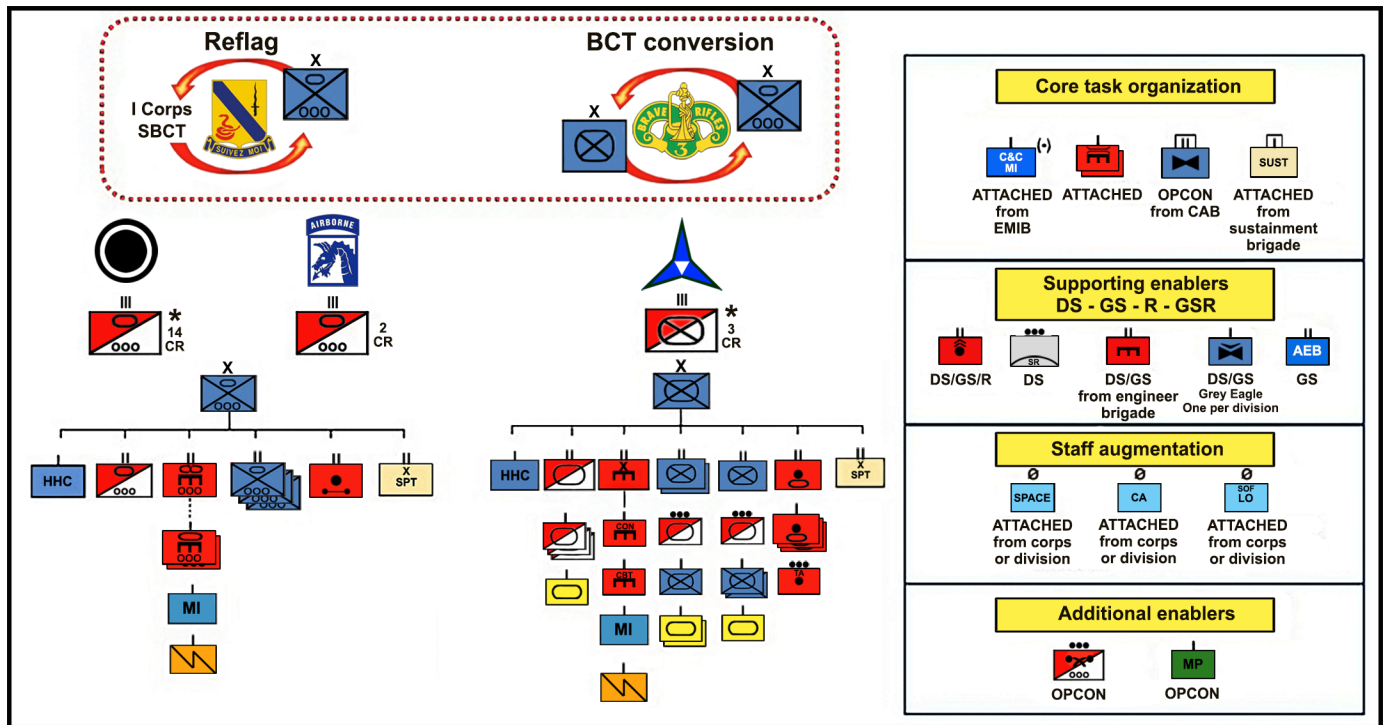


Figure 3. R&S BCT aligned at corps echelon (“a way”). This R&S BCT force structure is based on Army Capabilities Integration Center’s operational and organizational 2016 concept, currently outlined in FM 3-98, *Reconnaissance and Security Operations*, July 2015.

BCT type based on division. Formation of a DCG would best result from habitual training opportunities, establishing relationships between squadrons and headquarters. Like the R&S BCT concept, the DCG could be further task-organized by additional enablers for tailored mission requirements. The division

tactical-command post (DTAC) would provide mission command to increase execution efficiencies by flattening reporting requirements from the squadrons to the division. Using one of the squadrons' staff would further enable the small DTAC staff with greater analytical ability and reconnaissance expertise.

## Conclusion

Complexities in today's operating environment have forced the Army to reorient itself to meet a myriad of challenges. Broadening the Army's doctrinal, training and cultural focus on LS-GCO is ongoing. As an institution, the Army has identified many capability gaps to execute more than just the

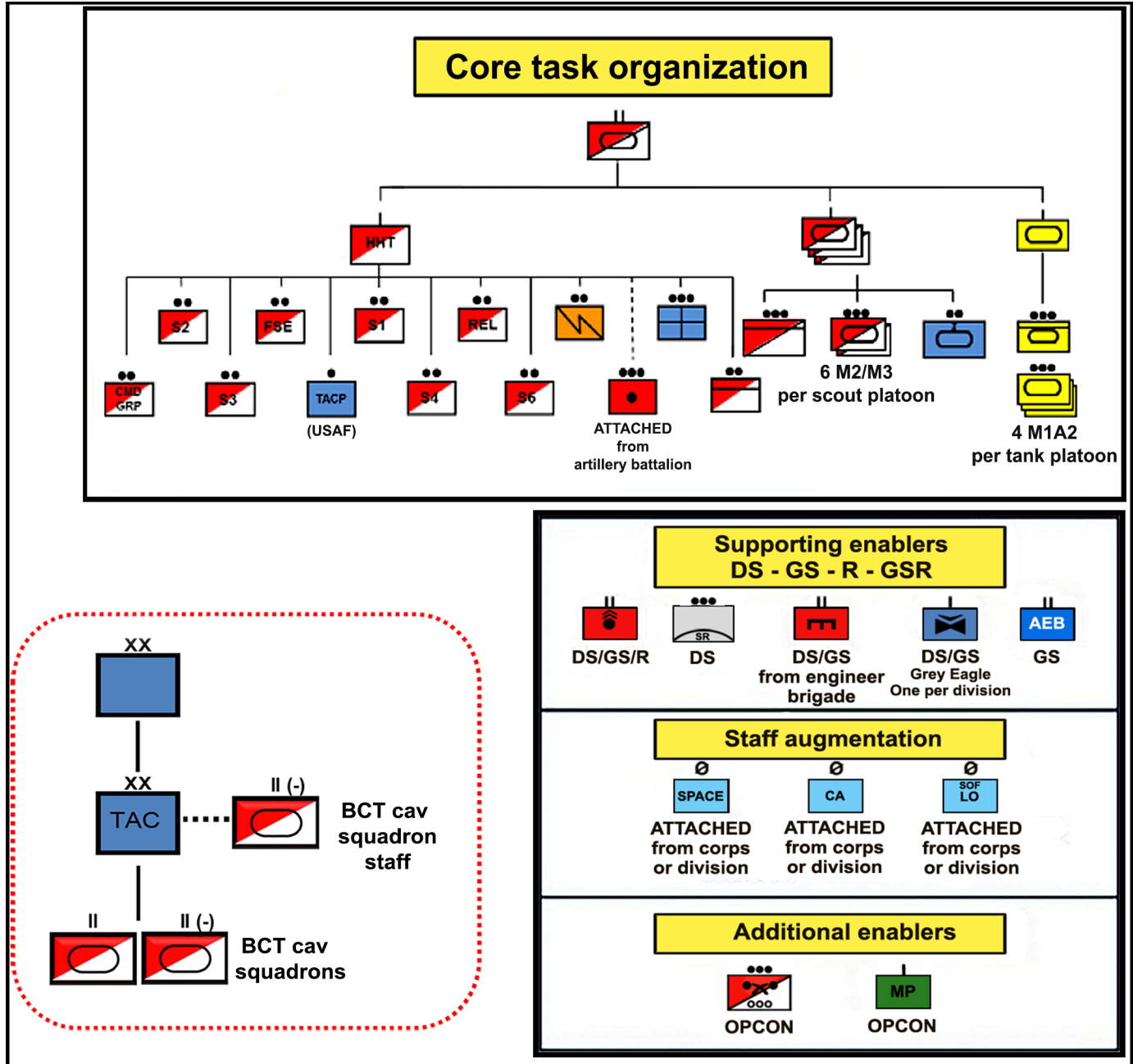


Figure 4. R&S aligned at division echelon ("a way"). This concept would require focused training and application to increase tactical success, but a major advantage is that a tailorable DCG can provide all-weather R&S capacity for a division executing LSGCO. Under this concept, divisions would form a DCG from two of its subordinate BCT cavalry squadrons. The DTAC would serve as the mission-command headquarters, with the squadrons reporting to the deputy commanding general for operations (DCG-O). The cavalry-squadron executive officer, as the R&S subject-matter expert, would provide tactical-enabling task recommendations for the DCG-O. One of the subordinate cavalry squadrons' staffs would provide staff augmentation and infrastructure for the DTAC, increasing mission-command capacity. The DCG could receive more enablers based on the division commander's R&S guidance and threat capability.



limited contingency operations of the past 17 years.

As part of the Army's mounted arm, Armor Branch leaders need to maintain status as the "combat arm of decision." Just as doctrinal and organizational deficiencies didn't prevent cavalry leaders from tactical and operational success during World War II, similarly, today's cavalry leaders can achieve success through innovative solutions to address R&S gaps at EAB.

Today's concepts can inform tomorrow's doctrine and organizational structures by investing in the effort now. This will also provide greater professional development at EAB by creating experience and training opportunities for junior leaders who will undoubtedly answer the nation's call to arms if necessary. Modern application of World War II MCGs can provide the framework to optimize cavalry organizational gaps for EAB today.

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## Notes

<sup>1</sup> MAJ E. Dave Wright, "Mechanized

Cavalry Groups: Lessons for the Future of Reconnaissance and Surveillance," monograph, School of Advanced Military Studies (SAMS), U.S. Army Command and General Staff College, Fort Leavenworth, KS. Also, see MAJ William Stuart Nance's master's thesis, "Patton's Iron Cavalry – the Impact of the Mechanized Cavalry On the U.S. Third Army," at [https://digital.library.unt.edu/ark:/67531/metadc68023/m2/1/high\\_res\\_d/thesis.pdf](https://digital.library.unt.edu/ark:/67531/metadc68023/m2/1/high_res_d/thesis.pdf).

<sup>2</sup> MAJ Louis A. DiMarco, "U.S. Army's Mechanized Cavalry Doctrine in World War II," SAMS monograph, Fort Leavenworth.

<sup>3</sup> Dr. Robert S. Cameron, *Mobility, Shock and Firepower, Emergence of the U.S. Army's Armor Branch 1917-1945*, Washington, DC: Center of Military History, 2008.

<sup>4</sup> DiMarco.

<sup>5</sup> Dr. Robert S. Cameron, "Into the Future with Mounted-Maneuver Reconnaissance," *ARMOR*, September-October 2012.

<sup>6</sup> DiMarco.

<sup>7</sup> Ibid.

<sup>8</sup> LTC G. Emery Baya, "Army Organization Act Of 1950," *Army Information Digest*, August 1950.

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<sup>10</sup> Based on author's observations as a maneuver O/C/T with Operations Group Alpha, executing WfX exercises and mission-command training seminars in 2017-2018.

<sup>11</sup> FM 3-98, *Reconnaissance and Security Operations*, July 2015.

<sup>12</sup> Bulletin 17-05, "Mission Command Training in Unified Land Operations," *FY16 Key Observations*, CALL, Fort Leavenworth, February 2017.

<sup>13</sup> MAJ Nathan A. Jennings, "The Reconnaissance and Security Strike Group: A Multi-domain Battle Enabler," *ARMOR*, Spring 2017.

<sup>14</sup> *Armor Branch Newsletter*, Spring 2018.

<sup>15</sup> "Chief of Armor's Hatch," *ARMOR*, Fall 2017.

<sup>16</sup> COL Curtis Taylor and MAJ Joe Byerly, "Raider Brigade Whitepaper – Fighting for Information in a Complex World: Lessons from the Army's First Reconnaissance and Security Brigade Combat Team," Sept. 18, 2017.

<sup>17</sup> Since publication of this manual in 2015, the Army has divested its EAB organizations of long-range surveillance detachments and companies.

<sup>18</sup> General Study Board, U.S. Forces,

European Theater, Study Number 49, "Mechanized Cavalry Units."

## ACRONYM QUICK-SCAN

**AEB** – aerial-exploitation battalion  
**ARS** – attack reconnaissance squadron  
**TGM** – anti-tank guided missile  
**BCT** – brigade combat team  
**BEB** – brigade engineering battalion  
**BSA** – brigade-support area  
**BSB** – brigade-support battalion  
**C&E** – collection and exploitation  
**CAB** – combined-arms battalion  
**CALL** – Center for Army Lesson-Learned  
**CCIR** – commander's critical-information requirement  
**CP** – command post  
**CR** – cavalry regiment  
**CSSB** – combat-sustainment-support battalion  
**DCG** – division-cavalry group  
**DCG-O** – deputy commanding general for operations  
**DS** – direct support  
**DS/GS/R** – direct support/general support/reinforcing  
**DTAC** – division tactical-command post  
**EAB** – echelons above brigade  
**EMIB** – expeditionary military-intelligence brigade  
**ETO** – European Theater of Operations  
**FA** – field artillery  
**FLE** – forward logistics element  
**FM** – field manual  
**FY** – fiscal year  
**GS** – general support  
**GSR** – general support reinforcing  
**HHC** – headquarters and headquarters company  
**HHT** – headquarters and headquarters troop  
**HIMARS** – High-Mobility Artillery Rocket System  
**ISR** – intelligence, surveillance and reconnaissance  
**LSGCO** – large-scale ground combat operations  
**MCG** – mechanized-cavalry group  
**MFT** – multifunction team  
**MGS** – Mobile Gun System  
**MI** – military intelligence  
**MP** – military police  
**MUM-T** – manned/unmanned teaming  
**O/C/T** – observer/coach/trainer  
**OIF** – Operation Iraqi Freedom  
**OPCON** – operational control  
**R&S** – reconnaissance and security  
**RCP** – route-clearance platoon  
**SAMS** – School of Advanced Military Studies  
**SBCT** – Stryker brigade combat team  
**SPT** – support  
**TACP** – tactical air-control party  
**TF** – task force  
**TTP** – tactics, techniques and procedures  
**UAS** – unmanned aerial system  
**USAF** – U.S. Air Force  
**WfX** – warfighter exercise

# The Master-Gunner Warrant Officer

by Alex Turkatte

As near-peer adversaries rise again throughout the Eastern European and Indo-Asia Pacific theaters, the masters of mounted warfare must be prepared to defeat enemy ground forces and maintain land dominance.<sup>1</sup>

Armor and infantry master gunners within armored brigade combat teams (ABCTs) and Stryker brigade combat teams (SBCTs) have earned the respect of leaders for their technical and tactical knowledge and experience, but the Armor Branch is seeking even more ways to win the fight. Therefore the Armor Branch proposes to develop the master-gunner warrant officer (MGWO) concept, which this article reviews.

## The MGWO

As discussed in a 2009 Army War College proposal for maneuver-operations warrant officers and noncommissioned officers (NCOs),<sup>2</sup> the MGWO would be the subject-matter expert (SME) who brings operational experience and technical expertise to the battalion- and brigade-level S-3 tactical-operations center. The MGWO provides the link between platform systems and commanders. As the resident SME, the MGWO serves as the organization's trainer on platform gunnery operations.

The billpayer positions required as trade to create warrant-officer positions would come from the existing master-gunner positions at battalion level and above. Figure 1 provides the proposal to use the sergeant first class military-occupation specialty (MOS)



### 131A – Field Artillery Technician

Open to 19D, 11B, 11C and CMF13 NCOs



### 153A – Rotary Wing Aviator

Open to all MOS



### 913A – Armament Systems Maintainer

Open to AR, IN, EN, FA NCOs with ASI: A8, J3, K8

Figure 2. Current WOMOSs available to CMF 19 NCOs.

19K K8 (or A8) master-gunner positions as the billpayer option for the ABCT combined-arms battalions and the cavalry squadron. The SFC 19D R8 would be used as the billpayer option for the SBCT.

Other options include only placing MGWO at the brigade level and above to allow NCO development at battalion level and below.

## Requirements

There are requirements to establish and professionally develop an MGWO. The initial feeder into the warrant-officer program would come from NCO master gunners already serving at company and troop level. Minimum prerequisites would be:

- Must hold MOS 19D, 19K or 11B;
- Must be staff sergeant or above;
- Must be a graduate of any of the platform-specific master-gunner courses and hold the additional-skill identifier (ASI) A8 (M1A1 Abrams), K8 (M1A2 Systems Enhancement

Program Abrams), J3 (M2/M3 Bradley) or R8 (Stryker);

- Must have a minimum of 24 months' experience assigned as master gunner, documented on an NCO Evaluation Report;
- Must be an Advanced Leader's Course (ALC) graduate documented on a Department of the Army (DA) Form 1059;
- Must have a minimum 110 General Technical score; and
- Must be fully deployable.

Like all warrant-officer MOSs (WOMOSs), NCOs must successfully apply and be accepted through the U.S. Army Recruiting Command's warrant-officer selection board. Warrant-officer selection boards are held about seven times per year, with most WOMOS applications considered two or three times per year.

## MOSs impacted

There are currently three WOMOS available for which Career-Management Field (CMF) 19 NCOs may apply.<sup>3</sup>

These include warrant officers from the Field Artillery, Aviation and Ordnance Branches:

- Rotary-wing aviator (MOS 153A) is open to applications from Soldiers of all MOS;
- Field-artillery technician (MOS 131A) (previously field-artillery-targeting warrant officer) is open to 19D NCOs; and
- Armament-systems maintainer (MOS 913A) is open to NCOs who hold the



\* Billpayer positions become:  
**CW2 190A MG WO**

Figure 1. Battalion- or squadron-level master gunners.

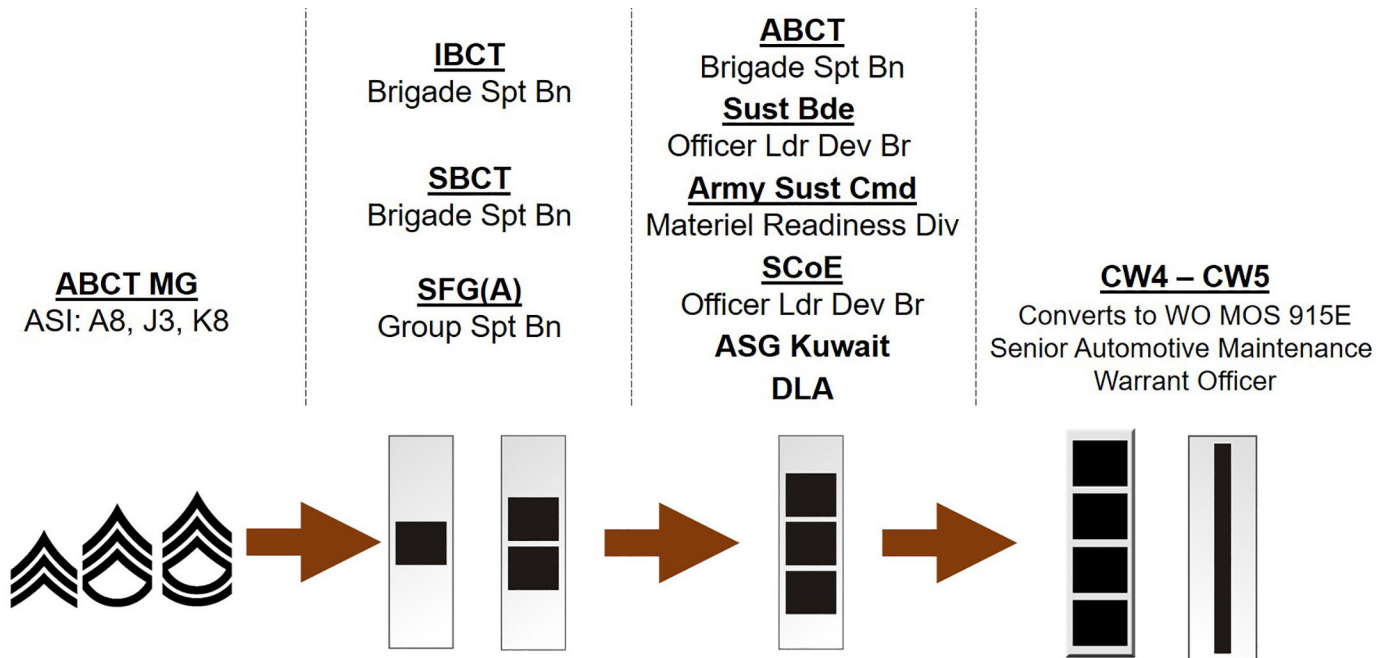


Figure 3. MOS 913A warrant officer, warrant officer one through chief warrant officer three positions, according to DA Pamphlet 600-3.

master-gunner ASIs of A8, J3 and K8.

The 913A Ordnance Branch warrant officer is the most interesting since it specifically recruits combat-arms master-gunner NCOs to become weapon-systems maintenance officers working in support battalions and sustainment brigades. Even if the increased pay-grade is appealing, Ordnance Branch maintenance duties may detract from recruiting efforts. Also, MOS 913A converts to a 915E Senior Automotive Maintenance Warrant Officer upon promotion to chief warrant officer four.

For the 190A MGWO program, selected NCOs would be scheduled to attend Warrant Officer Candidate School (WOCS) at Fort Rucker, AL. Graduation would result in accession as a warrant officer one, with follow-on mandatory WOMOS training at a basic course taught at Fort Benning, GA. Even though the Soldier would already be a graduate of a platform-specific master-gunner course, the Warrant Officer Basic Course (WOBC) would provide more training on the requirements a warrant officer would encounter upon first assignment to an ABCT or SBCT. WOBC could also include training found in other functional courses such as Battle Staff and the Mission-Command Digital Master-Gunner Course.

While the pros and cons of a new WO-MOS are debated, by implementing the MGWO, the Army will further commit to land dominance and the mastery of mounted-maneuver warfare.

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## Notes

<sup>1</sup> The Army Vision, [https://www.army.mil/e2/downloads/rv7/vision/the\\_army\\_vision.pdf](https://www.army.mil/e2/downloads/rv7/vision/the_army_vision.pdf).

<sup>2</sup> Dr. John A. Bonin, "Maneuver Operations [Warrant Officer] and NCO," U.S. Army War College.

<sup>3</sup> U.S. Army warrant officer recruiting MOS information Webpage as of June 13, 2018, [http://www.usarec.army.mil/hq/warrant/Wogeninfo\\_mos.shtml](http://www.usarec.army.mil/hq/warrant/Wogeninfo_mos.shtml).

## ACRONYM QUICK-SCAN

<b>ABCT</b>	– armored brigade combat team
<b>ACOM</b>	– Army command
<b>ALC</b>	– Advanced Leader's Course
<b>ASG</b>	– area support group
<b>ASI</b>	– additional-skill identifier
<b>CMF</b>	– career-management field
<b>DA</b>	– Department of the Army
<b>DLA</b>	– Defense Logistics Agency
<b>IBCT</b>	– infantry brigade combat team
<b>MG</b>	– master gunner
<b>MGWO</b>	– master-gunner warrant officer
<b>MOS</b>	– military-occupation specialty
<b>NCO</b>	– noncommissioned officer
<b>SBCT</b>	– Stryker brigade combat team
<b>SCOE</b>	– Support Center of Excellence
<b>SFG</b>	– Special Forces group
<b>SME</b>	– subject-matter expert
<b>WOAC</b>	– Warrant Officer Advanced Course
<b>WOBC</b>	– Warrant Officer Basic Course
<b>WOCS</b>	– Warrant Officer Candidate School
<b>WOILE</b>	– Warrant Officer Intermediate Leader Course
<b>WOMOS</b>	– warrant-officer military-occupation specialty
<b>WOSSE</b>	– Warrant Officer Senior Staff Education

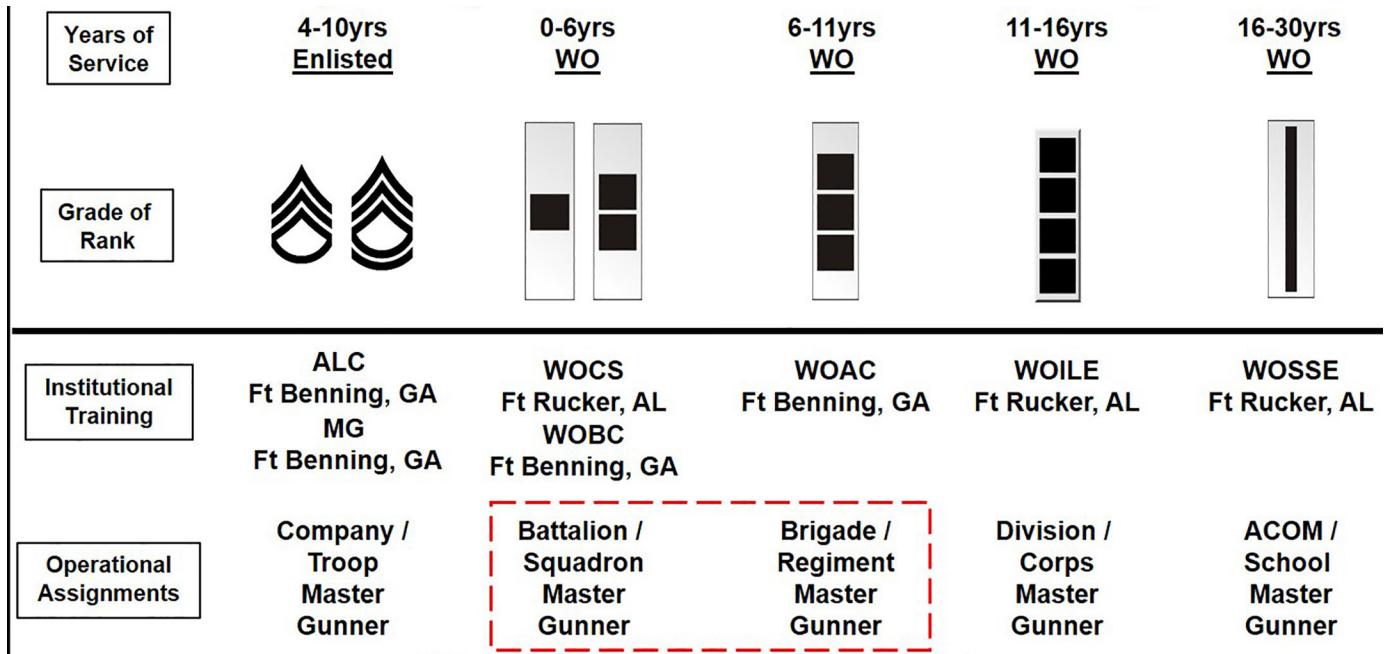
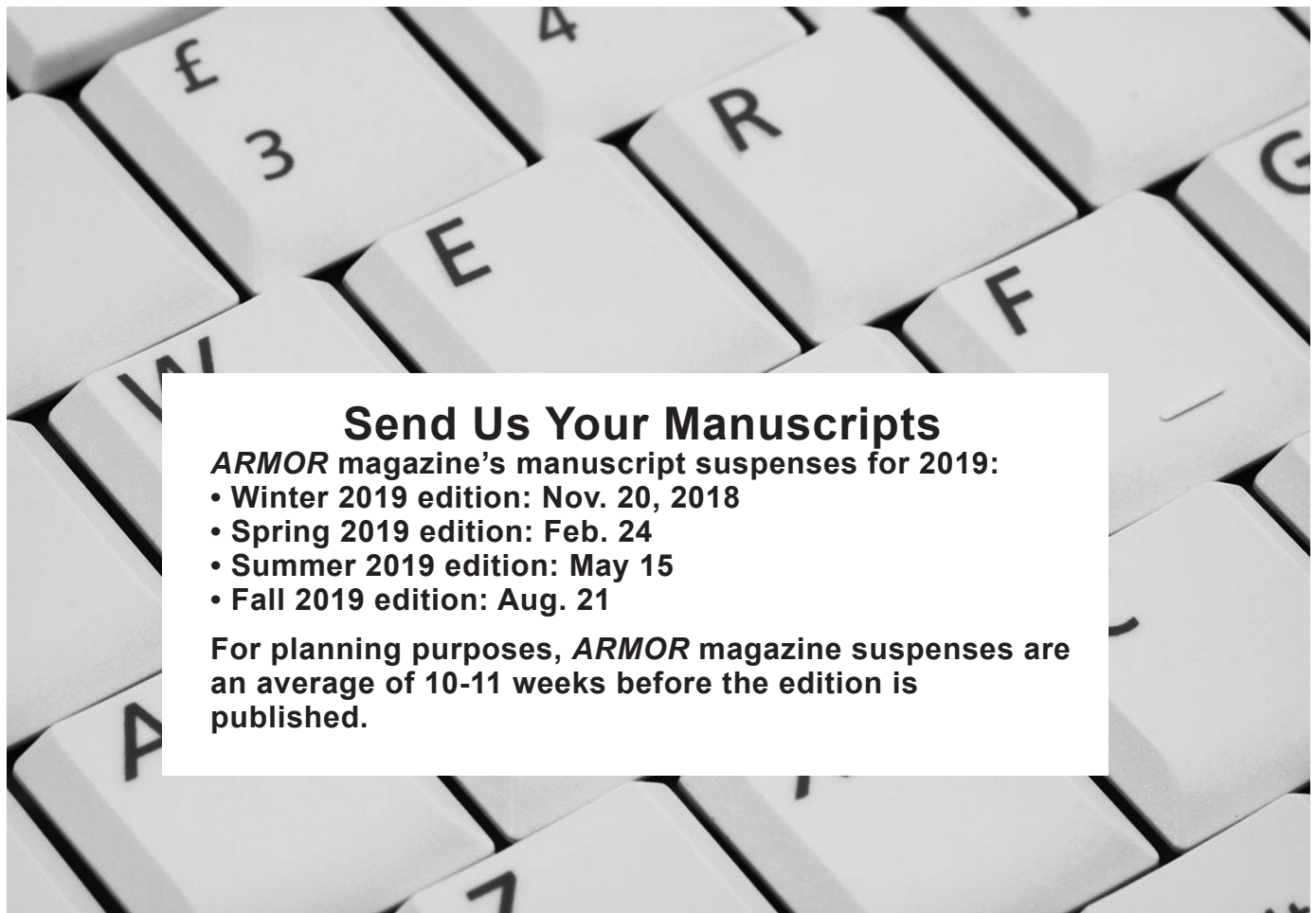


Figure 4. Draft 190A MGWO career map.



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# Reconsidering Division Cavalry Squadrons

## Part II: 1<sup>st</sup> Squadron, 4<sup>th</sup> Cavalry Regiment, in Vietnam

by MAJ Nathan Jennings

*(Editor's note: This is the second in a four-part series that describes the problem, history and potential solutions for the U.S. Army's lack of dedicated division-level ground reconnaissance and security capacity.)*

Cavalry forces specialize in security efforts designed to protect their higher headquarters' operations. This tactical task, along with reconnaissance, has endured since antiquity as a primary function of mounted scouts due to their inherent operational reach. For divisions wielding a panoply of maneuver and enabling assets, the requirement for dedicated formations to safeguard and facilitate an increasingly complex order of battle remains a critical function in the 21<sup>st</sup> Century. As outlined in *Division Operations*, such scouting elements "provide early and accurate warning" to "provide the force" with "time and maneuver space within which to react to the enemy and to develop the situation."<sup>1</sup>

Typical security tasks, as defined by modern U.S. Army doctrine, typically center on observing, reporting and, if need be, neutralizing enemy reconnaissance or blunting adversary incursions during offensive, defensive and

stability operations. They may include conducting screen, guard and cover missions where arrayed units provide early warning and fight to allow time and space for higher headquarters to deploy main force battalions and brigades. These operations may also include distributed area security efforts to protect friendly forces and terrain within defined geographical boundaries. The division-cavalry (DivCav) formations – and the J and L-Series models in particular – usually accomplished these missions through integration of enhanced mobility, firepower, protection and aerial reach.<sup>2</sup>

### DivCav in security operations

The combat performance of 1<sup>st</sup> Squadron, 4<sup>th</sup> Cavalry Regiment, of 1<sup>st</sup> Infantry Division in Vietnam offers an illustrative case study on the potential effectiveness of division-level cavalry during distributed security operations. From October 1965 to April 1970, the command – informally called "Quarterhorse" – conducted diverse tasks that included route patrolling, static defense, pacification and "search and destroy" missions against irregular, though highly lethal, Communist opponents. Since the Big Red One deployed as a predominantly light division, its

cavalry squadron's complement of armored-personnel carriers, scout helicopters and eventually tanks, in addition to partnered infantry, heavy armor and host-nation forces, allowed them to provide critical and responsive combat power.<sup>3</sup>

The Quarterhorse squadron deployed from Fort Riley, KS, to a volatile sector north of Saigon in III Corps' tactical zone amid skepticism over the effectiveness of heavy armor for stability operations in jungle terrain. When Pentagon officials grudgingly allowed III Corps to bring 27 M48A3 Patton tanks, GEN William Westmoreland, commander of U.S. Military Assistance Command, Vietnam (MACV), impounded the vehicles at Phu Loi after criticizing that "Vietnam is no place for either tank or mechanized-infantry units."<sup>4</sup> The cavalrymen thus relied on Armored Cavalry Assault Vehicles – moderately protected M113s personal carriers with upgraded firepower and turret gunshields – for the first six months. During that time, the division usually dispersed the squadron's three ground troops and air troop to support infantry units.

Armored cavalry proved its value in 1<sup>st</sup> Infantry Division's first major engagement of the conflict Nov. 10-11, 1965. Troop A, then supporting 2<sup>nd</sup> Battalion, 2<sup>nd</sup> Infantry Regiment, provided vital mobility and firepower as the task force defended National Highway 13, the main line of communication north of Saigon, against a sudden Viet Cong (VC) attack. Called the Battle of Ap Bau Bang for a small hamlet nearby, the cavalrymen broke 272<sup>th</sup> Regiment's surprise assault with a mounted counter-attack that allowed time for the American infantry to ready defenses. This fight, and many others that followed, rapidly changed the Army's perception of the utility of armored cavalry in Vietnam. The troop received the Valorous Unit Award for its actions.<sup>5</sup>

The squadron continued to conduct search-and-destroy missions, cordon villages during larger clearing operations and secure key routes and

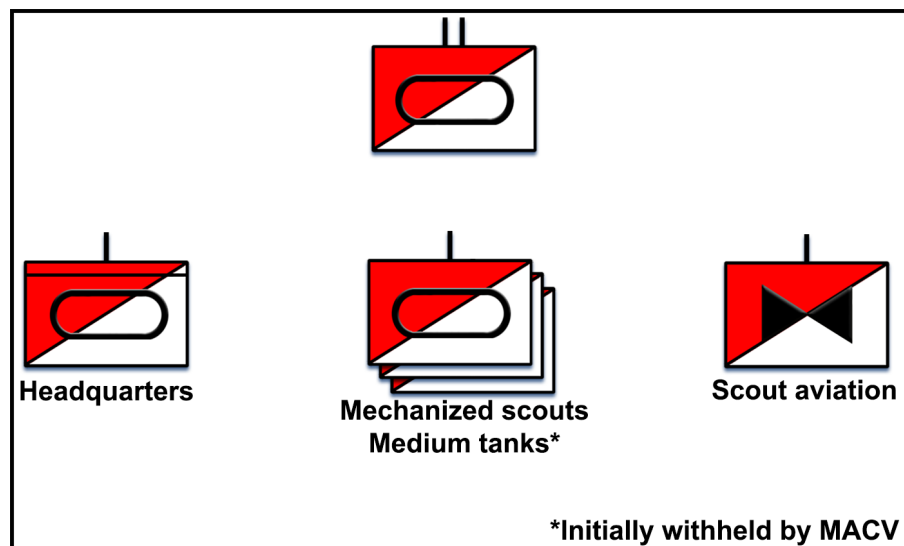


Figure 1. Organization of 1-4 Cavalry, Vietnam. (Adapted from John J. McGrath, *Scouts Out: The Development of Reconnaissance Units in Modern Armies*)

convoys throughout Spring 1966. By summer it had reconsolidated its troops and repossessed its tanks as the division launched Operation El Paso II to secure a contested area called War Zone C northwest of Saigon. Since 1-4 Cavalry boasted greater road mobility than the infantry battalions, it focused on clearing critical routes with “road-runner” reconnaissance-in-force patrols. This assignment resulted in a series of engagements where usually independent troops fought through VC ambushes while coordinating joint fires. The squadron’s tanks, though not immune to mines and artillery, allowed the typically outnumbered cavalymen to react, seize initiative and disperse the unpredictable foe.<sup>6</sup>

## Enabling division success

Quarterhorse’s success that summer inspired its new division commander, MG William DePuy, to employ it to bait the elusive enemy into a decisive ambush. When Task Force Dragoon, comprising Troops B, C and an attached infantry company, accordingly traveled down Highway 13 on July 9, the VC’s 272<sup>nd</sup> Regiment launched a vicious artillery barrage followed by massed infantry assaults near the small town of Srok Dong. Despite suffering 12 killed and 55 wounded, 1-4 Cav maintained a stubborn defense while the Big Red One’s 1<sup>st</sup> Brigade counterattacked and defeated the enemy. The squadron’s Presidential Unit Citation attested that it achieved “712 confirmed hostile dead, an estimated 850 additional killed and large quantiles of captured weapons and equipment.”<sup>7</sup>

Throughout the Vietnam War, division-level cavalry was not the only mounted security force proving its tactical value. The 11<sup>th</sup> Armored Cavalry Regiment (ACR), 1-4 Cav’s corps-level equivalent, likewise demonstrated the potency of independent mechanized firepower during security operations. GEN Donn A. Starry, who commanded the unit late in the war, believed the ACR devised “better means of gathering intelligence” and had “a higher density of automatic weapons, possessed long-range radios and had more aircraft than a mechanized brigade.”<sup>8</sup> From 1966 to 1971, the Blackhorse Regiment thus provided a mobile force that



**Figure 2. III Corps area of operations, Vietnam.** (From Wikipedia Commons, [https://commons.wikimedia.org/wiki/File:III\\_Corps\\_Tactical\\_Zone\\_December\\_1966.png](https://commons.wikimedia.org/wiki/File:III_Corps_Tactical_Zone_December_1966.png))

MACV repeatedly used for large-scale clearing operations. It also spearheaded the allied incursion into Cambodia in 1970, which occurred as the largest armored operation of the war.<sup>9</sup>

The year 1967 found 1-4 Cavalry again conducting traditional cavalry tasks in support of III Corps’ efforts in War Zone C. Beginning with Operation Cedar Falls, which lasted Jan. 8-26, 1<sup>st</sup> and 25<sup>th</sup> Infantry Divisions, 11<sup>th</sup> ACR, 196<sup>th</sup> and 173<sup>rd</sup> infantry brigades, and South Vietnamese allies cleared the VC 9<sup>th</sup> Division from the “Iron Triangle” with echeloned search-and-destroy attacks. The squadron initially screened the corps’ eastern flank along Highway 13, then transitioned to blocking key enemy routes, and finally cleared targeted sites. Though they reportedly killed 37 enemy and captured another 96, their protection of lines of communication with Saigon proved most significant.<sup>10</sup>

Quarterhorse next participated in Operation Junction City, again in War Zone C, from February to May 1967.

The plan called for the Big Red One and several attached brigades to create a “horseshoe” around the enemy stronghold while 25<sup>th</sup> Division and 11<sup>th</sup> ACR attacked its center. Returning to its previous site of operations, 1-4 Cav led its parent division into position, seized landing zones for infantry-battalion insertion, escorted support units, secured contested routes and cleared enemy positions. Later in May, the squadron conducted similar actions during Operation Dallas in the same area, where, as ordered, it conducted “combat reconnaissance” to destroy “[VC]/[North Vietnamese Army (NVA)] forces and installations.”<sup>11</sup>

These attacks occurred as the largest American operations in Vietnam thus far. Throughout the escalation, Quarterhorse provided critical time and space for higher commands to clear VC concentrations. The scouts’ efforts in controlling Highway 13 in particular ensured division and corps logistical continuity. In March 1967, after observing 1-4 Cav and others during

Operations Cedar Falls and Junction City, MACV reported that “armored cavalry squadrons” had “proven responsive” for “aggressive action in [the Republic of Vietnam] because of their balanced combined-arms structure and inherent capability for quick response and independent action.”<sup>12</sup> Despite this validation, 1-4 Cav frequently lost direct control of its air troop, which limited its potential for service as an economy-of-force asset.

## Combined-arms value

Allied forces across South Vietnam began 1968 by repelling the Tet Offensive. Due to their unique ability to rapidly reposition with survivable lethality, division commanders relied on their prized armored cavalries to rapidly reinforce weakening defenses and assault enemy concentrations. Quarterhorse, as the Big Red One’s most agile mechanized force near Saigon, sent its Troop A to reinforce a task force defending the Tan San Nhut airfield while Troops B and C supported 2<sup>nd</sup> Battalion, 28<sup>th</sup> Infantry Regiment, in a hard fight with four enemy battalions over control of the town of An My. The troopers engaged in some of the war’s fiercest fighting as they unleashed heavy firepower against lighter VC forces.<sup>13</sup>

The squadron, along with attached infantry units, fought another intense engagement several weeks later at Tan Hiep, near Di An, against an attacking enemy battalion. On May 5-6, it then supported a division effort to defeat retreating VC forces northeast of Di An by first blocking, and then pursuing and defeating, a retreating contingent. Troops A and B saw extremely heavy fighting during the final assault. The troopers reportedly killed about 340 enemy over the two-day fight.<sup>14</sup>

Throughout the rest of 1968, they executed continuous security operations as MACV placed greater emphasis on stabilizing civilian areas and empowering the Army of South Vietnam.

Armored cavalry remained high-use of offensive assets as less-mobile infantry units increasingly focused on “Vietnamization” of the war effort. On March 30, 1969, Quarterhorse accordingly joined a multi-division clearing operation called Atlas Wedge in the Michelin plantation fields 70

kilometers northwest of Saigon. Ordered to “detect, fix and destroy VC/NVA forces in the area,” the Big Red One relied on 1-4 Cav and participating 11<sup>th</sup> ACR elements to accomplish the task.<sup>15</sup> LTC William C. Haponski, then commanding the squadron, assessed that their subsequent victories over the 7<sup>th</sup> NVA Division revealed that his unit, when task-organized as a combined-arms force with an additional cavalry troop and infantry company, fought as the “most powerful combat force in the division” against “large main-force units.”<sup>16</sup>

Even as mechanized cavalry supported ground infantry divisions, their helo-centric counterparts enabled air-mobile divisions with expanded, if less forceful, reconnaissance and surveillance. As an example, the “Headhunters” of 1<sup>st</sup> Squadron, 9<sup>th</sup> Cavalry Regiment, supported 1<sup>st</sup> Cavalry Division with three aerial troops and a light ground troop throughout the war. The aero-cavalrymen’s swift and far-reaching scouting abilities complemented their higher command’s use of massed rotary-wing transport to allow infantry to rapidly close with and engage elusive VC forces in restrictive terrain. At famed places like the Ia Drang Valley, 1-9 Cav repeatedly allowed the “First Team” to seize initiative and position for advantage.<sup>17</sup>

## First in, last out

In February 1970, with the U.S. Army’s withdrawal from Vietnam underway, 1-4 Cav assumed rearguard duty – an economy-of-force mission traditionally assigned to cavalry – as 1<sup>st</sup> Infantry Division redeployed to Fort Riley and Germany. Starry later described in his detailed study how, ironically, the armored forces who were late to concentrate in Indochina would remain to “anchor the withdrawal of American combat units.”<sup>18</sup> Unfortunately for the squadron, they suffered the last Big Red One Soldier-killed-in-action in Vietnam when a Troop A noncommissioned officer walked over a mine. With their wartime service complete, the headquarters, B, C and D Troops returned to Kansas, while Troop A joined the division’s 3<sup>rd</sup> Brigade (Forward) in Europe.

Quarterhorse’s experiences in the Vietnam War yielded insights concerning

cavalry in security operations. Then-LTC Frederick Brown, the last 1-4 Cav commander in Indochina and a future commandant of the Armor Center, later attested that “through demonstration of ground and air firepower, mobility and shock action, combined with expert, flexible commanders ‘fighting forward’ at every level, [4<sup>th</sup> Cavalry] ... dominated ground combat.”<sup>19</sup> While seemingly boastful, the future general’s suggestion of relative overmatch at places like Ap Bau Bang, Highway 13 and the Michelin plantations indicate that cavalry-centric task forces, when empowered with mission-specific capabilities, offer potential to decisively expand a division’s tactical options through distributed security contributions. These lessons, though distinct to that conflict, remain relevant to future U.S. Army campaigns.

Part III of this series will examine the role of Quarterhorse as a division reconnaissance force in Operation Desert Storm.

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author of the book, *Riding for the Lone Star: Frontier Cavalry and the Texas Way of War, 1822-1865*.

## Notes

<sup>1</sup> Army Technical Publication 3-91.

<sup>2</sup> Army Doctrinal Reference Publication 3-90, *Offense and Defense*, Washington, DC: Government Printing Office, August 2012.

<sup>3</sup> *History of the Fourth United States Cavalry: Prepared and Loyal*, Washington, DC: Government Printing Office, 1991; retired COL William C. Haponski, *Danger's Dragoons*, First Division Museum at Cantigny Park, 2014.

<sup>4</sup> GEN Donn A. Starry, *Mounted Combat in Vietnam*, St. John's Press, 2017.

<sup>5</sup> James Scott Wheeler, *The Big Red One*, First Division Museum at Cantigny Park, 2017.

<sup>6</sup> Ibid.

<sup>7</sup> Annex A, "Battle of Srok Dong Narrative," combat after-action report (AAR), Operation El Paso II/III, 1<sup>st</sup> Infantry Division, June 30, 1966; *Fourth United States Cavalry*.

<sup>8</sup> Starry.

<sup>9</sup> John J. McGrath, *Scouts Out: The Development of Reconnaissance Units in Modern Armies*, Fort Leavenworth, KS: Combat Studies Institute Press, 2008.

<sup>10</sup> Combat AAR, Operation Cedar Falls, 1<sup>st</sup> Infantry Division, March 13, 1967; *Fourth United States Cavalry*.

<sup>11</sup> Operations report, lessons-learned, Headquarters, 1<sup>st</sup> Infantry Division, Nov. 9, 1967, quoted in Robert Peters, "Jack of all trades: the metamorphosis of armored cavalry in Vietnam," master's thesis, University of Louisville, 2005.

<sup>12</sup> Report, "Mechanized and Armor Combat Operations in Vietnam," Headquarters, U.S. Army Vietnam, March 28, 1967.

<sup>13</sup> Wheeler.

<sup>14</sup> Wheeler; *Fourth United States Cavalry*.

<sup>15</sup> Combat AAR, Operation Atlas Wedge, 17<sup>th</sup> Military History Detachment, 1<sup>st</sup> Infantry Division, April 19, 1969.

<sup>16</sup> Haponski.

<sup>17</sup> McGrath.

<sup>18</sup> Starry.

<sup>19</sup> Haponski.

## ACRONYM QUICK-SCAN

**AAR** – after-action report

**ACR** – armored cavalry regiment

**BCT** – brigade combat team

**DivCav** – division cavalry

**MACV** – (U.S.) Military Assistance Command, Vietnam

**NVA** – North Vietnamese Army

**VC** – Viet Cong

# 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.

**APPLETON, WILLIAM H. 1LT**

Unit: Company H, 4th U.S. Colored Troops. Place and date of action: Petersburg, VA, June 15, 1864, and New Market Heights, VA, Sept. 29, 1864. Entered service: Portsmouth, NH. Born: March 24, 1843, Chichester, NH. Date of issue: Feb. 18, 1891. Citation: The first man of the Eighteenth Corps to enter the enemy's works at Petersburg, VA, June 15, 1864. Valiant service in a desperate assault at New Market Heights, inspiring the Union troops by his example of steady courage.

**BATES, NORMAN F. SGT**

Unit: Company E, 4th Iowa Cavalry. Place and date of action: Columbus, GA, April 16, 1865. Born: Vermont. Date of issue: June 17, 1865. Citation: Capture of flag and bearer.

**BAYBUTT, PHILIP PVT**

Unit: Company A, 2nd Massachusetts Cavalry. Place and date of action: Luray, VA, Sept. 24, 1864. Entered service: Fall River, MA. Born: England. Date of issue: Oct. 19, 1864. Citation: Capture of flag.

**BEBB, EDWARD J. PVT**

Unit: Company D, 4th Iowa Cavalry. Place and date of action: Columbus, GA, April 16, 1865. Entered service: Henry County, IA. Born: Butler County, OH. Date of issue: June 17, 1865. Citation: Capture of flag.





# Exercise Bayonet Shield 2017: U.S., NATO Allies Train Together to Present Credible Deterrent to Aggression



U.S. Army Soldiers with 1<sup>st</sup> Squadron, 91<sup>st</sup> Cavalry Regiment, 173<sup>rd</sup> Infantry Brigade Combat Team (Airborne), send rounds downrange during a combined-arms live-fire exercise (CALFEX) at Adazi Training Area in Latvia Oct. 2, 2017. The CALFEX showcased the abilities of American, Spanish, Canadian and Polish allies to work cohesively as a part of Exercise Bayonet Shield, a region-wide exercise in the Baltics. The goal of the exercise was to enhance operational agility during realistic training scenarios between the United States and its NATO allies and partners, including the various enhanced-forward-presence battlegroups. (U.S. Army photo by PFC Nicholas Vidro, 7<sup>th</sup> Mobile Public Affairs Detachment)

by MAJ Craig J. Nelson, CPT John T. Williams and CPT Mackenzie Sims

Units across the U.S. Army train for combined-arms operations alongside their North Atlantic Treaty Organization (NATO) allies to be ready for a potential complex, high-intensity conflict on short notice. This demonstrated readiness that results from the training helps present a credible deterrent against aggression in Eastern and Central Europe.

With that in mind, U.S. forces, along with combined air and land forces from Estonia, Latvia and Lithuania, conducted Exercise Bayonet Shield Sept. 1-Oct. 7, 2017, at multiple locations across the Baltic region. About 600 Soldiers from 1<sup>st</sup> Squadron, 91<sup>st</sup> Cavalry Regiment (Airborne), 173<sup>rd</sup> Infantry Brigade Combat Team (IBCT) (Airborne), participated in the U.S.-led exercise.

Bayonet Shield 2017 was a force-posturing deployment exercise conducted with NATO allies in support of Operation Atlantic Resolve. It consisted of a series of troop-level live-fire training events and exercises with allied defense forces to increase unit proficiency and preparedness to respond to any threat or crisis.

For the Soldiers of 1<sup>st</sup> Squadron, 91<sup>st</sup> Cavalry Regiment, who executed live-fire objective training (OBJ-T) with NATO allies, the training conducted during Bayonet Shield sought to meet the demands of the OBJ-T progression while forward-deployed in Estonia, Latvia and Lithuania. These Soldiers learned that proficiency, preparedness and ultimately deterrence to aggression requires months of detailed cooperative planning alongside host-nation and multinational allies.

## Overview of training

The exercise culminated with a troop-level, multinational, mounted combined-arms live-fire exercise (CALFEX). The 1-91 Cav Soldiers conducted the CALFEX Oct. 2-3, 2017, within the Adazi Training Area in Latvia. The participants included a motorized-cavalry troop from 1-91 Cav, a platoon of Spanish sappers from the XI Spanish Engineer Battalion and a platoon of PT-91 tanks from the Polish 9<sup>th</sup> Armored Cavalry Brigade (ACB). Batteries of M777s from the 4<sup>th</sup> Battalion, 319<sup>th</sup> Airborne Field Artillery Regiment, and the 1<sup>st</sup> Royal Canadian Horse Artillery (RCHA) – as well as a platoon of AH-64 helicopters from 1<sup>st</sup> Battalion, 3<sup>rd</sup> Aviation Regiment, 12<sup>th</sup> Combat Aviation Brigade – provided direct support of each troop.

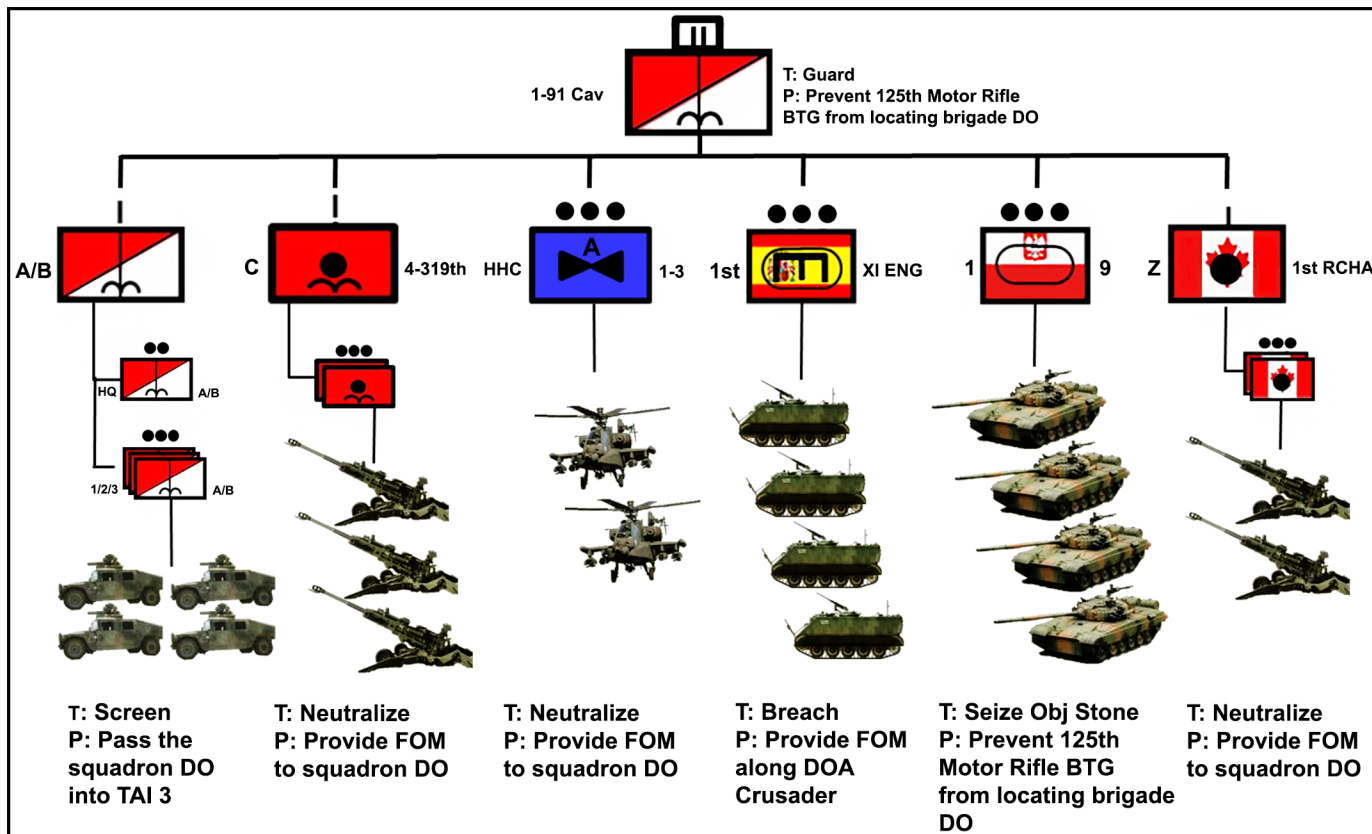


Figure 1. Mounted CALFEX task organization.

## Training objectives

The exercise assessed two troop-level mission-essential tasks (MET) in a live-fire environment: “conduct zone reconnaissance” and “conduct a screen.” The troop CALFEX evaluated each troop’s ability to execute rapid and forceful zone reconnaissance while it engaged and destroyed enemy reconnaissance elements with direct fire, indirect fire and attack aviation throughout the entire depth of the enemy’s disruption zone.

Upon identifying the enemy’s battle zone, each troop established a screen to observe an enemy obstacle belt, which consisted of a 2-meter-by-2-meter tank ditch and triple-strand concertina wire. The troops passed Spanish sappers forward to breach the enemy’s counter-mobility obstacles by using explosives. Following the breach, the squadron conducted a forward passage of the Polish 9<sup>th</sup> ACB’s main battle tanks through its lines. This allowed the Polish tanks to engage and destroy lead elements of the enemy’s advance guard.

## Planning/friction points

The squadron’s planners learned that attempts to coordinate for land and allied participation in the Baltics using telephones or email wasn’t enough to confirm training venues or events with reasonable certainty. Instead, in-person coordination during a predeployment site survey (PDSS) proved to be more effective, giving resource requests the necessary visibility and immediacy to build a dependable calendar. Each troop sent a representative on the PDSS to facilitate shared understanding and enable parallel planning. As a result, the personal relationships formed during the PDSS provided a foundation to mitigate friction points that emerged later.

Following the PDSS, the squadron also formed a working group to maximize the value of the pre-exercise planning. The working group produced a detailed execution checklist thanks to representatives who participated from every warfighting function within the squadron.

Prior to the PDSS departure, the squadron staff coordinated with host-nation

militaries and submitted a detailed summary to host-nation land managers at each range-control complex. This summary described the objectives 1-91 Cav hoped to achieve during the PDSS. Early coordination between 1-91 Cav and host-nation representatives allowed range-control personnel to synchronize access to key sites and facilities. This was particularly helpful during range planning. It allowed 1-91 Cav planners to build range plans based on key local terrain, grid coordinates and line-of-sight azimuths. The ability to influence decision-makers at range-control facilities across the Baltics – as well as ensure they understood 1-91 Cav’s intention to confirm the suitability and availability of the intended training venues – proved critical to host-nation coordination.

The 1-91 Cav planners communicated consistently with host-nation and NATO allies throughout the preparation and execution of the exercise. Multinational allies were deliberately included in the development of the training plan to ensure they received as much value from the exercise as U.S. forces. This cooperation continued



**Figure 2. Three Polish Army PT-91 main battle tanks advance toward a linkup with cavalry scouts of Troop B, 1-91 Cav, during a multinational CALFEX held on the Adazi Training Area, Latvia, in October 2017. (U.S. Army photo by LTC John Hall, 173<sup>rd</sup> IBCT (Airborne) Public Affairs)**

throughout execution. The multinational allies helped finalize the range builds, emplace obstacles, execute combined-arms rehearsals and develop after-action reviews.

The Spanish and Polish participants each used the same platoon from within their organizations for all CALFEX iterations. This was problematic because soldiers from the affected platoons grew fatigued by the midpoint of our CALFEX progression; during two night iterations, they sat out to sleep or eat. If given the opportunity to repeat the exercise, 1-91 Cav representatives recommend against any plan that relies on one platoon or troop to execute all iterations of a squadron CALFEX. Rather, it would have been better if 1-91 Cav's troops and platoons had aligned with counterpart formations from Polish and Spanish allies early in the deployment to forge personal relationships and familiarity before the CALFEX.

The variety of systems available during Bayonet Shield allowed U.S. and NATO commanders to gain experience and expertise in the employment of attack aviation. Troop commanders learned the value of this potent asset as a maneuver element during the exercise, giving the AH-64 Apaches the commander's intent, task and purpose for every phase of the operation. Beyond using the Apaches solely as a fires asset to destroy targets on the ground, troop commanders also employed the

helicopters to observe, adjust and employ indirect fire.

## Training progression

To prepare 1-91 Cav Soldiers for the culminating CALFEX, the unit executed a deliberate training progression during the months leading up to Exercise Bayonet Shield. The training progression began at the individual level with marksmanship instruction and weapons qualification. Following qualification, the squadron executed mounted crew gunnery and team, section and platoon live-fire exercises. Throughout the process, 1-91 Cav conducted evaluations using the most recent OBJ-T and evaluation outlines to ensure clear training guidance and objective external evaluation.

Between major live-fire events, 1-91 Cav facilitated maneuver training for the troops at every opportunity, taking maximum advantage of the training space available in the Baltics. In addition to executing mounted and dismounted maneuver training during hours of limited visibility, each troop trained with rotary-wing assets in preparation for the squadron-level MET, "conduct an air assault."

## Deviation packets/symphony of fires

The number of available assets, a diverse array of targets and complexity of situations presented to the troops during the CALFEX offered realism at

all levels of training. The realistic training was a direct result of deviation packets submitted through 7<sup>th</sup> Army Training Command, which adjusted baseline safety restrictions and allowed paratroopers to execute live-fire maneuver training that resembled combat.

Moreover, a deliberate live-fire plan ensured safety danger zones and other restrictions enabled realistic training, such as employing full-range training rounds on the objectives, rather than offset from the objectives.

The commander placed special emphasis on echeloning fires throughout the training, employing all organic weapons systems and aerial sensors, such as organic unmanned aerial vehicles (such as Ravens) and AH-64 Apache attack helicopters. The symphony of destruction included artillery assets, mortars, close-air support, direct-fire weapons systems and allied tank support.

Troop commanders, platoon leaders, troop fire-support officers and forward observers had to consider their choices to synchronize weapons and their effects appropriately. They executed this CALFEX while geographically dispersed, outside of visual contact and with all three platoons simultaneously engaged.

## Conclusion

Months of detailed, cooperative planning alongside host-nation and



**Figure 3. U.S. Army Soldiers with 1-91 Cav deliver mortar rounds during a live-fire exercise at Tapa Training Area, Estonia, Sept. 13, 2017. (U.S. Army photo by PFC Nicholas Vidro, 7<sup>th</sup> Mobile Public Affairs Detachment)**

multinational allies allowed the squadron to improve its ability to accomplish MET training while maintaining a U.S. strategic presence in the Baltics. The 1-91 Cav presented the troop team with a highly realistic, complex CALFEX scenario that tested nearly every individual and collective MET throughout the five-week exercise. The paratroopers learned the importance of fighting to a position of advantage from which a troop can answer its assigned priority intelligence requirements and destroy enemy reconnaissance assets to win the counter-recon fight.

During Exercise Bayonet Shield, 1-91 Cav demonstrated its ability to execute an OBJ-T progression that enhanced the deterrent against aggression while forward deployed within the U.S. Army Europe Theater.

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*Regiment, 10<sup>th</sup> Mountain Division (Light Infantry), Fort Drum, NY. MAJ Nelson's military schools include Ranger School and Jumpmaster School. He holds a bachelor's of science degree*

*from the U.S. Military Academy (USMA), West Point, NY, and a master's degree in military art and science from Command and General Staff College.*

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**Figure 4. A cavalry scout assigned to 1-91 Cav mans his .50-caliber machine-gun during a blank-fire iteration of joint, multinational CALFEXs at Adazi Training Area, Latvia, in October 2017. (U.S. Army photo by LTC John Hall, 173<sup>rd</sup> IBCT (Airborne) Public Affairs)**

Michigan State University. He also studied Arabic at The Hebrew University, located on Mt. Scopus, Jerusalem, Israel. CPT Sims has deployed for exercises to Norway, Israel and Latvia.

## ACRONYM QUICK-SCAN

**ABCT** – armored brigade combat team  
**ACB** – armored cavalry brigade  
**BTG** – brigade tactical group  
**CALFEX** – combined-arms live-fire exercise  
**DO** – decisive operation  
**DoA** – direction of advance  
**FoM** – freedom of maneuver  
**HHC** – headquarters and headquarters company

**IBCT** – infantry brigade combat team  
**MET** – mission-essential task  
**NATO** – North Atlantic Treaty Organization  
**OBJ-T** – objective training  
**PDSS** – predeployment site survey  
**RCHA** – Royal Canadian Horse Artillery  
**TAI** – targeted area of interest  
**USMA** – U.S. Military Academy



**Figure 5, left.** Paratroopers assigned to Anvil Troop, 1-91 Cav, and Spanish sappers of the XI Engineer Battalion conduct a combined-arms rehearsal in preparation for joint, multinational CALFEXs at Adazi Training Area, Latvia, in October 2017. (U.S. Army photo by LTC John Hall, 173<sup>rd</sup> IBCT (Airborne) Public Affairs)

**Figure 6, below.** Paratroopers assigned to Bulldog Troop, 1-91 Cav, and Slovenian chemical, biological, radiological and nuclear specialists rush to board a U.S. Army UH-60 Blackhawk helicopter during training conducted in preparation for joint, multinational CALFEXs at Adazi Training Area, Latvia, in October 2017. (U.S. Army photo by SGT Tony Brown, 1-91 Cavalry (Airborne) Public Affairs)





Figure 7, left. Engineers assigned to the XI Engineer Battalion of the Spanish army execute a breach during joint, multinational CALFEXs at Adazi Training Area, Latvia, in October 2017.

Figure 8, below A paratrooper assigned to Bulldog Troop, 1-91 Cav, scans the horizon in search of potential threats during training conducted in preparation for joint, multinational CALFEXs at Adazi Training Area, Latvia, in October 2017.



# Leadership, Leader and Command Philosophies: What's the Difference, Why Does It Matter?

by Dr. Ted A. Thomas and  
LTC Gregg M. Haley

We each have a leadership philosophy, whether it is written down or not. Taking time to reflect on who we are, what we believe, why we act the way we do and how that will affect us in future leadership positions makes us better, self-aware leaders. If we are honest with ourselves, we will identify shortcomings, strengths and gaps in our experience that shape how we will lead in upcoming positions. This introspection ensures we become the leader our organization needs, not just the leader we want to become.

There are three approaches to present personal philosophies about leading:

- Leadership philosophy;
- Leader philosophy; and
- Command philosophy.

Each of the three philosophies is personal and unique to the leader. They all contain much of the same content, yet there are important distinctions between them we need to understand. Moreover, these distinctions matter because leaders must consider their audience and the context when they begin to compose their personal philosophy on leading.

## Leadership philosophy

First is *leadership* philosophy, which is the basis and foundation for the other two philosophies. Many of us are familiar with the term, but we assert that this philosophy is redefined as an internal, unpublished guide for the leader on how to lead and what his or her beliefs and priorities are when leading. This philosophy can be elaborate or simple, but it is founded on the individual's values, beliefs and past experiences. It defines and describes the ethos of the leader, regardless of the position or unit assigned, and from here is born the two subsequent philosophies.

Developing a sound leadership philosophy requires reflection and humility. Reflection is an integral part of



understanding what the leader believes, why he or she believes it and how he or she plans to implement the beliefs. Humility is rarely mentioned in leadership doctrine, but without humility there is no reflection. The recognition and development of humility is often overlooked by senior leaders, especially considering how it enhances a person's value as a leader. Humility is required for self-awareness and self-honesty as the leader reflects on weaknesses and strengths. Reflection and self-awareness are necessary to determine the logic and reasoning behind the leader's beliefs and individual behaviors.

All leaders should consider reflecting on and rewriting this "living" philosophy during transitions in their careers. The reflection and mental work required to write a philosophy will improve self-awareness. The act of writing also makes a better leader by forcing refinement of his or her thoughts to help make ideas stick in the leader's sub-consciousness. The thought that must go into writing helps organize and articulate thinking, priorities and goals. It helps the leader understand what is important and how to best communicate it to others. Once leaders complete writing their personal philosophy, they will have a better idea of who they are, and why they believe and think the way they do. They can then decide what part of their philosophy they want to share with others.

The next two philosophies are for external consumption. These philosophies are published so others can read and process the information. They become a guide for an organization's members to understand their leader and how he or she operates. However, anything more than two pages is too long because, beyond that point, members of the organization will neither read it nor retain it.

## Leader philosophy

The second approach is a **leader** philosophy that operationalizes the individual's leadership philosophy to his or her current supervisory role. It tells the organization's members what they need to know about their leader and what they can anticipate from him or her. This helps set expectations. For

example, is the leader a detail person or a big-picture person? Does he or she like to empower or control? It uses the leadership philosophy as a basis and foundation, but it is tailored to a particular audience (unit or organization) based on the leader's position, environment, organizational culture and followers.

Since all leaders work for a commander or other senior leader, their philosophy should nest with their commander's command philosophy. Just because the leader philosophy is tailored to fit into the commander's philosophy and priorities, it does not mean those philosophies are the same, nor should they be since each leader is unique in the way he or she leads.

For instance, an operations officer may be very detailed, wanting a lot of information and conducting a couple of meetings each day to stay informed. On the other hand, a commander may be a big-picture leader who does not want the details but would rather be notified only of significant events. The commander may want everyone to go home at a certain time of day, while the operations officer would like to keep people working late into the evening when needed.

The philosophies should not conflict or cause contention within the command. Obviously, the junior leader should then find other ways of meeting requirements and bend his or her guidance to subordinates to accommodate the senior leader's directives.

## Command philosophy

The last approach is a **command** philosophy, which operationalizes the leadership philosophy and applies it to the commander's unit. We are more familiar with command philosophies since most commanders post them for Soldiers to read. However, the command philosophy is just a particular application of a leader's philosophical approach to leading for a specific position and place in time. It contains what the commander wants his or her command to do or not do, how to perform and how to act. It contains the commander's vision for the unit and how to achieve it. It provides a forum for the commander to help motivate the unit, and it sets a climate for his or her

particular style of command leadership to flourish.

In other words, command philosophy provides a more holistic view of how to accomplish the mission, to get all of the various parts of the organization to work together and thrive, and to safeguard the welfare of the people in the unit or organization.

We believe researching and drafting the leader or command philosophy should be near complete before the leader's arrival in an organization. However, before publishing a leader or command philosophy, the incoming leader should conduct an initial assessment, nest it with the higher headquarters as appropriate and then obtain feedback. Obtaining this feedback from trusted individuals, whether peers or mentors, may give the leader a litmus test for success before execution or publication of the philosophy. These individuals are normally able to tell whether the leader's philosophy is genuine and can provide insight on the clarity of the content, length and design.

The main difference between a leader philosophy and a command philosophy is the scope. The command philosophy provides the commander's vision for the unit, while the leader philosophy targets a section's mission and reinforces the commander's vision and priorities. In both philosophies, the leader or commander communicates the standards he or she wants the unit to meet, what expectations there are and what is important. However, the commander is responsible for everything the organization does or does not do, while the leaders under the commander are responsible for just their own section and have a much narrower focus. As the saying goes, they should "survey large fields, cultivate small ones."

One caution is that the more specific the command philosophy gets, the more commanders may take away the initiative of those they lead. A second caution is that leaders may come into an organization with preconceived notions on how they are going to operate, which can quickly become outdated or unachievable. The overall philosophy may not need to change, but the



approach may have to adjust. For instance, there are different needs and approaches when commanding a unit with civilian and military personnel, as compared to a unit with only military. Commanders need to modify their philosophy to their current organization while still being true to themselves.

## ‘Living’ documents

All three written philosophies need to be living documents that should be revisited continually. The leadership philosophy can be more conceptual, while the leader and command philosophies need to be more practical and application-oriented.

The leader and command philosophies also need to stay aligned with organizational policies, core values and higher-command directives. These two philosophies are public documents the leader wants subordinates to read. Since they are public documents, this underscores the need for leaders to be as honest as possible with themselves in their reflection and to live what they say. Otherwise, the organization will quickly see through the hypocrisy and hollow words. The leadership philosophy is kept as personal and private as the leader desires but is still the foundation for the other two.

As leaders rise in rank, change positions of responsibility and grow in knowledge and understanding of people and leadership, it is natural for their ideas and philosophy of leadership to evolve. Leaders should not be static. Instead, they need to constantly learn and grow from their experiences. Therefore, they should revisit their leadership philosophy throughout their careers by reflecting on experiences and knowledge gained, and then capture those lessons-learned by improving and updating their leadership philosophy. There may not be any major revisions, but certainly there will be some added emphasis or insight due to life experiences and gained leadership experience. In addition, each time leaders change jobs or bosses, they should revise their leader or command philosophy based on the new requirements and environment.

## Building trust, respect, confidence

The importance of writing these philosophies is to let subordinates know what their leader expects from them, as well as what they can expect from their leader. By letting subordinates know the leader’s priorities, and how he or she thinks and acts, the leader will help build trust and respect within the command and build confidence among his or her subordinates.

The written philosophies provide a focus and intent for subordinates when questions arise and the leader is not there to answer them. It also forces leaders to spend some time in self-reflection to understand how they want to lead and operate and how to communicate that to their subordinates. While we believe it is important to provide these in written form, it cannot be understated that these documents provide little value to an organization without the proper modeling of their contents early and often by the leader.

It is well documented and oft quoted that LTG George S. Patton Jr. developed his leadership philosophy and refined it throughout his career based on the position and duties he had at any given time. However, his core principles always remained intact:

- Physical fitness;
- Positive mental outlook;
- Expert in his profession;
- Led by example;
- Went for the jugular (in it to win it; no second-place trophies);
- Audacious;
- Knew his competition/enemy; and
- Selected and cultivated loyal, capable subordinates.

There is no doubt Patton lived these principles in everything he did. His actions are well documented, and these principles can be seen in almost all of them. Patton was an advocate and practitioner of the formula “promulgation of the order should take no more than 10 percent of the time, while the remaining 90 percent [of the time should] consist of personal supervision coupled with proper and vigorous execution.”<sup>1</sup> Patton was able to make this formula work due to the embodiment

of his personal leadership principles into who he was, and the effective and impactful conveyance of these same principles to his subordinates.

## Conclusions

The written leadership, leader and command philosophies are internal and external guides. They provide a beacon to refocus leadership efforts when stress and mission demands cause the leader to lose focus. As has been often said, “if everything is important then nothing is important.” Therefore, once written down, these philosophies become important tools for many aspects of the leader’s life, in or out of the military, through leading families, communities and organizations. These philosophies will become a part of how leaders set their initial foundation in the unit, how they will be remembered and what their legacy will be.

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*LTC Gregg Haley is a leadership instructor, DCL, CGSC, Fort Leavenworth. His previous assignments include commander, 3<sup>rd</sup> Squadron, 89<sup>th</sup> Cavalry Regiment, Fort Polk, LA, and Operation Freedom Sentinel in Afghanistan; tactics instructor, Department of Tactics, CGSC; brigade operations officer, 170<sup>th</sup> Infantry Brigade Combat Team, Baumholder, Germany; and commander,*

battalion executive officer and battalion operations officer, 4<sup>th</sup> Battalion, 70<sup>th</sup> Armor Regiment, Baumholder, and Operation Enduring Freedom-Afghanistan. His military education includes the U.S. Army Command and General Staff Officer's Course. LTC Haley holds a bachelor's of science degree in political science/international relations

from the University of Missouri and a master's of arts degree in leadership and management from Webster University.

## Notes

<sup>1</sup> Richard Stillman, *General Patton's Timeless Leadership Principles*, Richard J. Stillman Publishing Company, 1998.

## ACRONYM QUICK-SCAN

**CGSC** – Command and General Staff College

**DCL** – Department of Command and Leadership

**USMA** – U.S. Military Academy

# 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.

### BEATY, POWHATAN 1SG

Unit: Company G, 5th U.S. Colored Troops. Place and date of action: Chapins Farm, VA, Sept. 29, 1864. Entered service: Delaware County, OH. Born: Richmond, Va. Date of issue: April 6, 1865. Citation: Took command of his company, all the officers having been killed or wounded, and gallantly led it.

### BEAUMONT, EUGENE B. MAJ

Unit: Assistant adjutant general, Cavalry Corps, Army of the Mississippi. Place and date of action: Harpeth River, TN, Dec. 17, 1864, and Selma, AL, April 2, 1865. Entered service: Wilkes Barre, PA. Born: Luzerne County, PA. Date of issue: March 30, 1898. Citation: Obtained permission from the corps commander to advance upon the enemy's position with 4th U.S. Cavalry, of which he was a lieutenant; led an attack upon a battery, dispersed the enemy and captured the guns. At Selma, AL, charged at the head of his regiment into the second and last line of the enemy's works.

### BENJAMIN, JOHN F. CPL

Unit: Company M, 2nd New York Cavalry. Place and date of action: Sailors Creek, VA, April 6, 1865. Born: Orange County, NY. Date of issue: May 3, 1865. Citation: Capture of battle flag of 9th Virginia Infantry (CSA).

### BETTS, CHARLES M. LTC

Unit: 15th Pennsylvania Cavalry. Place and date of action: Greensboro, NC, April 19, 1865. Entered service: Philadelphia, PA. Born: Bucks County, PA. Date of issue: Oct. 10, 1892. Citation: With a force of but 75 men, while on a scouting expedition, by a judicious disposition of his men, surprised and captured an entire battalion of the enemy's cavalry.



# Military Deception and Reverse Intelligence Preparation of the Battlefield: How Staff Integration Creates Advantages for the Brigade Combat Team Commander

by COL Thomas M. Feltey and  
CPT Lance C. Rae

Mission analysis (MA) has colloquially become known as the S-2's show. Feverishly producing products for an important briefing, intelligence officers brief an enemy plan while the rest of the staff sits idly by (thankful they are not in the S-2 shop). Unfortunately, leaving MA to the S-2 shop alone is not working well in actual practice across the force.

Personal observations from time spent as a reconnaissance-troop observer/coach/trainer (O/C/T) at the Joint Multinational Readiness Center (JMRC) and as an instructor at the Cavalry Leader's Course (CLC) have highlighted

a trend within training units and students in regard to intelligence preparation of the battlefield (IPB). We are failing at the squadron/battalion level and below to account for and integrate our enemy's analysis and adaptations to U.S. forces during MA. As a consequence, U.S. forces tend to create a "straw man" enemy when conducting MA and are then taken aback when they encounter an enemy who has been thinking about relative combat power and has taken advantage of their perceived strengths and U.S. forces' perceived weaknesses.

U.S. forces can reverse this trend by conducting integrated IPB, specifically focusing on the conduct of reverse IPB,

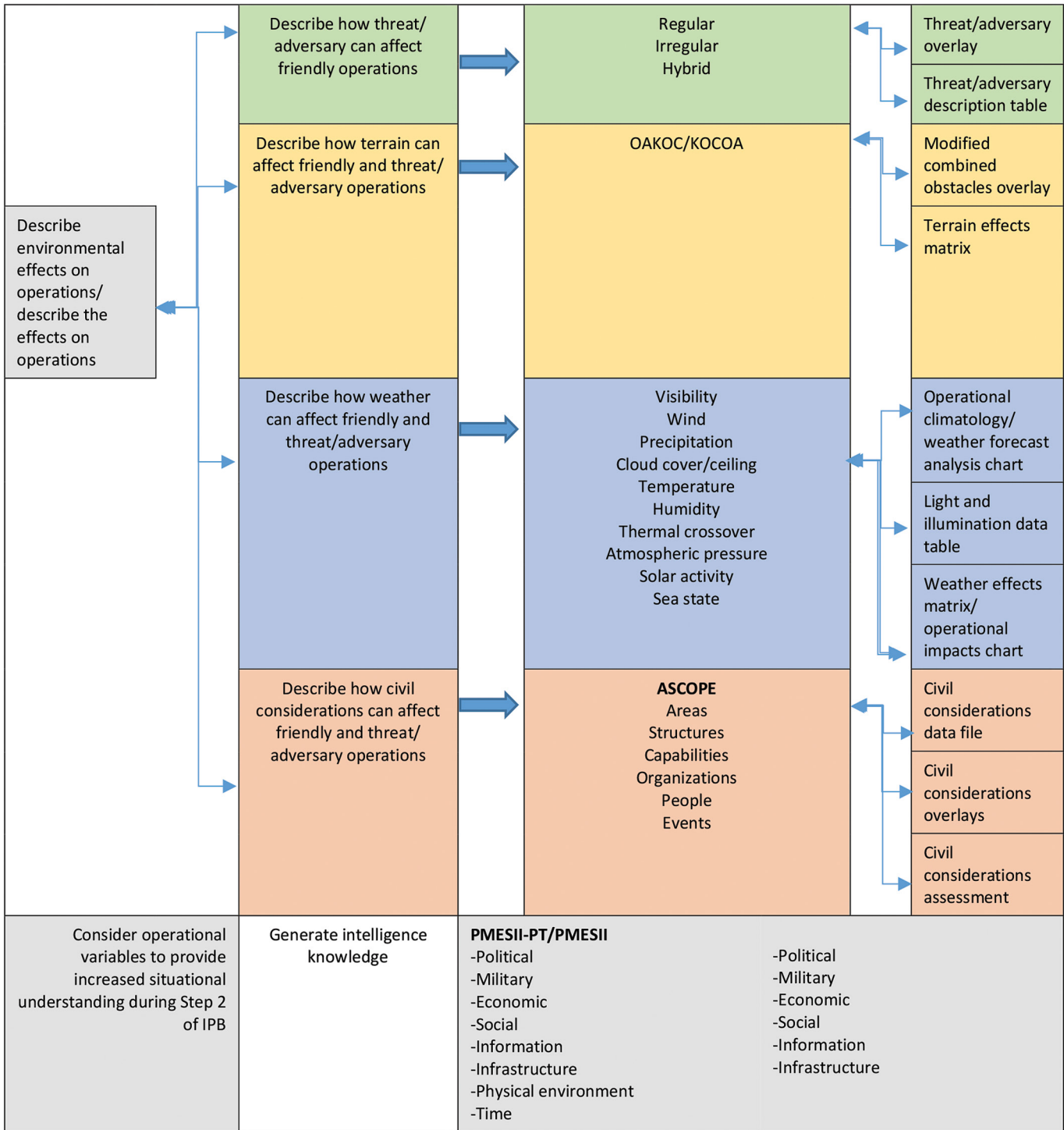
during Step 2 of the military decision-making process (MDMP). Reverse IPB<sup>1</sup> is a commonly overlooked sub-step within Step 4 of IPB, "determine threat course of action" (CoA).

## IPB review

Current doctrine describes IPB in four steps. In Step 1 we define the operational environment, determining the area of operations (AO) and area of interest (AI), and identify significant characteristics of the AO/AI that will require more analysis (enemy, terrain, weather, civil considerations). Step 1 of IPB helps U.S. forces identify the initial gaps in their understanding of the AO/AI and should generate assumptions, requests for information and

Identify the limits of the commander's area of operations ← -Generally assigned by higher headquarters			
Identify the limits of the commander's area of interest ← -Intelligence officer recommends any changes -Approved/disapproved by commander			
Identify significant characteristics of the area of operations and the area of interest for further analysis ← -Approved/disapproved by higher headquarters			
<b>Enemy</b> -Identity -Location -Size -Disposition	<b>Terrain</b> (OAKOC) -Obstacles -Avenues of approach -Key terrain -Observation and fields of fire -Cover and concealment	<b>Weather</b> -Visibility -Wind -Precipitation -Cloud cover/ceiling -Temperature -Humidity -Sea state	<b>Civil considerations (ASCOPE)</b> -Area -Structures -Capabilities -Organizations -People -Events
<b>Note:</b> For USMC, G-3/S-3 or higher headquarters is responsible for defining the area of operations		Initiate process necessary to acquire information necessary to complete IPB	Requests for information and information collection/intelligence collection are submitted through appropriate channels. (For U.S. Army, see ATP 2-01.)

Table 1. Sub-steps of Step 1 of the IPB process. (From Army Training Publication (ATP) 2-01.3)



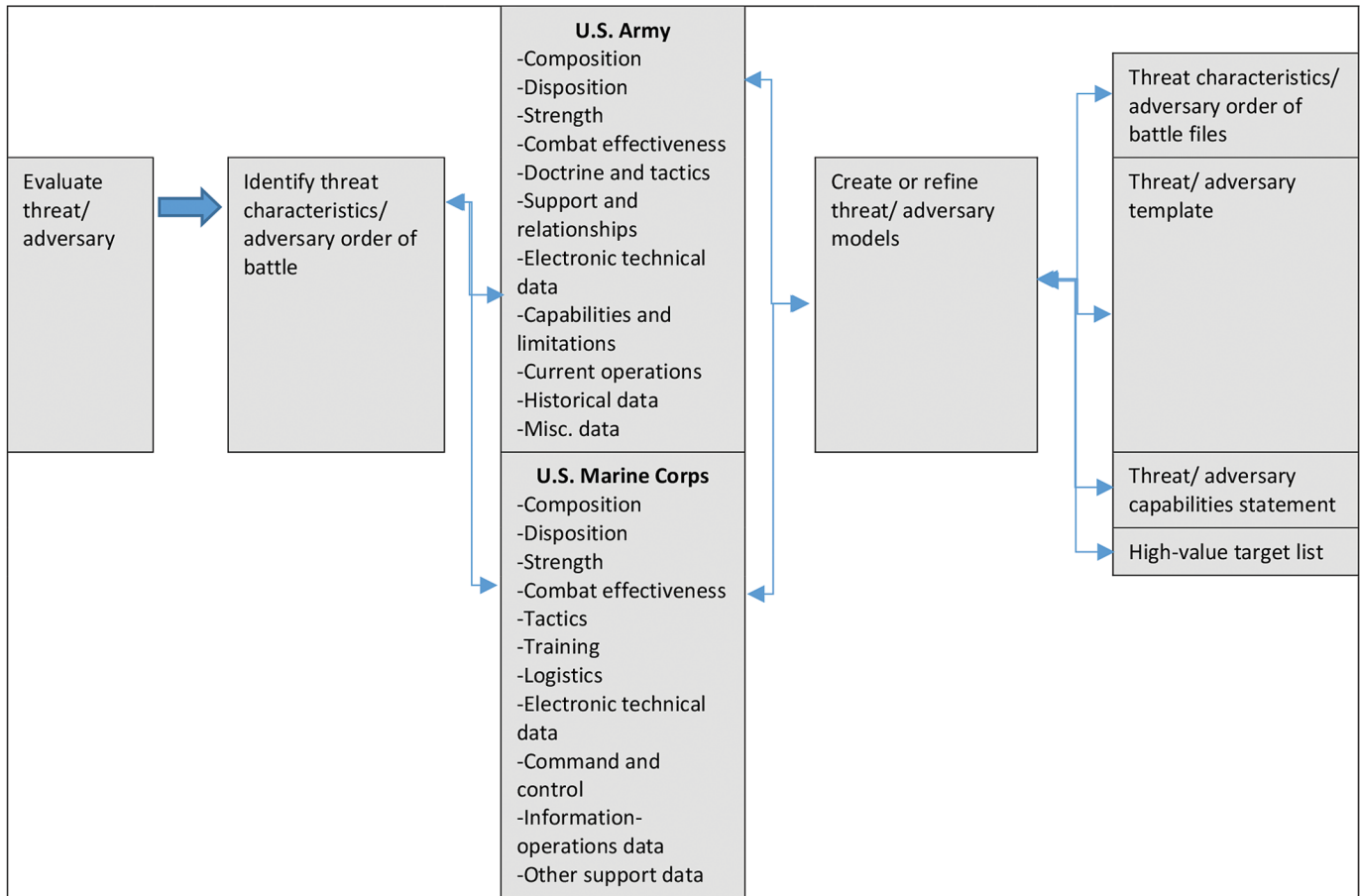
**Table 2. Step 2 of the IPB process.** (From ATP 2-01.3)

requests for information collection (IC) necessary to continue IPB.<sup>2</sup>

In Step 2 of IPB, U.S. forces describe environmental effects on operations, which is broken down into several sub-steps (Table 2). During Step 2, U.S. forces assess how adversaries can affect friendly operations in the AO/AI. U.S. forces evaluate the effect of the terrain on both friendly and enemy

elements by using observation and fields of fire, avenues of approach, key terrain, obstacles and cover, also known as OAKOC; the modified combined obstacles overlay; and the graphical terrain-analysis overlay. Next, U.S. forces assess the military aspects of weather, and it is the impact on both U.S. forces and the enemy as they operate in the AO/AI (weather forecasts, illumination data and weather-effects

matrix). Finally, U.S. forces assess the impacts of civil considerations that affect both U.S. forces and enemy forces through the lens of area, structures, capabilities, organizations, people and events, commonly referred to as ASCOPE; and political, military, economic, social, information, infrastructure, physical environment and time, or PMESII-PT.<sup>3</sup>



**Table 3. Evaluate the threat/adversary.** (From ATP 2-01.3)

U.S. forces evaluate the threat in the third step of IPB (Table 3), using doctrinal templates and our pre-existing knowledge of the enemy based on their order of battle, how they traditionally like to fight or how they have been fighting in a specific area. U.S. forces also take into account the enemy's combat effectiveness, capabilities, limitations, composition, disposition and overall strength. U.S. forces can produce threat characteristics, threat templates, threat capabilities statements and an initial high-value-target list based on the analysis in Step 3.<sup>4</sup>

In Step 4, U.S. forces determine the threat's CoA, taking into account the enemy's objectives, likely endstate and all the previous analysis from Steps 1-3 of IPB. Then, U.S. forces develop enemy CoA sketches and statements for each enemy CoA templated. U.S. forces also produce the event template and matrix during Step 4 of IPB.<sup>5</sup>

## Reverse IPB

U.S. forces are often satisfied, or are

forced to be satisfied, with this initial assessment of the enemy because time is a finite resource. Doctrinally speaking, U.S. forces should make as many enemy CoAs as time permits. With that said, U.S. forces should develop the following two CoAs at a minimum: the most likely CoA and the most dangerous CoA. If neither of these enemy CoAs takes into account the enemy's analysis of U.S. forces' disposition and effects within the AO/AI, those CoAs are flawed and don't meet the CoA screening criteria of being feasible, acceptable, suitable, distinguishable and complete.<sup>6</sup>

The solution is to conduct reverse IPB during MA; specifically, it should be done within the sub-step of identifying the full set of CoAs (Figure 1). Reverse IPB recognizes and takes into account the enemy's assessment of U.S. forces operating in the AO/AI. This subtle, critical and often missed sub-step ensures that a much more realistic enemy CoA sketch and statement is produced during MA. This will logically carry forward to the later steps of MDMP, most

importantly the wargame. Conducting reverse IPB during MA ensures that U.S. forces build in the enemy's initial reactions/counter-reactions, and it produces a much more logical and realistic enemy in the wargame. It also enables better results for U.S. forces on the battlefield.

This analysis can't be done in a stovepipe, though; the S-2 cannot do this tremendous amount of analysis alone. To successfully conduct reverse IPB, the staff must make an integrated and collaborative effort. This means each staff section must put on its red hat during MA and assist the S-2 by giving their relative combat power analysis<sup>7</sup> and most likely enemy adaptation and actions in response to U.S. forces in the AO/AI (unique to their warfighting functions).<sup>8</sup> U.S. forces are hesitant to invest the time and manhours required of collaborative IPB, but the benefits far outweigh the costs in regard to the quality of the MA being conducted, and therefore the entirety of MDMP. MA is the most vital step of good MDMP, and it will be made all the

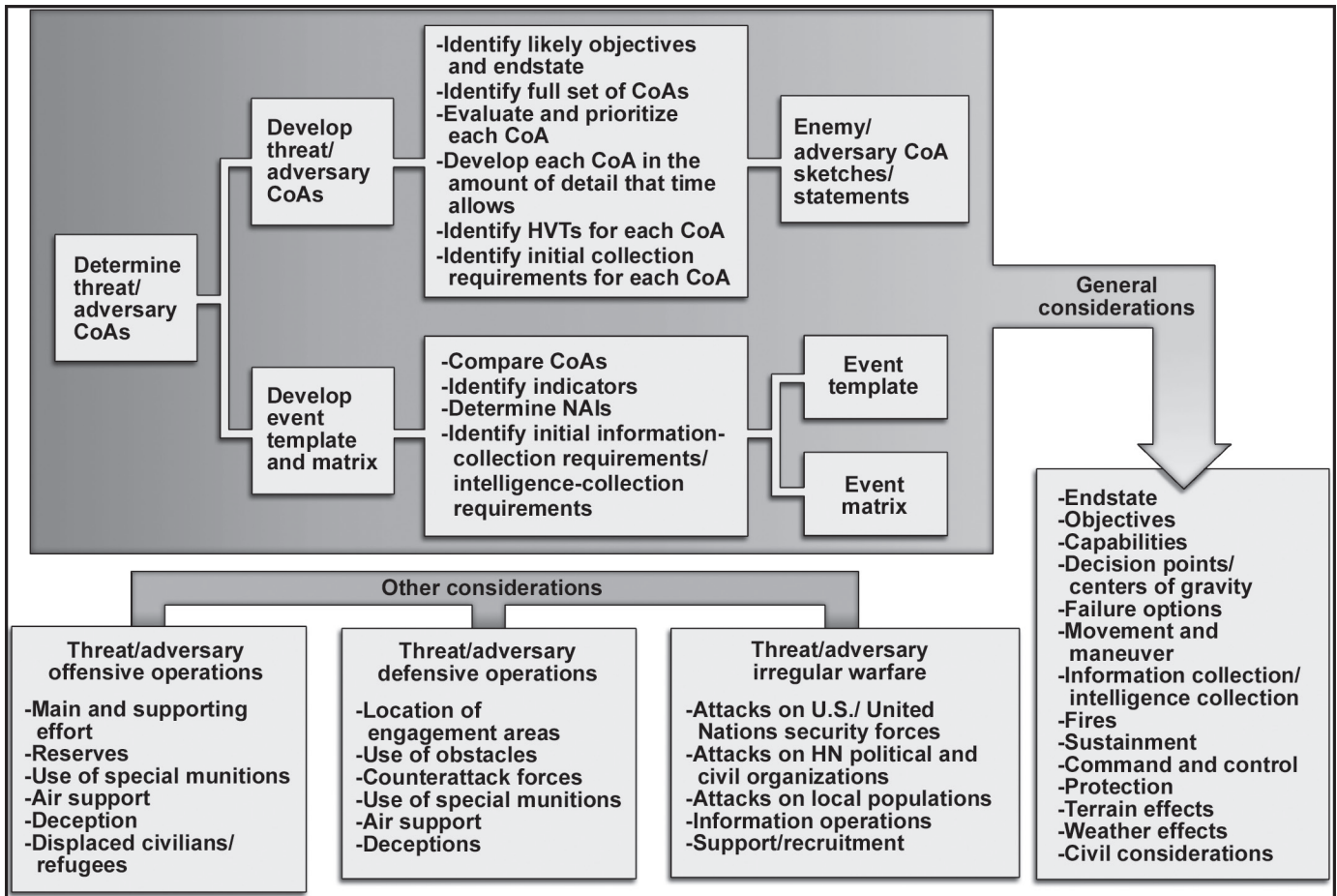


Figure 1. Determine threat/adversary CoAs. (From ATP 2-01.3)

better if the staff makes a conscious effort to collaborate on reverse IPB.

As U.S. forces become more proficient and effective at conducting reverse IPB, they will gain the ability to anticipate and even shape the enemy's tactical decisions. This more intimate understanding of the enemy will enable U.S. forces to employ the often neglected military-deception (MILDEC) plan.<sup>9</sup>

## Military deception

An advanced step, and a natural evolution from reverse IPB, is the development of a MILDEC plan. After the staff conducts reverse IPB and identifies the enemy's assessment of U.S. forces and likely adaptations, the staff takes advantage of the situation by distorting the enemy's perception of our disposition, composition and intentions to the extent that the enemy starts reacting counterproductively. Effective MILDEC is crucial to a commander's ability to shape, engage and consolidate gains.

MILDEC can be broken down into four techniques:

- **Feint** – an offensive action involving contact with the adversary conducted for the purpose of deceiving the adversary as to the location and/or time of the actual main offensive action.
- **Demonstration** – a show of force where a decision is not sought, and no contact with the adversary is intended. A demonstration's intent is to cause the adversary to select a CoA favorable to U.S. goals.
- **Ruse** – a cunning trick designed to deceive the adversary to obtain friendly advantage. It is characterized by deliberately exposing false or confusing information for collection and interpretation by the adversary.
- **Display** – the simulation, disguising and/or portrayal of friendly objects, units or capabilities in the projection of the MILDEC story. Such capabilities may not exist but are made to appear so.<sup>10</sup>

At the lowest level, MILDEC is referred to as tactical deception (TAC-D). As explained in Army Doctrinal Reference Publication (ADRP) 1-02, **Terms and Military Symbols**, "[TAC-D] is deception activities planned and conducted to support battles and engagements. TAC-D is planned and executed by, and in support of, tactical-level commanders to cause adversaries to take actions or inactions that are favorable to U.S. commanders' objectives. TAC-D is conducted to influence immediate military operations to gain a temporary tactical advantage over an adversary, to mask vulnerabilities in friendly forces or to enhance the defensive capabilities of friendly forces." A further output from greater understanding during IPB is a commander's/staff's ability maintain and exploit the relative advantage.

## How to take advantage

Brigade combat team (BCT) commanders can task their IC assets to answer priority intelligence requirements (PIRs)<sup>11</sup> about the effectiveness of their

PIR (if)	Friendly-force information requirement (and)	Decision point (then)
Enemy commits a battalion (+) against a feint force	Brigade's decisive operation is prepared to attack	Initiate attack with brigade's decisive operation

**Table 4. PIR and decision point.**



**Figure 2. CCIR and essential elements of friendly information.** (From FM 3-98)

TAC-D activities. PIR are often tied to decision points.

The BCT commander may establish the following PIR: Will the enemy commit forces against our feint force? The cavalry squadron can answer the indicators associated with the PIR by conducting reconnaissance-and-security operations. The cavalry squadron collects indicators in its assigned named areas of interest according to the IC matrix and reports information to the brigade. The brigade conducts analysis, turning the information reported into intelligence.<sup>12</sup> In this case, the BCT assigned the PIR as a commander's critical information requirement (CCIR). Therefore, the CCIR will have an associated decision point.<sup>13</sup> As a result of effective reconnaissance, the BCT commander can make a decision to commence a planned attack based on the fact that the enemy has committed forces toward the feint and away from the BCT commander's true decisive operation.

In summary, reverse IPB is a critical and often missed step of IPB. Staffs must factor in the enemy's assessment of U.S. forces and the adjustments it will create within the enemy's CoA. This collaborative effort must be done during MA by the entire staff to create a realistic enemy CoA statement and sketch. As a result, this enhanced MA will lead to a more feasible, acceptable, suitable, distinguishable and complete enemy CoA during the wargame. Knowledge of the enemy's CoA will inform and shape the U.S. forces' MILDEC

plan and how its inclusion at the tactical level can take advantage of the enemy's assessment of U.S. forces.

Finally, we discussed how a cavalry squadron can assess the effectiveness of the MILDEC plan for its BCT commander by conducting effective reconnaissance-and-security operations. Ultimately this will lead to more informed decision-making by the BCT commander, resulting in success on the battlefield.

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## Notes

<sup>1</sup> Reverse IPB is defined in ATP 2-01.3, *Intelligence Preparation of the Battlefield*, November 2014, as "how the presence and actions of U.S. forces will affect threat/adversary operations."

<sup>2</sup> ATP 2-01.3.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> For more information on CoA screening criteria, see Field Manual (FM) 6-0, Chapter 4.

<sup>7</sup> For more information on how to assess relative combat power, see FM 6-0, Chapter 9.

<sup>8</sup> For more information on of staff responsibilities during integrated IPB, see ATP 2-01.3, Chapter 1.

<sup>9</sup> ADRP 1-02, *Terms and Military Symbols*, November 2016, defines MILDEC as “actions executed to deliberately mislead adversary military decision-makers as to friendly military capabilities, intentions and operations, thereby causing the adversary to take specific actions (or inactions) that will contribute to the accomplishment of the friendly mission.” Joint Publication 3-13.4, *Military Deception*, January 2012, defines MILDEC as “applicable at all levels of war, across the range of military operations, and can be conducted during all phases of military operations.”

<sup>10</sup> From ADRP 1-02.

<sup>11</sup> FM 3-98, *Reconnaissance and Security Operation*, July 2015, defines PIR as “an intelligence requirement, stated as a priority for reconnaissance, security tasks and [IC], that the commander needs to understand a threat, enemy, adversary or operational environment (for example, terrain or civil considerations).”

<sup>12</sup> ADRP 1-02 defines CCIR as “an information requirement identified by the commander as being critical to facilitating timely decision-making.”

<sup>13</sup> According to ADRP 1-02, a decision

## ACRONYM QUICK-SCAN

**ABCT** – armored brigade combat team  
**ADRP** – Army doctrinal reference publication  
**ASCOPE** – area, structures, capability, organizations, people and events  
**ATP** – Army technical publication  
**AI** – area of interest  
**AO** – area of operations  
**ATP** – Army technical publication  
**BCT** – brigade combat team  
**CLC** – Cavalry Leader’s Course  
**CCIR** – commander’s critical information requirement  
**CoA** – course of action  
**EEFI** – essential elements of friendly information  
**FFIR** – friendly-force information requirement  
**FM** – field manual  
**HN** – host nation  
**HVT** – high-value target  
**IC** – information collection

**IPB** – intelligence preparation of the battlefield  
**JMRC** – Joint Multinational Readiness Center  
**KOCOA** – key terrain, observation and fields of fire, cover and concealment, obstacles, avenues of approach  
**MA** – mission analysis  
**MDMP** – military decision-making process  
**MILDEC** – military deception  
**NAI** – named area of interest  
**OAKOC** – observation and fields of fire, avenues of approach, key terrain, obstacles, cover  
**O/C/T** – observer/coach/trainer  
**PIR** – priority intelligence requirement  
**PMESII-PT** – political, military, economic, social, information, infrastructure, physical environment and time  
**TAC-D** – tactical deception  
**USMC** – U.S. Marine Corps

point is “a point in space and time when the commander or staff anticipates

making a key decision, concerning a specific [CoA].”

# 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.

## BICKFORD, HENRY H. CPL

Unit: Company E, 8th New York Cavalry. Place and date of action: Waynesboro, VA, March 2, 1865. Entered service: Hartland, Niagara County, NY. Born: Michigan. Date of issue: March 26, 1865. Citation: Recapture of flag.

## BIEGER, CHARLES PVT

Unit: Company D, 4th Missouri Cavalry. Place and date of action: Ivy Farm, MS, Feb. 22, 1864. Entered service: St. Louis, MO. Born: Germany. Date of issue: July 8, 1897. Citation: Voluntarily risked his life by taking a horse, under heavy fire, beyond the line of battle for the rescue of his captain, whose horse had been killed in a charge and who was surrounded by the enemy’s skirmishers.

## BIRDSALL, HORATIO L. SGT

Unit: Company B, 3rd Iowa Cavalry. Place and date of action: Columbus, GA, April 16, 1865. Entered service: Keokuk, Lee County, IA. Born: Monroe County, NY. Date of issue: June 17, 1865. Citation: Capture of flag and bearer.





# Demystifying Space: How to Perform Better in the Space Domain

by LTC Coley D. Tyler

My article, "Leveraging Space: An Examination of the Ultimate High Ground at Echelons Brigade and Below" (*ARMOR*, Summer 2017) previously introduced the role and importance of the space domain for mounted-maneuver professionals. The article laid a foundation for what the space domain looks like at lower echelons to increase awareness of space implications and ask for greater involvement in shaping future space support to maneuver formations.

The intent of this article, "Demystifying Space," is to bridge the gap among the space domain, the operational environment, future force modernization and current maneuver formations that require a higher level of space skills. The reality is that our Soldiers and formations cannot wait for the next big space program of record to provide overmatch against peer and near-peer adversaries. Being able to "fight tonight" requires addressing the problems of a denied, degraded and disrupted space operational environment (D3SOE) in a contested, multi-domain

extended battlefield environment against today's threat.

## Closing knowledge gap

Space capabilities have no doubt greatly enhanced U.S. Army warfighting formations. However, over time, the U.S. Army has become critically dependent (as an example) upon positioning-, navigation- and timing (PNT)-enabled equipment. Over-reliance on these enhanced capabilities is often to the detriment of alternative methods of conducting navigation. U.S. Army Soldiers and formations must execute missions within the commander's intent to achieve the desired endstate from large-scale combat operations to counterinsurgency/counterterrorism and along the full spectrum of D3SOE (from fully enabled to completely denied). Units must train at both ends of the spectrum, rapidly transition from one end to the other and have different portions of the formation operating at different points simultaneously.

A great place to start understanding the strengths and weaknesses of space-based capabilities (not only friendly and adversary, but also allied,

neutral and commercial) are two short reads available from the Maneuver Center of Excellence (MCoE) and the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT). The *Space Support to the Brigade Combat Team* trifold and Graphic Training Aide 40-01-001, *Army Space Training Strategy Home Station Training Reference Guide*, describe space support to operations, how to request space support and D3SOE mitigation approaches.

The easiest gap to close in maintaining space overmatch with peer and near-peer adversaries is the knowledge gap. Leaders cannot underestimate the importance of formations skilled in all domains on the future battlefield. A solid foundation of how space-based capabilities affect warfighting formations is the first step to developing a space-domain skillset.

## Assessing space linkages

With this knowledge, operators and leaders can then assess and appreciate their equipment's space linkages. This



Figure 1. D3SOE is a condition of the operational environment. D3SOE increases the occurrence of or need for certain events (up arrows) and impacts operations by decreasing formation efficiency (down arrows). (Source: D3SOE Maneuver Pre-Command Course (MPCC) brief)

is no small undertaking, but space enhancement is an ever-increasing equipment attribute that must be common knowledge to maximize effects while conducting cross-domain maneuver in a contested environment during large-scale combat operations. A typical brigade combat team has more than 3,200 pieces of equipment enabled by PNT from space and more than 300 pieces of satellite communication (SATCOM)-enabled equipment. What are the impacts to warfighting efficiency when an adversary targets one, more, or all of these systems in a D3SOE? Are commanders confident that their Soldiers and equipment will perform in a contested Global Positioning System (GPS) environment? This is the environment of the future.

As an example, if a unit takes the time

to encrypt their Defense Advanced GPS Receiver (DAGR), it will indicate when it is being jammed (Figures 2a and 2b). In the “jammer finder” mode, the DAGR will indicate the jamming signal strength. If a company commander intersected the reported jamming line of bearing of three platoons, the commander could determine a jammer location and take appropriate action.

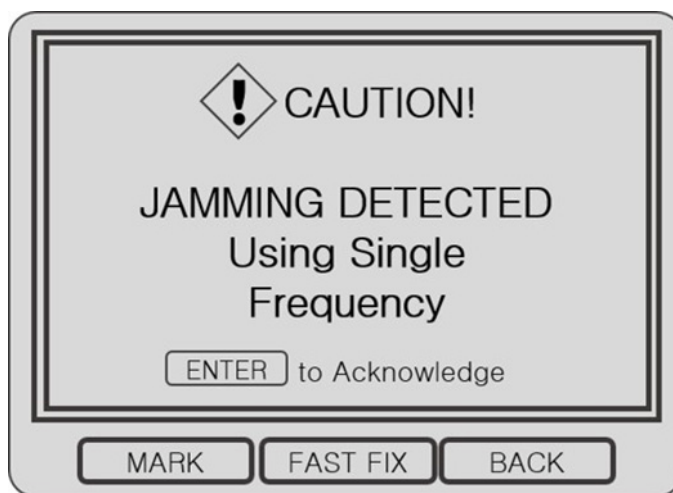
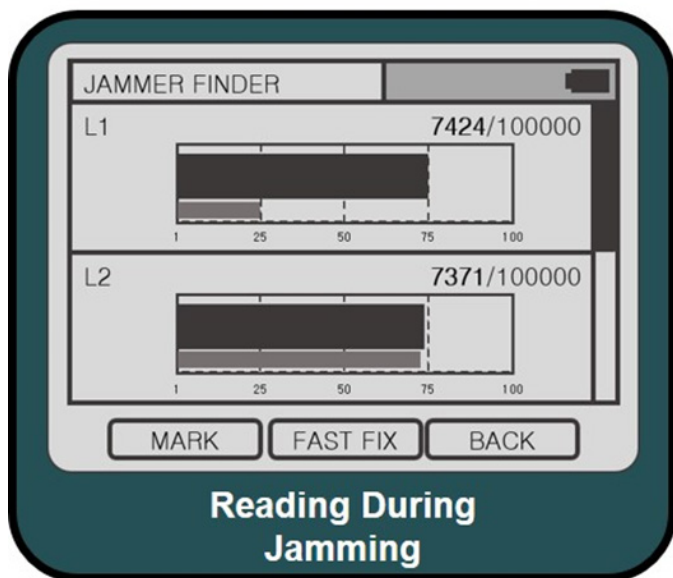
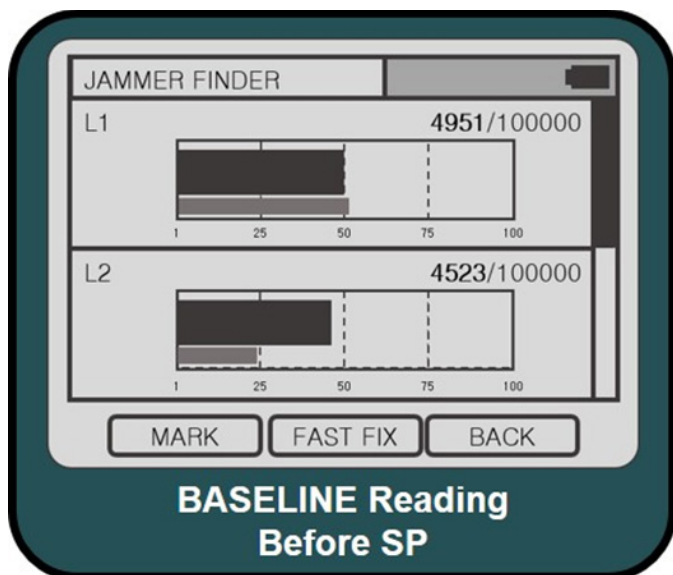
Platoons familiar with D3SOE and skilled in mitigation techniques would continue to operate in an analog mode (without turning off their DAGRs) until they regained the GPS signal. This course of action is not possible without completely understanding space support to multi-domain operations and individual equipment reliance on space capabilities. However, with that understanding, leaders could determine training and performance deficiencies as they relate to the accomplishment of the unit’s mission-essential tasks. Leaders can then address these deficiencies in their unit training plans.

## More training options

Training options developed by US-ASMDC/ARSTRAT are available to units to address the D3SOE problem set:

- The Army Space Training Strategy (ASTS) described in the article “Leveraging Space” incorporates D3SOE instruction into the education systems for officers, warrant officers and noncommissioned officers. The idea that formations receive knowledgeable and better-educated leaders from the beginning facilitates a decreased learning curve so leaders can spend more time focused on training Soldiers and their units.
- There are space electives taught at the Command and General Staff College that lead to the 3Y-Army Space Cadre skill identifier. These courses are A537 Space Orientation (Term 1) and A543 Space Operations (Term 2). This skillset in a field-grade officer – many of whom will directly influence training when he or she arrives on a staff – will serve a unit well for developing internal and external options to improve the space-domain skillset.

An additional option is sending Soldiers to the Army Space Cadre Basic Course (ASCBC) Phases 1 and 2. ASCBC is an Army Training Requirements and Resources System course (<https://www.atrrs.army.mil>) offered all around the globe via mobile-training teams.



Figures 2a, left, and 2b, above. DAGR jamming notification and jammer-finder mode screens. It is an important tactic, technique and procedure to obtain this reading before entering a contested environment to use as a baseline reading for comparison. (Source: Home-station training PNT mitigation brief)

The course code is 2G-SI/ASI3Y/043-ASI3Y (MC), and the school code is 129.

ASCBC is a space-fundamentals course focused on understanding space-based capabilities for planning, preparing and executing unified land operations. Graduates of this course can request the 3Y skill identifier. This course does not entail Soldiers taking on additional obligations, but the education received will help them better perform their already assigned duties and responsibilities and understand the impacts of peer and near-peer adversaries in a D3SOE.

These opportunities support the ASTS' institutional line of effort (LoE) "to increase space knowledge ... through institutional training and education." Leaders can also develop formations with multi-domain skillsets through the ASTS operational LoE by home-station training and

combat-training-center (CTC) rotations "to exploit space capabilities and fight in contested environments."<sup>2</sup> The operational LoE is a two-part concept:

- Home-station training is provided by USASMDC/ARSTRAT G-37 Training, Readiness and Exercise, Army Space Integration Branch, and consists of crawl and walk phases. USASMDC/ARSTRAT provides the training at no cost to units 90-180 days prior to a CTC rotation or deployment. USASMDC/ARTSTRAT also conducts train-the-trainer sessions, classroom instruction and field-training exercises, complete with space-kit training. Space Kit 3 replicates GPS jamming on handheld DAGRs, and Space Kit 4 replicates threat interference on satellite communications.
- The branch supports the run phase at CTC rotations by creating a

contested space operational environment, providing space-experienced observers/coaches/trainers and opposing forces or "Army space aggressors." You can find lessons-learned from the National Training Center at <https://www.milsuite.mil/book/groups/ntc-operations-group>. Search "D3SOE" or "space" in the search box.

Leveraging ASTS institutional and operational LoE support, unit leaders can greatly decrease the space knowledge gap and better prepare their formations to operate in a D3SOE. Much like with fire or air support, space considerations will become second nature while leaders conduct the military decision-making process, and planning can succeed across the full spectrum of a D3SOE.

## Visualizing space

The U.S. Army School of Advanced

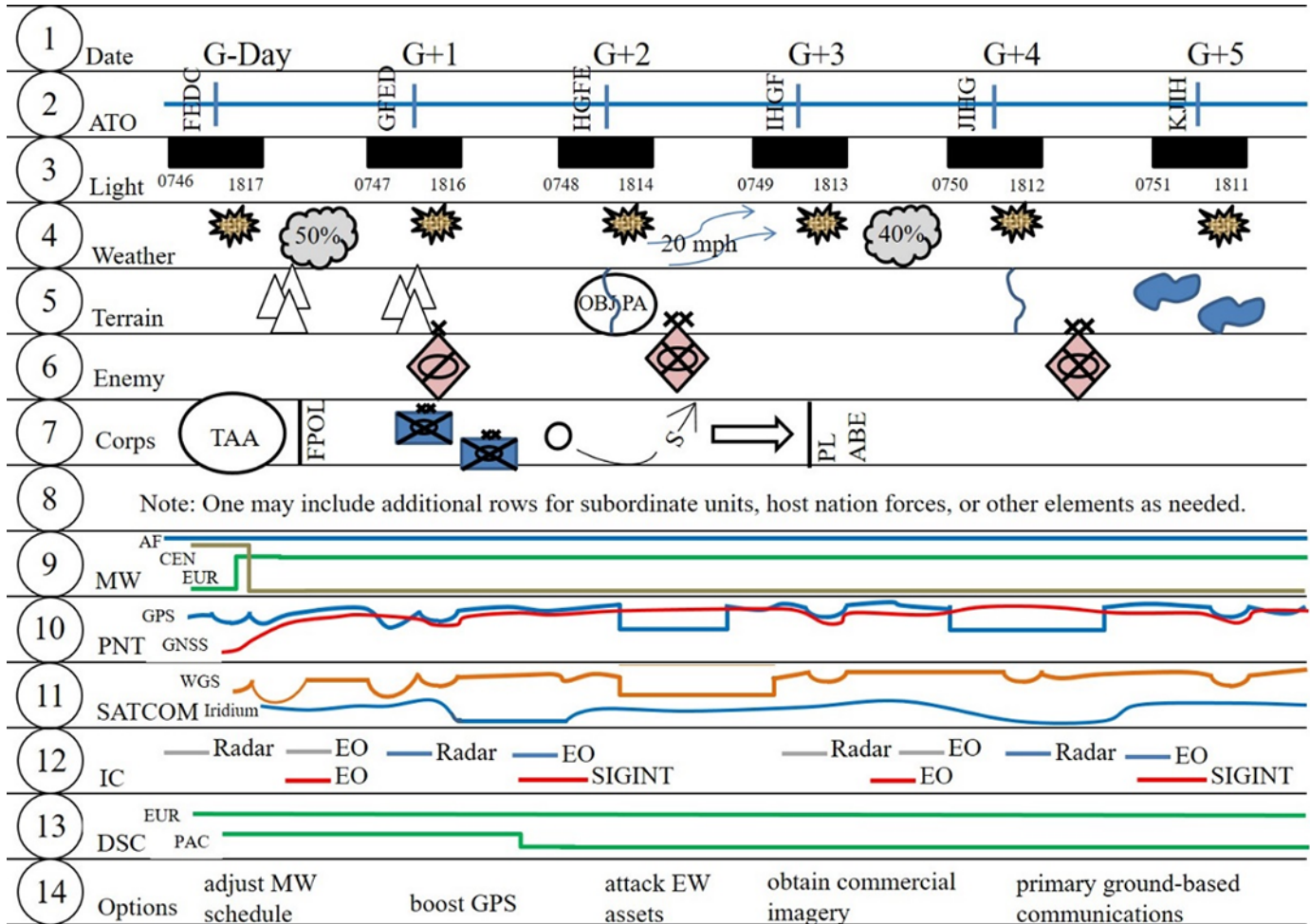


Figure 3. Space-visualization-tool example. Note that "IC" (intelligence community) in this example is synonymous with intelligence, surveillance and reconnaissance (ISR). The four-letter codes on the air-tasking order (ATO) line are example cycles. (Tool developed by MAJ Jerry V. Drew II)

Military Studies (SAMS) is currently experimenting with a visualization tool as depicted in Figure 3. The intent is to aid in operationalizing space effects in a staff's conceptual approach for better shared understanding in relation to operational art, and the achievement of "strategic objectives, in whole or in part, through the arrangement of tactical actions in time, space and purpose." Rows 9 through 13 depict fluctuations or changes in space-capability support based upon multiple factors such as weather, terrain and enemy actions. Access to or support received from different space capabilities can increase or decrease throughout an operation, hence the rise and fall of space force enhancement indicator lines over time. In due course, the staff will address these considerations in their detailed planning.

One of many possible examples could be to include a well-thought-out and comprehensive primary-alternate-contingency-emergency and runner plan in the "command and signal" paragraph from the standard U.S. Army operations-order format. A good case study to look at here is the conflict in Ukraine. As emphasized by both the U.S. Army Training and Doctrine Command and MCoE commanding generals at the 2017 Maneuver Warfighter Conference, leaders must always be thinking about and planning for operations in all domains (cross-domain maneuver, one of the components of the solution in the Army functional concept for movement and maneuver).

Ultimately, there is nothing new in this article with respect to traditional or enduring ways of war, but we must reassess for the changing environment of waging war. An evolving area is the increased acceptance of affecting the space domain during conflict with resulting impacts in other domains. There is nothing mysterious about space. In essence, what was old is new again in terms of how the Army will shoot, move and communicate in the spectrum of large-scale combat operations to counterinsurgency/counterterrorism operations. Obviously, the **what** to do is not hard to figure out, but the **how** to do it is a pretty serious endeavor.

The bottom line is there is no escaping

the problem of a D3SOE. It will remain a fixture of having to "fight tonight" and of the future battlefield.

The first option is to assume that formations will operate in an uncontested environment, which all indicators and warnings show will prove disastrous in almost all cases. A second option is to plan to fight contested and prepare U.S. Army Soldiers and formations for what is to come, even if it does not happen on the current watch. Peer and near-peer adversaries are watching and studying every move. Adversaries are actively seeking ways to degrade space capabilities and "level the playing field." The U.S. Army is only as strong as its weakest link. The challenge is not be the leader who weakens the team due to a failure to train for what lies ahead in a D3SOE.

For more space professional reading, the Army Space and Missile Defense School and Doctrine Center maintains a repository of useful material (on-line access, DVDs and hardcopy), which they provide to MPCC students. This is a valuable addition to any leader's "kit bag" from platoon to brigade level. To request material, contact the MCoE's space-integration officer or the Army Space Integration Training Branch.

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## Notes

<sup>1</sup> 2013 ASTS.

<sup>2</sup> Ibid.

### ACRONYM QUICK-SCAN

**AF** – African Command (Africa) (Figure 3)  
**ARSTRAT** – Army Forces Strategic Command  
**ASCBC** – Army Space Cadre Basic Course  
**ASTS** – Army Space Training Strategy  
**ATO** – air-tasking order  
**CEN** – Central Command (Middle East) (Figure 3)  
**CTC** – combat-training center  
**D3SOE** – denied, degraded and disrupted space operational environment  
**DAGR** – Defense Advanced Global Positioning System) Receiver  
**DSC** – defensive space control (Figure 3)  
**EO** – electro-optical (Figure 3)  
**EUR** – European Command (Europe) (Figure 3)  
**EW** – electronic warfare (Figure 3)  
**FPOL** – forward-passage-of-lines (Figure 3)  
**GNSS** – Global Navigation Satellite System (systems that use multiple PNT signals, including GPS, Beidou, GLONASS (Russian system) and Galileo) (Figure 3)  
**GPS** – Global Positioning System  
**IC** – intelligence community  
**ISR** – intelligence, surveillance and reconnaissance  
**LoE** – line of effort  
**LoS** – line of sight (Figure 1)  
**MCoE** – Maneuver Center of Excellence  
**MPCC** – Maneuver Pre-Command Course  
**MW** – missile warning (Figure 3)  
**OBJ PA** – Objective Pennsylvania (Figure 3)  
**PAC** – Pacific (Figure 3)  
**PL** – phase line (Figure 3)  
**PNT** – position, navigation, timing  
**SAMS** – School of Advanced Military Studies  
**SATCOM** – satellite communications  
**SIGINT** – signals intelligence (Figure 3)  
**TAA** – tactical-assembly area (Figure 3)  
**USASMDC** – U.S. Army Space and Missile Defense Command  
**USMA** – U.S. Military Academy  
**WGS** – Wideband Global Satellite Communication (Figure 3)

# Proposing a Conflict Map to Guide Warfare

by MAJ Blair Wilcox and  
MAJ Jonathan Bate

The Department of Defense (DoD)'s description of war in current doctrine using a "conflict continuum" that ranges from "peace" to "war" isn't enough. As current conflict literature notes, conflict varies in its type and scale. Different forms of violence can occur simultaneously. To be successful, an intervening military force must address each form appropriately rather than using a blanket approach.

In this article, we propose a "conflict map," which seeks to enable accurate diagnosis of a conflict. Only by first understanding the type of conflict can military commanders develop an optimal operational approach. The best response differs by each sector of the conflict map. U.S. conventional forces are optimized to produce high returns to violence in only certain zones and must adapt to confront the enemy across the conflict space if the United States hopes to maintain its military and political supremacy.

## Wrong kind of war

After 16 years (and counting) of combat in Afghanistan, eight years of combat in Iraq and a significant re-engagement against the Islamic State in Iraq and Syria (ISIS) in 2014, DoD is struggling to find a coherent narrative for the types of conflict it will have to suppress in the years to come.<sup>1</sup> As company-level officers during the Iraq War, the authors were recipients of the Army's retraining programs during the "pivot" to counterinsurgency (COIN) post-2007 after the failed conventional approaches during the 2003-2005 mismanagement of violence.

Looking to the next horizon, it's hard to conceptualize where the Army should focus its attention. Following the theater-wide implementation of COIN between 2007-2011 in Iraq; to conventional tactics used to degrade ISIS; to the hybrid conflicts between Russia and Ukraine in 2014; to the

supposed "weaponization" of social media in the 2016 election, the "demand signals" from the international environment are endless. What narrative can we use to help us make sense of the wide range of conflicts that exist in the current operating environment?

As an organization, the U.S. Army will continue to "pivot" from one conflict and tactic to the next, never winning the strategic fight, but will be highly adept at overcoming the needs of the current engagement if it doesn't reframe its understanding of conflict. U.S. forces are excellent at overcoming and adapting to the tactical and operational problems they face, but our forces lack the theoretical narrative to help clearly define the entire map of conflict; leverage comparative advantages in combat; and outsource problems when the application of violence achieves diminishing returns.<sup>2</sup> The Army needs to stop pivoting from one conflict zone to the next and get ahead of the problem by accurately understanding the context of warfare in the years to come to best align forces against threats.

A major part of DoD's problem is that it often fights the wrong kind of war. The U.S. Army's doctrine, organization and equipping standards create an institutional preference for conventional forms of violence. In the language of economics, the Army is characteristically a "supply-side" organization. It looks at conflict and applies varying levels of violence to change the environment. Supply-side-oriented conventional tactics levied against insurgent networks in Vietnam or Iraq, for example, were not able to achieve lasting stability.

Success in war depends on countering the enemy with the correct approach, aligning the appropriate tactics with enemy forces; therefore we propose a "demand-side" model to understand conflict. To understand how to win in the future, the U.S. Army must analyze

the dominant demand signals the adversary displays through its applications of violence and array appropriate countermeasures to address the threat. As history has shown, enemy forces do not always fight the way we want them to. Rather, as asymmetric-conflict-theory literature has shown, weaker forces often seek to avoid their opponent's strength and draw it into a type of conflict that levels the playing field.<sup>3</sup>

For example, French forces under Napoleon succeeded against their Prussian adversaries using linear warfare. However, in Spain, Napoleon faced a hybrid threat consisting of both regular British forces and Spanish guerrilla forces. He failed in Spain because his strategy only addressed the conventional threat.

The "range of military operations" and the "operational analysis – full-spectrum operations" in current doctrine provide colorful vignettes for conflict that fail to provide practical application for brigade commanders and below.<sup>4</sup> The intent of this article is not to provide a comprehensive framework for how the warfighter ought to view conflict; it is meant to begin filling the gap between relevant literature on the nature of warfare and the practical applications of combat power. Our discussion isn't to present a comprehensive *new* theory of warfare but to use existing theory in a relevant form to present measurable mechanisms that practitioners can use to "diagnose" the state of conflict in a given area and apply the appropriate measures of force (including realizing the fact that "no use" of force may be an appropriate response for a stable endstate). Our analysis hopes to open up a dialogue between theory and practice (academia and military leadership) by distilling critical variables from the literature that are useful for conceptualizing the battlespace while simultaneously accounting for the comparative advantages inherent in U.S. forces task-organization and doctrine – namely, the



**Figure 1. Notional operations across the conflict continuum. Our leaders use the military instrument of national power across the conflict continuum in a variety of operations and activities that are commonly characterized in three groups, as this figure depicts. (Adapted from Joint Publication 3-0, *Joint Operations*, Jan. 17, 2017)**

production of kinetic force.

To hold up its end of the dialogue, however, the Army needs to update its understanding of the nature of the battlefield and the context within which forces will be engaged. There needs to be a bridge between the academic literature and the practitioner. For example, in a recent discussion with Dr. Stephen Rosen and the Modern Warfare Institute at West Point, Rosen commented that the U.S. Army lacks good theory but is excellent at adapting to the needs of the immediate fight.<sup>5</sup> Here we hope to outline a method whereby military leadership views the battlespace using existing literature, expresses doctrinal principles with the appropriate academic language and subsequently uses that language (informed by the literature) to make practical and informed strategic recommendations for the use of force.

### The model

As we said, the “peace” or “war” spectrum contained in current U.S. doctrine (Figure 1) is no longer adequate. Most modern conflicts fall somewhere in

between. To further complicate the situation, there are multiple types of conflict occurring simultaneously in warfare.

U.S. forces, technology and doctrine are designed to defeat and destroy enemy forces with conventional ordnance. Army task-organization, training and doctrine are all fundamentally driven by the singular purpose of achieving overwhelming force to kill the enemy. Again, using the language of economics, any mission that attempts to complicate this simple premise diminishes returns within the “marketplace” of U.S. engagements where forces specialize in the application of violence to achieve stability. The United States achieves the greatest returns to violence when we can achieve stability through conventional effects.

The endstate for this endeavor is to provide commanders a framework to discuss the battlefield with their subordinate commanders in a way that raises the appropriate questions and can equip subordinate units to say, “If you want these effects, I need the following resources.”

Partially informed by civil-war literature,<sup>6</sup> state-building literature,<sup>7</sup> military doctrine (Joint Publication 3-0) and economic theories of production (particularly the Cobb-Douglas production function), our model presents a language to interpret any conflict environment. Strategic-level commanders and policymakers and below are able to “diagnose” their position on the model using three variables: group type, group size and observed levels of violence.

With probabilistic determinations of these criteria, the military leadership can position themselves on the “map” and infer the likelihood of stability post-kinetic responses; have an informed discussion about the limits of military force; raise appropriate questions about operational areas for which forces are not appropriately staffed or resourced; and request subsequent training and assets. This map forces planning functions that ensure the Army shows up to the fight with the right team and the appropriate set of tools to overcome challenges to stability.

Criminal		Type of adversary		
		Hybrid	Political	
Size of adversary	Large	Drug cartels	ISIS Russian elements in Ukraine 2014	Nation-states
	Small	Gangs	Russia / U.S. elections Mafia organizations	Insurgent groups

**Table 1. Adversary type and size zones.**

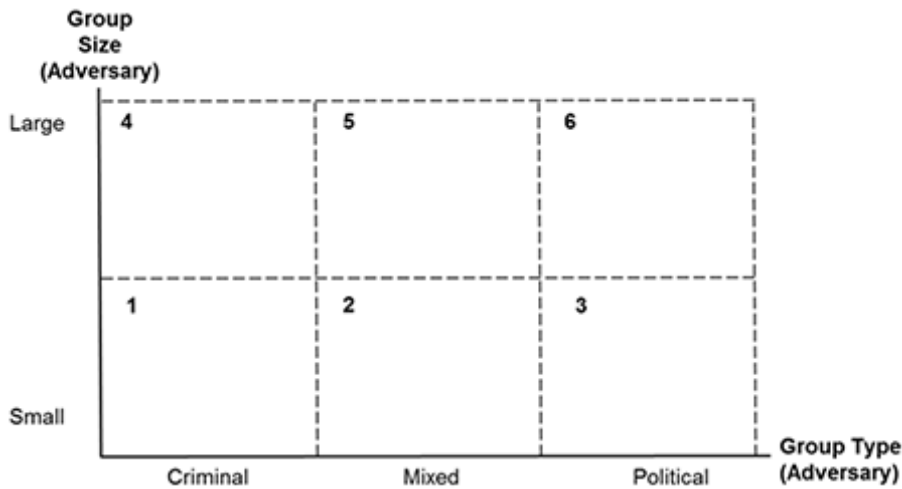


Figure 2. Zones and type of likely conflict in each.

Our model classifies adversaries along two dimensions: type (criminal to political) and size (small to large). The interaction of these two variables produce measurable levels of violence that will fall within expected ranges.

Table 1 and Figure 2 depict the zones and examples of each type of conflict in each zone.

## Type of adversary matters

There is much work in the current civil-war literature about distinctions between criminal and political groups and their uses of violence. The distinctions between political and criminal organizations betray insights into the structures and methodologies that adversaries naturally develop. Understanding group type is critical when third-party interventions or incumbent host-nation forces attempt to confront potential adversaries.

For example, in a case study of both Rio and Recife, Brazil, it was only when Brazilian police forces changed their tactics from a conventional maneuver approach (reminiscent of the tactics used in classic COIN) to a law-enforcement approach that they were able to achieve lasting results.<sup>8</sup> Changing the tactic to fight criminal groups, rather than political groups, brought success. The criminal or political nature of the adversary impacts the type and scale of violence the enemy employs.

Criminal groups often need the institutions of the state to operate.<sup>9</sup> Their livelihood is contingent on preying on

their neighbors. The burden of government exceeds their capacity and threatens the organization; therefore they operate within the confines of the state because this serves the group's best interest. Furthermore, criminal groups tend to care about the welfare of group members, normally the leadership, and disregard concerns for the larger population. Concerns for collective-good distribution are localized to a select few (to those who "pay" into the organization), and time horizons are characteristically shortened the smaller the group. Criminal groups are normally vertically structured to retain tight control between principles and agents, and the benefits to the group are normally localized to group members.<sup>10</sup> Violence, therefore, will be localized and pursuant of the criminal network's strategic goals, but generally not concerned with revolution.

Political violence, however, is concerned with the overthrow of the state or conflicts between states in the classic sense. Political grievances are classically concerned with the state's legitimacy and result in civil war or in interstate conflict. Political violence in small-group behavior is normally directed at the state and indicative of classic rebel movement aimed at the government's overthrow. Rebel groups are motivated by a mix of both greed and grievance-based mechanisms but tend to publicize their movements as driven by more ideological reasons (whereas criminal groups may not).<sup>11</sup>

Groups using political violence normally have longer time horizons, and the

benefits of their efforts may extend to nonparticipants in a way that criminal violence and behavior do not. (This is why mafia organizations occupy an interesting middle ground between criminality and political violence.<sup>12</sup>) Political violence among large organizations is characterized by classic kinetic exchanges between states throughout history. U.S. forces are optimized at achieving high returns to violence in political-violence conflicts between large groups and have adapted to fight well against smaller political groups during recent COIN campaigns.<sup>13</sup>

## Group size matters

We've found the variable that Mancur Olson identified (characteristics inherent in the size of groups determine their collective behavior in an anarchic environment) usefully descriptive when identifying how groups behave and adapt to the use of violence and how they organize to overcome increasing levels of complexity. In small groups, for example, voluntary agreement is more likely to achieve collective benefits.<sup>14</sup>

Each individual in a small group bears the full cost and risks of the decisions he makes that contribute to the public goods all enjoy. Each individual benefits from the peaceful order achieved through voluntary submission to the group. The individual costs of production are far outweighed by the benefits the individual receives from the group's aggregate production. The benefits received from mutual cooperation in small groups outweighs the benefits to defect, thereby overcoming the problem of collective action.<sup>15</sup> It makes sense, therefore, that in small criminal groups violence against the state is antithetical to the group's goals because the group preys on the wealth of the larger society as a business model.<sup>16</sup>

Furthermore, we should fully expect small-scale criminality due to the efficiency of small-group behavior and the environment created by social stability. Violence, however, is not an efficient tool for the criminal in this realm, as it may attract the mechanisms of the state that would threaten its existence. This area, therefore, is characterized by small criminal groups, structured

● Level of Observed Violence

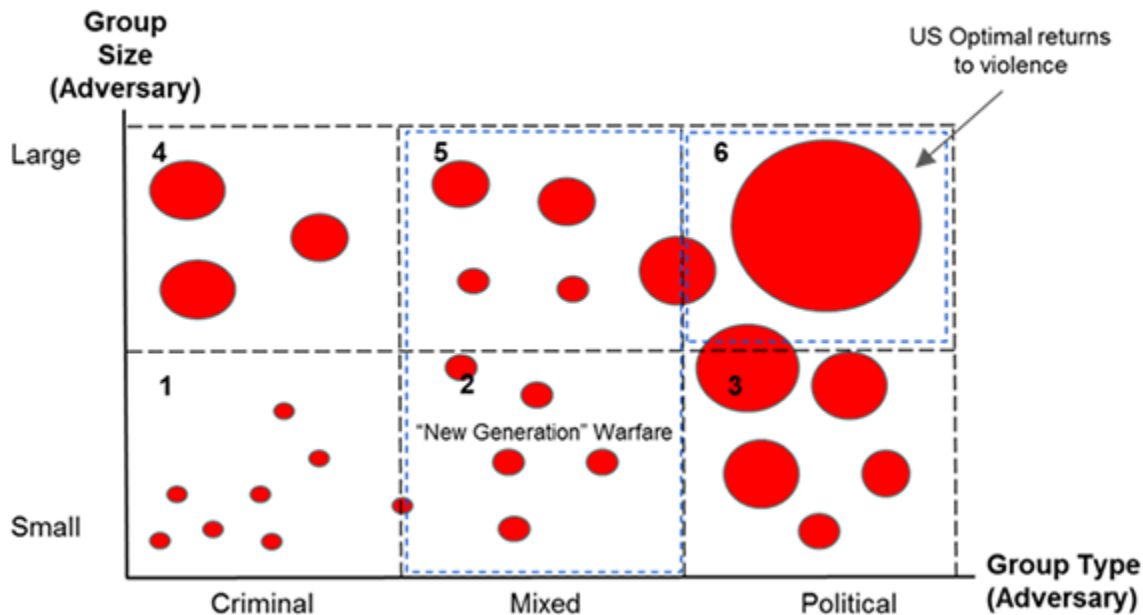


Figure 3. Types of adversaries and levels of observed violence.

hierarchically internally, but with limited connection to other groups and low levels of observed violence. The critical observation from this zone is the recognition that stability is not the **absence** of violence but rather the **appearance** of small, disconnected criminal violence.

U.S. assets are not well organized or trained to operate in this zone. Any attempt to use them as pacification elements will incentivize the structural complexity of criminal groups and intergroup coordination, and increase violence that transitions groups away from low-level criminality toward political goals and larger group organization. Critically, exogenous incumbent responses shape the enemy as much as intrinsic group grievances. Government or third-party forces must understand the battlespace, therefore, to deprive the enemy the ability to organize and transition into more threatening postures.

Large organizations, however, do not develop through voluntary agreement.<sup>17</sup> Incentives to “free ride” outweigh the logic of contributing to the needs of a large group without some form of coercion.<sup>18</sup> In other words, why would I work to contribute to the collective public good if, by doing nothing, I can benefit from an equal access to public goods?

Large organizations, therefore, have to incentivize individual behavior through organizational processes (rank and promotion) or by developing a core constituency that maintains the leader’s power, as is common in many authoritarian structures.<sup>19</sup> Large criminal groups face an interesting dilemma. First, if they do not want to govern, they must organize themselves hierarchically to retain tight control between principles and agents to achieve goals that prey upon the state and its population but do not threaten the state’s existence.<sup>20</sup> This, in practice, is difficult and requires the strategic uses of violence and tight control over operatives. We should expect groups that are large and criminal in nature to use violence to achieve their strategic goals but struggle with the incumbent more directly over the right to rule.

Organizational structures internally will be hierarchical. Also, there may be more direct linkages between criminal groups the larger they get, as it serves the interests of smaller groups to bandwagon if predation goals align. Columbia’s Fuerzas Armadas Revolucionarias de Colombia and Ejército de Liberación Nacional would serve as useful case studies for this sort of conflict zone.

## Implications and propositions

Fundamentally, every zone in the conflict map exists simultaneously in every confrontation. Analyzing enemy group size, type and observed violence demonstrates the active zone; however, the potential for a transition is always present (Figure 3). In fact, the transition is exactly what U.S. units are looking for. Transitioning from large-group political violence to small-group criminal violence is “peace” and exactly what forces fight to achieve.

One could imagine the conflict map guiding division-level planners and commanders in the organization, plus outfitting a joint task force. Instead of applying monolithic applications of violence to achieve stability through the continual supply of violence, commanders assess the adversary type (demand signal) and build the right team for the right job. This map helps guide strategic-level planning for pre-conflict evaluation during intelligence preparation of the battlefield or joint intelligence preparation of the operational environment to achieve optimal returns to the applications of violence and modify adversary group size and type to achieve strategic goals.

This brings us to the immediate function of the map (Figure 3). The United



States is currently unprepared to fight new-generation warfare (Zones 2 and 5 on the map).<sup>21</sup> New-generation warfare is violent, but the levels of observed violence are inconsistent (not enough to attract enduring attention), and the goals of the agents are mixed between political and criminal affiliations. New-generation warfare is not “declared” and doesn’t officially terminate; however, it has the potential to inflict significant damage to states not prepared to counter messaging and prevent the transition to more violent zones.

In Zone 2 of this typology, adversary organizational strength comprises small, disconnected groups with mixed criminal and political affiliations that use violence infrequently. Incidences of this type of warfare indicate mafia structures (the Yakuza in the 1950s) to Russian interference in the 2016 U.S. presidential election through commercial marketing.

Groups could also be large and highly structured, normally with stronger state ties and political affiliations that conspire to weaken states in ways that draw reciprocal attention short of war. Russian interference in Ukraine in 2014 exhibits this type of warfare.

Low observed levels of violence present the false appearance of stability. New-generation warfare is harder to “diagnose” and confront because the levels of violence may be observationally equivalent to clearly criminal organizational structures. Nevertheless, new-generation warfare is exponentially more dangerous and has the latent potential to challenge state authority in a real and practical way. This enemy is hard to fight because law enforcement is insufficiently equipped. Also, jurisdiction among international, federal or state elements complicates institutional management, and military forces are not optimized to attack the enemy in this zone.

So we ignore it. We ignore it until it coalesces into an element we can see and fight with greater clarity, and this is the problem. The U.S. Army cannot sit on its heels any longer because our enemies don’t. This type of warfare will take close coordination between law enforcement and DoD agencies. Every

engagement in this zone will require a deliberate social-media effort to shape population preferences (much as Russia did in Ukraine in 2014 and in the United States in 2016). The “weaponization” of social media will be a significant mechanism in this zone.

Violence is present but not overpowering, and populations are critical for messaging, but the lack of clear conflict makes the commitment of conventional forces (U.S. optimized force structure) unlikely or politically infeasible. Large population centers, once thought to be the center of gravity only in COIN operations, will again become dominant “terrain” in the new generation of warfare.

The Army’s finite resource base cannot sustain continued operational pivoting. Strategically, the United States must dedicate forces to the conflicts where in force task-organization and doctrine are optimized for maximum returns to violence. We are not prepared to fight and win in Zones 2 and 5 of the proposed conflict map. U.S. forces must be deliberate about the doctrine and assets it develops to confront the enemy in the new generation of warfare. Let’s do ourselves the favor now of ensuring we get ahead of the strategic problem so our enemies never have the opportunity to become worth fighting in the conventional space.

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## Notes

<sup>1</sup> Tim Arango, “U.S. Troops, Back in Iraq, Train a Force to Fight ISIS,” *The New York Times*, Dec. 31, 2014; accessed Oct. 10, 2017, [https://www.nytimes.com/2014/12/31/world/us-troops-back-in-iraq-train-a-force-to-fight-isis.html?mcubz=3&\\_r=1](https://www.nytimes.com/2014/12/31/world/us-troops-back-in-iraq-train-a-force-to-fight-isis.html?mcubz=3&_r=1).

<sup>2</sup> Jake Miraldi and Dr. Stephen Rosen, *How Innovation Happens in the Military*, Modern Warfare Institute, 2017.

<sup>3</sup> Ivan Arreguin-Toft, *How the Weak Win Wars: A Theory of Asymmetric Conflict*, Cambridge Studies in International Relations, 2005.

<sup>4</sup> Joint Publication 3-0, *Joint Operations*, Headquarters DoD: Joint Chiefs of Staff, Jan. 17, 2017.

<sup>5</sup> Miraldi and Rosen.

<sup>6</sup> Stathis N. Kalyvas, *The Logic of Violence in Civil War*, Cambridge: Cambridge University Press, 2006; Jacob Shapiro, *The Terrorist’s Dilemma: Managing Violent Covert Organizations*, Princeton University Press, 2013; Ben Lessing, “Logics of Violence in Criminal War,” *Journal of Conflict Resolution* 59(8), 2015; and Nelson Kasfir, “Rebel Governance – Constructing a Field of Inquiry: Definitions, scope

patterns, causes,” in *Rebel Governance in Civil War*, edited by Ana Arjona, Nelson Kasfir and Zachariah Mampilly, Cambridge University Press, 2015.

<sup>7</sup> Mancur Olson, “Dictatorship, Democracy and Development,” *The American Political Science Review* 3(87), 1993; and Ronald Wintrobe, “Dictatorship: Analytical Approaches,” in *The Oxford Handbook of Comparative Politics*, edited by Carles Boix and Susan C. Stokes, 2009.

<sup>8</sup> Lessing; “Rio’s Post-Olympic Blues,” *The Economist*, Oct. 5, 2017; accessed Oct. 5, 2017, <https://www.economist.com/news/americas/21730054-feuding-gangs-and-empty-coffers-are-pushing-up-murder-rate-rios-post-olympic-blues?frsc=dg%7Ce>.

<sup>9</sup> Wintrobe.

<sup>10</sup> Shapiro.

<sup>11</sup> Paul Collier, *The Bottom Billion: Why the Poorest Countries are Failing and What Can Be Done About It*, Oxford: Oxford University Press, 2007.

<sup>12</sup> After mafia organizations achieve a monopoly on criminal activity, excessive predation on the society undermines their economic goals because they can’t steal from everyone and expect them to continue to produce. This dilemma results in criminal groups providing “protection” rather than extorting material goods in exchange for taxation. These groups border on competing for functions that only states provide. (Wintrobe)

<sup>13</sup> Interaction in Zone 6, “The Conventional Zone,” follows a model laid out by Hirshleifer (1989). He proposed that the proportion of violence-producing inputs to the conflict (“guns”) would determine the probability of winning a conflict. In this model, the probability of winning the conflict depends only upon the ratio of guns held by the two parties in the conflict.

<sup>14</sup> Olson.

<sup>15</sup> Ibid.

<sup>16</sup> Wintrobe.

<sup>17</sup> Olson.

<sup>18</sup> Macartan Humphreys and Jeremy M. Weinstein, “Who Fights? The Determinants of Participation in Civil War,” *The American Journal of Political Science* 52(2), 2008; Olson.

<sup>19</sup> Olson; Wintrobe; Bruce Bueno de Mesquita and Hilton Root, “The Political Roots of Poverty,” *National Interest* 68, 2002.

<sup>20</sup> Shapiro.

<sup>21</sup> Emilio Iasiello, “Russia’s Improved Information Operations: From Georgia to Crimea,” *Parameters* 47(2), 2017.

### ACRONYM QUICK-SCAN

**COIN** – counterinsurgency  
**DoD** – Department of Defense  
**HHC** – headquarters and headquarters company  
**ISIS** – Islamic State in Iraq and Syria  
**USMA** – U.S. Military Academy

# Armored Fighting Vehicles of the World

## T-14 Armata



Russian main battle tank, first fielded in 2015. Unmanned turret, three-man crew. 48 tons weight. 125mm smoothbore main gun, autoloader, advanced ERA armor protection, 55 mph top speed. In service with: Russian ground forces.

# BOOK REVIEWS

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**Operation Don's Main Attack: The Soviet Southern Front's Advance on Rostov, January-February 1943** by David M. Glantz; University Press of Kansas, 2018; 930 pages with maps, endnotes, archival combat losses and bibliography; \$34.38.

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David Glantz's latest work is an operational history of Operation Don, an overly ambitious Soviet winter offensive in the first two months of 1943 that sought to capitalize on the gains made after the encirclement of the German Sixth Army at Stalingrad. Sensing that the end of the war was near, the Soviets committed elements of three fronts to seize Rostov-on-Don to cut off Germany's Army Group A in the Caucasus. Although the Germans did lose Rostov eventually, they managed to extricate the vast majority of their forces from the region. The survival of Army Group A meant not only that the war would continue, but also that the Germans felt they could regain the strategic initiative once the weather improved. Glantz evaluates both German and Soviet military archives together to discern what happened at the tactical and operational level during this campaign. In doing so, he brings to life a crucial period on the Eastern Front often overshadowed by the more famous battles of Stalingrad and Kursk.

The text of the book itself amounts to 727 pages representing exhaustive research on operational maneuvers and tactical engagements. At times, Glantz does away completely with paragraphs and instead resorts to bullet points to describe the actions of individual divisions and regiments. Generally, each chapter has a strong introduction and conclusion that identify how Operation Don unfolded in the larger context of the Eastern Front, but in between those sections there is a lot of detail that can be difficult to digest. Combined with an over-reliance on muddled archival maps, this book does not lend itself to very easy reading.

Despite its limitations, this book proves

to be of tremendous value to historians of World War II. Glantz has dedicated his life to providing a Soviet perspective of the war. Operation Don, a large-scale winter offensive conducted by weary soldiers fighting at the end of a tenuous supply chain, demonstrated just how desperate the fighting on the Eastern Front was even after Stalingrad. In fact, the continued struggle of Sixth Army inside that beleaguered city hindered Soviet offensive operations elsewhere. Despite a myriad of setbacks – Operation Torch, El Alamein, Stalingrad – the Germans believed they had some opportunities to regain the initiative in Russia in 1943. A decisive victory in the East might undo the mistakes of the previous 18 months since Operation Barbarossa began. The failure of Operation Don helped nurture this lingering German hope; indeed, the survival of Army Group A enabled Generalfeldmarschall Erich von Manstein's counteroffensive at Kharkov and, months later, the final German offensive in the east at Kursk.

Glantz's work also has plenty of useful historical and operational lessons for the American armor officer. First and foremost, he focuses on Soviet tank tactics to dispel some of the Germanophilia so common in our branch. The outnumbered Germans have often been praised for their operational flexibility and their ability to seamlessly form *kampfgruppen* out of nearby units when needed. Glantz points out that the Soviets did very much the same thing and often used *ad hoc* armor formations to find gaps in the German lines. Deep Soviet penetrations with mechanized units showed how much their doctrine had evolved over the course of the war. But despite these impressive advances, Soviet commanders suffered as much from logistical over-reach as from German defensive skill. Because the destruction of Sixth Army remained the highest priority for the Stavka at the start of 1943, the Soviet Southern Front found itself struggling to maintain the offensive toward Rostov. In contrast, the Germans continued to withdraw onto their maintenance points and supply

warehouses, allowing them to rapidly repair some damaged tanks and to maintain a mechanized operational reserve. As Glantz repeatedly points out, the appearance of just a few tanks made all the difference in local engagements between two sides heavily worn down after a full year of fighting.

This book is not for the casual fan of military history. Glantz provides an archive-heavy text that shows how Operation Don fits into the narrative between Stalingrad and Kursk. As such, this work is perhaps most useful for serious scholars of the Eastern Front of World War II and avid wargamers. While it may be too dense for enjoyable reading, the book has excellent descriptions of what warfare looked like in the largest mechanized conflict in history.

CPT CLAUDIO R. INNOCENTI

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**Blitzkrieg: From the Ground Up** by Niklas Zetterling; Casemate Publishers; 2017; 288 pages; \$14.70 hardcover, \$9.99 Kindle edition.

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Typical impressions of German blitzkrieg operations during the early days of World War II focus on the overwhelming combined-arms onslaught of tanks, dive bombers and infantry racing across Poland, Scandinavia, the Low Countries and France. Encouraged by propaganda accounts in places like *Signal* magazine, the seemingly revolutionary application of tanks and aviation was allegedly responsible for the rapid and shocking defeats of the Allied forces, a belief which persists to this day. Niklas Zetterling, a well-known military historian and former researcher at the Swedish Defence University, challenges these beliefs in **Blitzkrieg: From the Ground Up**. He argues that German victories from 1939 to 1941 were not the result of revolutionary technologies or doctrines but rather based on German small units and military traditions focusing on initiative and decentralized decision-making.

Using unit and personal diaries located

in the German military archive in Freiburg, the book is divided into seven chapters, beginning with a brief review of German tactical and operational doctrine and training during the World War I and interwar period. Zetterling focuses his narrative on the experiences at the tactical level, rarely higher than a company or a battalion task force. His protagonists are the “enlisted men ... and junior officers commanding platoons, companies and battalions,” including attached surgeons, chaplains and maintenance personnel. The result is a book that is focused in scope and easy to read.

Zetterling’s first chapter outlines German developments and concepts of war up to the invasion of Poland, allowing for a brief focus on the macro level of German rearmament. He outlines the legacy of World War I, Hitler’s seizure of power and the debates between COL-GEN Ludwig Beck and GEN Heinz Guderian over the nature of Germany’s armored forces. He also lays out, in clear terms, the balance of forces, industrial capacity and the divisions within the Germany military branches themselves.

The second chapter focuses on the tactical-level engagements once the German armies cross the border into Poland in 1939. After recounting several battles between German armor and Polish defenders, Zetterling concludes “German [p]anzer divisions can hardly be regarded as fighting in a way fundamentally different to the infantry divisions. ... Offensive action, initiative, independence, rapid decision-making and combined arms were emphasized in both types of division[s].”

His third chapter, on the German invasion of Norway in 1940, is the least armor-centric in the book. While tanks did play minor roles, the nature of blitzkrieg Zetterling focuses on here relies largely on mountain and airborne troops, with an emphasis on surprise. Readers interested in joint operations will find this chapter particularly valuable.

The invasion of France and the Low Countries starts with an aside that warrants further investigation. Germany’s initial invasion plans were stalled by several months due to a lost courier

aircraft on which a staff officer was carrying the invasion plans. Germany thus delayed her invasion, spending the intervening time dedicated to “an ambitious training program ... to reveal and attend to the shortcomings through extensive training and exercises.” Unfortunately, this is the only discussion of those exercises, depriving the reader of a deeper understanding of the way the German army conducted self-assessment prior to turning west.

The largest section of the book, almost a quarter of it, focuses on German combat in the Soviet Union from June to December 1941. Unsurprisingly, this section provides the most holistic view of German tactics and operational art as it contains both German successes and their ultimate defeat at the gates of Moscow. At the outset, the German army was at “their pinnacle in terms of training, experience and confidence. The long string of victories had allowed the Germans to finely hone their methods of warfare.” Nevertheless, their defeat became more and more likely the further they pushed into the Soviet Union and their capacity to move and transport supplies collapsed. Without the ability to sustain its forces, the German army became stuck and their previous high-tempo operations came to a halt, forcing them to wait out the Soviet winter without adequate supplies.

**Blitzkrieg: From the Ground Up** provides a new perspective on the German campaigns, tying operational art to the experiences of the common soldier and junior officer. It is, however, not without room for improvement. Specifically, tactical situations are linked directly to strategic and operational results without enough explanation or supporting data. The examples used, while illuminating, are presented as representative of larger trends or concepts. This is not to say they might not be perfect examples, but without a deeper explanation or references to similar events, they are limited in impact. Zetterling’s survey of some of the early German campaigns is revealing, and the book should find a ready audience in casual readers and small-unit leaders. For more analysis on the German way of war, though, readers

should look to his other books written with Anders Frankson: **The Korsun Pocket: The Encirclement and Breakout of a German Army in the East, 1944** (Casemate Publishers, 2008) and **The Drive on Moscow, 1941: Operation Taifun and Germany’s First Great Crisis of World War II** (Casemate Publishers, 2012).

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**South Africans Versus Rommel: the Untold Story of the Desert War in World War II** by David Brock Katz; Stackpole Books; 2018; 352 pages with photos, tables, maps and index; hardcover \$10, Kindle \$22.57.

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Many of us think of South Africa as the nation that put the word *apartheid* in our vocabulary, but what we may not know is that South Africa’s military in World War II was designed for and excelled at mobile, maneuver warfare. Nor do many of us know the story of South Africa’s contributions in World War II. David Brock Katz’s book, as can be seen from the subtitle, addresses that.

Maneuver-warfare leaders will quickly realize that Katz’s book is a study in what not to do, with lessons applicable even 77 years after the battles occurred. For instance, Katz mentions Operation Crusader (November 1941) as a “unique testing ground for mobile-warfare doctrine, providing insights that persist to the present day.”

Katz pins the rose directly on the British for their “clumsy” operations and tactics, which he said “cost the South Africans dearly in lives sacrificed.” (Of course, there was more going on in the desert war than “clumsy” British war-conducting, such as the Axis’ interception of secret dispatches from a U.S. military attaché in Cairo giving British strength, positions, losses, reinforcements, supply, situation, plans, morale and other sensitive information.)

As scene-setting, South Africa was part of the British Empire at the time of World War II, but there was a great deal of leftover animosity from the Anglo-Boer War (1899-1901). Therefore the book cannot ignore – and it does

not – the peculiar human relationships, especially among commanders.

Katz is a South African army (called the Union Defence Force) officer, but he doesn't spare his countrymen either when it comes to an assessment of South African troops' performance in the Western Desert of North Africa, where South Africa served as part of the British Eighth Army. Katz offers a soldier's eye in assessing the South African mindset.

As Katz summarizes, "Unfortunately the British had negligible use in North Africa for the South African penchant for mobility and often misused the Union Defence Force in a static role. ... The British failure to institute combined-arms warfare left the sometime hapless South Africans to their own devices. The natural role for the highly mobile South Africans would have been integration with the British army formations, but this proved to be a step beyond British vision and command capability."

The South Africans had a distinct military doctrine of their own based on maneuver warfare and combined-arms warfare, which conflicted with British thinking at the time that armored fighting vehicles should act independently, downplaying the need for combined-arms cooperation. This thinking meant that there would be a "profound clash of doctrine between South Africans and the British in North Africa." Instead, Eighth Army often confined the South Africans to a "static role when the British tank brigades could have better used South Africa's inherent abilities at mobile warfare in their support."

Katz takes the British to task for

dividing their divisional assets, such as artillery and antitank guns, among brigades. Chapter 6 details the Gazala battles, showing the contrast of the success the Germans had because they concentrated their divisional assets at a decisive point.

The British did use the combined-arms approach at El Wak with motorized infantry, artillery, armored cars, light tanks and air support, but these circumstances were not repeated a year later at Sidi Rezegh, resulting in 5<sup>th</sup> South African Infantry Brigade's defeat. The British try at combined arms in the Gazala battles failed because "[c]ombining different weapons in a coordinated attack takes practice and the Cauldron [an area of battle on the Gazala line] was not an appropriate place to learn."

The disparity between German and British doctrine would cost the British and later the United States "dearly" in North Africa, Katz writes.

By the First Battle of El Alamein, where the German advance was stopped by South African artillery, there was much animosity between the British generals and South Africans. The British thought South Africa wanted to "run away." Sir Claude Auchinleck did not have confidence in the South Africans' morale, and the British did not think they could give the South Africans any serious or difficult operation tasks.

Nor were the South Africans unified among themselves. The problem was bad enough that LTC Max Gooler, a U.S. military observer, reported on the dysfunctional command structure in Tobruk between the South African commanding general and heads of various

staff sections – in particular, operations and intelligence. The South African general discounted assessments by his intel staff, for example.

After Axis forces surrounded and isolated the defenders of Tobruk, those holding Tobruk surrendered and 10,722 Soldiers from 2<sup>nd</sup> South African Division went into captivity, causing widespread political repercussions back home. South Africa did take part in "fierce and protracted campaigns in Italy" later, but the Second Battle of Tobruk was the "largest military reversal suffered by South Africa." It also brought the country shame because in the first siege of Tobruk, the Australians held out for 244 days.

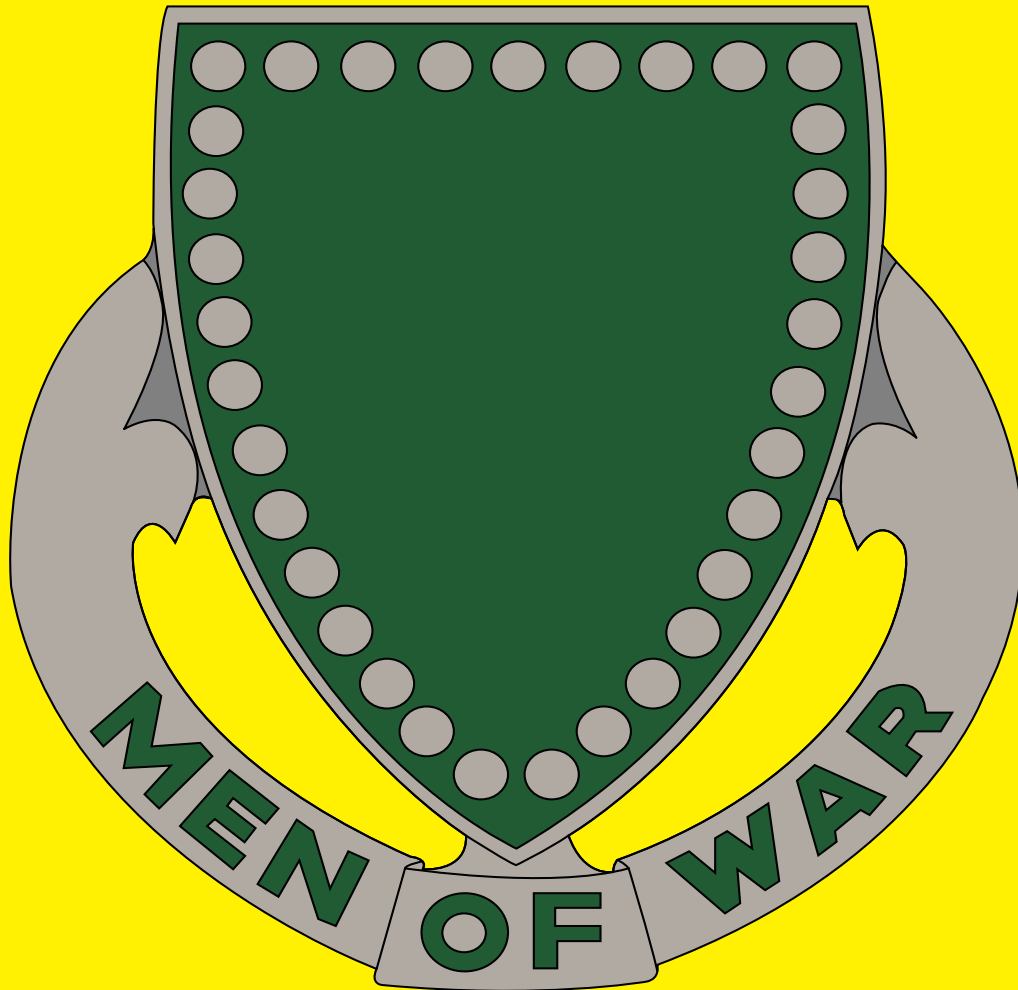
The logistics materiel that fell into Rommel's hands supplied him with the impetus to advance to El Alamein, but there the Allies were finally victorious. In Second Alamein, the defense of Miteirya Ridge was the final assault by South Africa on Axis forces in North Africa. Somewhat after this, South Africa withdrew 1<sup>st</sup> South African Infantry Brigade from the war and troops returned to their parent unit in South Africa. The newly formed 6<sup>th</sup> South African Armoured Division absorbed many of its former units and personnel.

The book is worthwhile reading, although Katz does make his point about the misuse of South Africa's mobile, maneuver capabilities perhaps once too many times. However, it is a good look at other Allies' (besides the common triune of the United States, United Kingdom and Union of Soviet Socialist Republics) contributions during World War II.

**LISA ALLEY**

Supervisory Editor, **ARMOR** magazine

# 33<sup>RD</sup> CAVALRY REGIMENT



The distinctive unit insignia was originally approved for 33<sup>rd</sup> Armored Regiment March 26, 1942. It was redesignated for 33<sup>rd</sup> Tank Battalion July 28, 1949. It was redesignated for 33<sup>rd</sup> Medium Tank Battalion Sept. 20, 1954. The insignia was redesignated for 33<sup>rd</sup> Tank Battalion April 3, 1956. It was redesignated for 33<sup>rd</sup> Armor Regiment July 1, 1958. It was redesignated for 33<sup>rd</sup> Cavalry Regiment effective June 28, 2005.



Ride with the Armor & Cavalry



## **THE UNITED STATES ARMY ARMOR BRANCH IS THE COMBAT ARM OF DECISION.**

*We are the premier mounted maneuver force comprised of the best trained, best led, best equipped, and most lethal Tankers and Scouts in the world. Soldiers first, we are experts in the art of maneuver warfare; mounted and dismounted reconnaissance and security operations; and the employment of combined arms and joint capabilities on the battlefield.*

*Armor and cavalry troopers thrive in conditions of ambiguity, uncertainty, and complexity; comfortable away from the main body --- out front or on the flanks --- and decisive when leading it. We operate with a mission command mentality always seeking opportunities to seize, retain, and exploit the initiative; creating and preserving freedom of action for our force while denying the enemy options.*

*Armor and cavalry leaders combine the superior capabilities of our equipment with the ingenuity of our Troopers to find, fix, close with and destroy the enemies of our nation through combinations of mobility; precise, lethal, and overwhelming firepower; and devastating shock effect.*

*Armor branch is a team of teams ready to fight and win anytime, anywhere, under any conditions of battle.*

# **FORGE THE THUNDERBOLT!**

