

The image depicts a large M1 Abrams tank in a snowy, open field. In the background, a massive explosion of fire and orange light erupts, sending a thick plume of dark smoke into the sky. A small aircraft is visible in the upper right corner of the sky. The tank is the central focus, shown from a front-three-quarter view. The ground is covered in snow and patches of brown earth.

ARMOR

Mounted Maneuver Journal
Winter 2023

**Protection in the Offense/Defense in a
Large-Scale Combat Operations Environment**

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Security-Force Assistance Brigade Aids Allies in Theater

by CPT Nathan Sitterley

As a response to the ongoing effort to defend Europe against Russian aggression after it invaded Ukraine in February 2022, Operation Assure, Deter and Reinforce was introduced to bring to the U.S. European Command (EUCOM) theater two armored brigade combat teams (ABCTs), one infantry brigade combat team (IBCT) and one security-force assistance brigade (SFAB) force package comprised of 20 teams.

This article will shed some light on the operational and support framework of an SFAB maneuver-adviser team (MAT) in a theater. It will also highlight specific challenges, opportunities and recommended courses of action for future teams or for those interested in implementing change.

Each SFAB is aligned to a specific U.S. combatant command. For example, our team, Team 3331, was aligned to

U.S. Central Command (CENTCOM) and scheduled to deploy with Task Force Xyston from Fort Hood, TX, at the beginning of Spring 2022. Then, as part of the request for forces (RFF), our team and two other MATs from 3rd SFAB realigned to 4th SFAB. In addition, Security-Forces Assistance Command was the proponent of this RFF to meet the expedited timeline for having 4th SFAB teams deploy earlier than expected to counter the Russian threat within the conflict stage in the EUCOM theater.

Notified while at NTC

We received word during our National Training Center (NTC) Rotation 22-04 with 2nd ABCT, 1st Infantry Division, that some of the teams would go to support an RFF in EUCOM. Our team was partnered with Troop T (tanks), 5th Squadron, 4th Cavalry Regiment, Fort Riley, KS. Our mission at NTC was

tailored to advise in the conflict phase of warfare.

Fortunately, our time there allowed us to test our integrated telecommunication networks in different terrain and weather. The rotation prepared us to be highly expeditionary and to depend on no one for support. Overall, we had a positive relationship and an exceptional outcome from our partner force.

In summary, there were three main takeaways from our NTC rotation:

- You can get tired of being overly advised in a persistent advisory capacity. We overcame this by setting up touchpoints daily to ensure we were all on the same page. These engagements have time limits and will not extend past a prescribed time that our team established based on the threat and the need to be mobile. The commander allowed



our team to be integrated into their plan. In addition, we were to help him and his troop to identify friction points within each phase of the operation by warfighting functions.

- You cannot advise if you do not survive. The troop commander and our team clearly understood our disengagement criteria and a retrograde position. The “host-nation force,” which in this case was 5-4 Cavalry, was supposed to provide security and sustainment for our team throughout the operation. If they did not meet those two criteria, our team would fall back to episodic or over-the-horizon advising.
- The final point we took away from Troop T, 5-4 Cavalry, mirrored many of our counterparts in Romania, Bosnia and Herzegovina. We learned that not all subordinate leaders can act on disciplined initiative. This can come from a myriad of reasons. First, it may come down to higher-echelon commanders lacking trust in subordinate commanders due to experience. Second, a general observation is that some commanders or subordinates are not aligned with specific political parties or ethnic groups. We understand this was not the case for the 5-4 Cavalry. However, commanders at higher echelon must view options from all sides before conducting offense, defense, reconnaissance or security operations. The high levels of inaction during this rotation frustrated the troop commander and our team.

We were expected to deploy within two weeks after our orders arrived. Consequently, the team leader was still signing over the troop’s property to our home-station mission-command element at Fort Hood, TX, pushing the rest of the force package out to the CENTCOM theater and preparing to push our team to the EUCOM theater. Also, our team was responsible for shipping containers forward to both theaters of operations, including sensitive items and hazardous materials. Without the support of the 3rd and 4th SFAB brigade staff and the forward-support element positioned in EUCOM, we could not have accomplished these tasks.

Our MAT was aligned with 282nd Armored Brigade, 2nd Infantry Division, of the Romanian Land Forces (RoLF). Our main objective for our mission was to continue to build a strategic partnership by fostering a persistent presence with the RoLF and to assess their interoperability with North Atlantic Treaty Organization (NATO) allies. The term “assessment” to the RoLF seems a bit taboo. Also, it gives a perception that “we are better than you.” We avoided this terminology and used “observation notes” and “reporting criteria” instead.

The defense attaché and the Office of Defense of Cooperation (ODC) at the U.S. Embassy in Romania became significant assets for our team. We were able to brief them on specific tasks we were working and the feasible objectives that meshed with the Country Campaign Plan Fiscal Year 2023. RoLF then allowed our team to begin gathering assessments throughout the host nation’s 282nd Armored Brigade, which was spread throughout the southern portion of Romania.

Based on guidance from V Corps, we set conditions and had four broad lines of effort (LoEs) to accomplish our mission to *assure, deter and reinforce*.

LoEs

LoE 1: Setting the theater. “Setting the theater” means understanding how the sustainment piece works in theater. We had multiple advisers go to the Mihail Kogalniceanu Airbase to establish and network with various agencies to develop a relationship and plan for extending our operational reach in Romania. We also gained access to multiple installations and gathered site-survey assessments to hand off to the division liaison officer from 101st Airborne Division.

LoE 2: Present combat-capable forces. We accomplished this through liaising and partnering with 1st Battalion, 26th Infantry Regiment, 2nd IBCT, 101st Airborne Division (Air Assault), and with RoLF’s 282nd Armored Brigade. We provided them with multinational training opportunities (Operation Zimbrul 22 at the Smardan Training Area and Justice Sword 22 at the Cincu Training Area), housing within the brigade’s installation, and key-leader information and contacts within RoLF.

Also, our team hosted a short-range training calendar sync and working group between the Smardan Training Area staff and the S-3s of all the battalions from 2nd IBCT, 101st Airborne Division. This was essential to facilitate training between U.S. and Romanian forces because the outcome of this synchronization can help shape how (procedurally) we can align the interoperability piece between two different countries within a short-allotted time and without an extensive training area.

LoE 3: Transform the force. We had a chance to work with the foreign-military sales team in ODC. The ODC requested we conduct a site survey and a doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy assessment of 284th Armored Battalion within 282nd Armored Brigade. The main question from ODC was “When will the brigade and battalion be ready to receive the new tanks?” We were able to answer this question and accomplish this task within two weeks. Our information helps drive the discussion between U.S. stakeholders and the Romanian parliament’s potential authorization of fielding the M1 Abrams Version R main battle tank between 2023 and 2026.

LoE 4: Increase capability and interoperability of allies and partners. We tailored this effort to enhance the brigade’s medical platoon. Our medical adviser, SSG Frank McIntosh, supported and advised several tactical combat-casualty-care classes and helped create a battalion’s standing operating procedures for large-scale combat operations (LSCO) rather than the battalion’s previous counterinsurgency (COIN) focus. In addition, McIntosh gathered essential information that can potentially affect Soldiers’ healthcare within RoLF and liaised that information higher.

We also took time to understand the communications architecture within the unit and gather three facts:

- Sharing digital reports and data, especially on a system with intranet-only capabilities, is generally non-existent between conventional RoLF and their U.S. allies.
- Our team’s tactical-communications

equipment will work with the RoLF Harris radios and other models if it is connected with a tactical voice bridge.

- Many tactical routers and auxiliary equipment needed to send and receive digital reports are discontinued or do not have repair parts. RoLF is looking to modernize its communication measures to ensure all units at each echelon have the same type of radios to have interoperability in both the technical and procedural domains.

The challenge that comes with identifying friction points is getting to the truth. No allied force wants to admit they need help or that it struggles with certain warfighting functions. Our team was fortunate enough to gain trust from within the brigade before acquiring all the information and coordinating instructions.

Another opportunity

As we were preparing to redeploy, we had another deployment opportunity to Bosnia and Herzegovina (BiH). The main task of our mission was to serve alongside the NATO monitoring and evaluation team as observers. As observers, we were to gather information on how a NATO Evaluation Level II was conducted and share any captivating information and potential partnership opportunities for the Armed Forces of BiH Light-Infantry Battle-group (AFBiH LiBG).

Working alongside ODC and the defense attaché in BiH, we entered BiH with six advisers. We left three other advisers with RoLF to facilitate a persistent presence with 282nd Armored Brigade and 1-26th Infantry, 2nd BCT, 101st Airborne Division. In addition, we embedded our team with the on-the-ground evaluators and the LiBG battalion staff from BiH. We did this so we could observe where the major incidences will occur based on the main-events list/main-incidents list agreed to by NATO and the AFBiH exercise-design team.

We observed the integration of mechanized vehicles with a light-infantry company, tactical-operations-center operations, multiple actions on contact, a deliberate offense and several COIN-centric tactics, techniques and

procedures. We also focused our observations on the lack of equipment and capabilities. What the AFBiH LiBG does not have in equipment, it makes up for by being present, eager and committed to the cause. Therefore we assessed that our future partnership between AFBiH and the SFAB could blossom into a more persistent presence alongside the Maryland National Guard State Partnership Program.

At the culmination of the exercise, we discussed with the EUCOM security-office personnel as they tried to understand how to replicate another exercise like Operation Combined Endeavor and improve the execution of field training.

Recommendations

We also described three specific ways to improve a NATO combat-readiness evaluation exercise:

- **One:** Use simulation equipment and training aids to add realism to the training. For example, the lack of blank ammunition and the Multiple Integrated Laser Engagement System to elicit both auditory and visual cues will deny the Soldiers the ability to have a potential fight-or-flight response.
- **Two:** Move the scenario from COIN operations to LSCO. As the LiBG becomes a NATO ally, it will need to augment a force larger than its own. We want to observe how AFBiH LiBG integrates with those they will work with.
- **Three:** Have observers and controllers throughout the entirety of the operation. Our MAT was one of the only entities present throughout the NATO Evaluation Level II field-exercise portion. We were not intrusive but rather were observant. We positioned ourselves to find things that will affect the human domain regarding interoperability within AFBiH. We gathered some startling observations. The observation was sent up to ODC and the defense attaché to explain the degree of severity when it comes to multiple ethnic groups working within the same company and area of operations. This was a big priority-intelligence requirement for us.

Opportunities occurred from this

experience. For example, our team conducted a cultural-exchange day with the NATO evaluation and monitoring team within the small town of Jajce. Jajce was one of the decisive terrains used as a defensive position during the Bosnian War in 1992. The evaluation director in the NATO team was one of a few commanders who defended his battalion against the Army of Republika Srpska in October 1992.

Overall, the AFBiH seems eager to partner with the SFAB. Our expertise can be tailored to specific units, and 4th SFAB is flexible with travel arrangements. Our team had autonomy, and it ensured mission success by stating specific requests for information and highlighting critical points of contact within the region.

Our team experienced firsthand what it was like to be given an expedited mission and to be ready to deploy within two weeks. Working with a specific country's ODC and the defense attaché, we were able to conduct a far-side linkup specifically on advising, liaising, supporting and assessing operations. In a few short months, we could support new-equipment-fielding and training tailored into a partnered or allied nation's training glidepath. Our signal advisers can assess the host-nation force's actual levels of interoperability with technical and procedural objectives.

Lastly, our team leader and operations noncommissioned officer can advise a battalion staff on how to integrate what they previously learned from COIN into LSCO within the multidomain battlefield.

In summary, the SFAB team brings more to the table in a smaller package. It can strategically impact a partner or allied nation's armed forces. The SFAB team is the tool to enhance combat readiness, improve interoperability, build sustainable processes and increase lethality.

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ACRONYM QUICK-SCAN

ABCT – armored brigade combat team
ABOLC – Armor Basic Officer Leader Course
AFBiH LiBG – Armed Forces of Bosnia and the Herzegovina Light-Infantry Battlegroup
BCT – brigade combat team
BiH – Bosnia and Herzegovina
CENTCOM – U.S. Central Command
COIN – counterinsurgency
EUCOM – U.S. European Command
IBCT – infantry brigade combat team
LoE – line of effort
LSCO – large-scale combat operations
MAT – maneuver-adviser team
MCoE – Maneuver Center of Excellence
NATO – North Atlantic Treaty Organization
NTC – National Training Center
ODC – Office of Defense Cooperation
RFF – request for forces
RoLF – Romanian Land Forces
SBCT – Stryker brigade combat team
SFAB – security-force assistance brigade

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Armored Fighting Vehicles of the World

AMX-56 Leclerc
Main Battle Tank



French third-generation MBT, in service since 1992. Three-man crew, weight is up to 57.4 tons. Main armament is an autoloading 120mm gun (NATO round compatible) and 40 round on-board capacity. Secondary armament consists of 12.7mm and 7.62mm machineguns. Advanced fire control and digital communication system. It has modular composite armor, and the SXXI variant has reactive layers. In service with: France, UEA, Jordan.

Assure and Deter: 1st Infantry Division's Commitment to North Atlantic Treaty Organization Allies

by CPT Tyler G. Elrod and
CPT Cory C. Fetterolf

Soldiers from 2nd Battalion, 34th Armored Regiment, of 1st Infantry Division's 1st Armored Brigade Combat Team (ABCT) hosted the Abrams Operation Summit (AOS) at Drawsko Pomorskie Training Area (DPTA) in Poland April 26-28, 2022.

The summit was designed to introduce Polish Land Forces and Polish soldiers to the systems, procedures and training that support successful Abrams tank operations at company and battalion levels. U.S. Soldiers from companies A, B and H led and participated in multiple leader panels, discussions, classroom instruction, hands-on training and live-fire demonstrations to teach and mentor our Polish allies. They learned about the Abrams' capabilities, U.S. armor tactics, sustainment operations and master-gunner operations.

With that in mind, AOS demonstrated U.S. commitment to the defense of North Atlantic Treaty Organization (NATO) members while also improving the interoperability, lethality and part-

nership with our allies.

Background

The Poles' deputy prime minister and Ministry of National Defense in July 2021 announced Poland's intent to purchase 250 M1A2 SEPv3 tanks from the United States. In February 2022, U.S. Secretary of Defense Lloyd Austin announced approval of this program during his visit to Poland. In addition to the Abrams tanks, the agreement also included recovery and mobility vehicles, a training program and logistics support.

This foreign-military sale represented a significant strategic investment in Poland's national security and relationship with the U.S. military. After the signing ceremony at Wesola, Poland (1st Warsaw Armor Brigade), in April 2022, the Polish government and Polish Land Forces expressed the desire to begin crew training immediately to produce and facilitate trained and ready tank formations as soon as possible. U.S. Army Europe and Africa (US-AEUR-AF), V Corps and 1st Infantry Division began the planning process and established a course of action to meet the Poles' requirement to begin

training as soon as possible to shorten the learning curve for future M1 crew operators and leaders.

Poland's Armed Forces General Command (GENCOM) developed the program of instruction (PoI), and 1st Infantry Division tasked the 2-34 Armor "Dreadnaughts" to plan, improve the PoI and execute AOS. The event introduced critical concepts related to combined-arms tactics, sustainment, organization and master gunners. The summit helped inform modernization efforts of Polish Land Forces doctrine, organization, training, materiel, leadership/education, personnel, facilities and policy (DOTMLPF-P) efforts and improved interoperability.¹

The Dreadnaughts approached this mission with five key tasks:

- Conduct training in a learning-conducive environment that encourages the sharing of information and open dialogue between U.S. and Polish army members.
- Convey to our allies the importance of master gunners and the role they fill in creating, training and maintaining a combat-credible armored formation.
- Share the challenges associated with an M1 Abrams-equipped force and what measures we take to overcome them. Provide best practices on stabilizing crews, anticipating maintenance challenges and integrating collective-live-fire gates.
- Train our allies on all aspects of logistical operations supporting an M1 equipped force: recovery operations, unit-maintenance collection point (UMCP) operations and refueling considerations.
- Use live demonstrations to reinforce and visualize the concepts taught in leader forums and subject-matter expert (SME)-driven classes. The 2-34 Armor's endstate was to provide Polish leaders and soldiers with



Figure 1. SSG Steven Brozyna (foreground), a tank commander assigned to 2nd Battalion, 34th Armored Regiment, monitors the camera during the start of the combined-arms-breach exercise at Bucierz Range, DPTA, Poland, April 28, 2022. This exercise demonstrated the strength of the M1A2 Abrams tank in action as part of AOS. (U.S. Army National Guard photo by SGT Tara Fajardo Arteaga)

foundational understanding of how to employ the M1 Abrams tank, operate in large-scale ground combat operations, provide logistical support for the M1 Abrams and incorporate it with enablers.

In conjunction with company commanders and first sergeants, 2-34 Armor's staff created a concept, and several Poles centered around one decisive operation and three shaping operations. Decisive to the AOS was the full display of combat capabilities demonstrated at full scale with live-fire conditions. To achieve this, 2-34 Armor tasked Company B to perform a live-fire demonstration of a combined-arms breach and a gap crossing on Bucierz Range as the final event of the summit. The combined-arms breach and mobility demonstration would exhibit the full combat capability and strength of the Abrams platform with enabler support.

Shaping Operation I was the master-gunner cohort, which would establish the base familiarization of training management and crew development. Shaping Operation II, the tactics cohort, would generate understanding of Abrams employment considerations during offensive and defensive tasks.

Finally, Shaping Operation III, the sustainment cohort, would educate Polish leaders and soldiers about crew- to organizational-level sustainment practices, equipment and planning considerations for the operational and logistical demand of an Abrams formation.

The 2-34 Armor tasked Company A to provide the primary instructors and equipment for the master-gunner cohort. Company A also provided instructors, equipment and support to the sustainment cohort, and created and developed multiple Poles on the role of the master gunner in company and battalion operations, master-gunner training and development, and Integrated Weapons Training Strategy (IWTS).

Also in support of Company H, 2-34 Armor's sustainment cohort, Company A created and developed the POI on the field-maintenance team (FMT), motorpool operations, Abrams preventive-maintenance checks and services (PMCS), command maintenance, semi-annual/annual services and FMT equipment layout (M88 recovery vehicle, contact truck and forward-repair system (FRS)).

Company B, in support of the tactics cohort, developed and facilitated

classes and live demonstrations of direct-fire control, limited-visibility operations, movement-to-maneuver transitions, movement planning and actions on contact. Also, in conjunction with Company H, Company B developed and participated in a series of field-sustainment demonstrations focusing on UMCP/field-maintenance operations, recovery operations, service-station resupply and refuel-on-the-move.

One of the challenges 2-34 Armor faced was the language barrier. While there were some experienced translators available to support, translating technical jargon about the Abrams tank across languages to a military that had never used Abrams tanks proved to be a challenge. The role of master gunner itself didn't have a direct translation to Polish. Therefore teaching the classes required the non-commissioned officers (NCOs) and SMEs to tailor their language and develop products in a way that translators could accurately and quickly translate.

To further complicate the challenge at hand, all the Poles – including the scripts, PowerPoint slides, teaching boards, handouts and maneuver concepts – had to be developed in less than seven days to ensure time for proper translation and compliance with foreign-disclosure regulations.

Day 1

Day 1 of the summit was primarily a senior-leader panel in the morning, followed by multiple concurrent SME discussions, leader panels and live demonstrations across DPTA in the afternoon to support different cohorts.

Upon arrival to DPTA, Polish leaders and soldiers were split into four cohorts:

- Senior-leader cohort;
- Master-gunnery cohort;
- Tactics cohort; and
- Sustainment cohort.

Each cohort maintained a 12:1 instructor-to-student ratio, which ensured efficient discussions and classroom instruction with the Polish translators.

The senior-leader panel and discussion included both American and



Figure 2. SSG Daniel S. Allen, a Bravo Company motor sergeant assigned to 1st Infantry Division's 2nd Battalion, 34th Armored Regiment, teaches Polish soldiers the process of powerpack removal for an M1A2 Abrams tank as part of AOS at Bucierz Range, April 27, 2022. The 1st Infantry Division is among other units assigned to V Corps, America's forward-deployed corps in Europe that works alongside NATO allies and regional security partners to provide combat-credible forces. (U.S. Army National Guard photo by SPC Hedil Hernández)



Figure 3. 1LT Christopher Landin, Alpha Company platoon leader assigned to 2nd Battalion, 34th Armored Regiment, speaks with a Polish soldier about the functions of the M1A2 Abrams tank as part of AOS at Drawsko Pomorskie, Poland, April 26, 2022. The 1st Infantry Division is among other units assigned to V Corps that works alongside allies in the European theater, remaining an integral part of demonstrating alliance readiness, interoperability and capability. (U.S. Army National Guard photo by SGT Tara Fajardo Arteaga)

Polish senior leaders (battalion to corps level) and focused on the DOT-MLPF-P of an Abrams organization. Company A, 2-34 Armor, taught and facilitated a roundtable discussion during the senior-leader panel about the role of the master gunner in company, battalion and brigade operations. Company A explained to Polish senior leaders the importance of the master gunner as an SME, empowering NCOs and advising commanders on gunnery-training courses of action. Company A also explained how master gunners could advise senior leaders of the Polish Land Forces on the best practices for gunnery, training and crew management.

Concurrent to the senior-leader panel, the three other cohorts arrived at three locations across DPTA to begin SME discussions, live demonstrations, practical exercises and leader panels. Companies A and H received the sustainment cohort at the DPTA motorpool to begin demonstrations and SME discussions on the forward-support company (FSC), field maintenance, FMT equipment, PMCS, command maintenance and services.

Company H Soldiers familiarized the sustainment cohort with the common

sustainment systems, pieces of equipment, tools and maintenance facilities found in an Abrams organization. Company H leaders informed the cohort on the best tactics, techniques and procedures surrounding the employment of the FSC and FMTs, as well as providing Polish soldiers the opportunity to view the support vehicles, equipment and tools their country recently purchased. This was done by providing a full layout of an M88 recovery truck, a contact truck and an FRS.

Company H then handed off the sustainment cohort to Company A to begin the SME discussions on PMCS, command maintenance, semi-annual and annual services, as well as a full layout of basic-issue items (BIIs) and another Abrams with BII stowed according to the battalion load plan. These discussions and layouts provided the sustainment cohort with best practices for maintaining the Abrams tank, crew responsibilities in the PMCS process and the responsibility of leadership at the platoon and company levels during maintenance and services.

The services and PMCS discussion were conducted in the DPTA

maintenance bays where Company A conducted annual services. This allowed SMEs from Companies A and H to discuss the platform-specific needs of an Abrams fleet, including bay space and lift considerations.

The sustainment cohort was well received, and Polish GENCOM requested a sustainment-focused summit shortly after the conclusion of AOS for later in the year. The 2-34 Armor Soldiers provided more discussion topics for the future leaders of the Polish army that were centered on the responsibility of tank crews to maintain their own equipment.

Concurrent to the sustainment cohort, Companies A and B leadership received the master-gunner and tactics cohorts at Bucierz Range and escorted them to the range's classrooms to begin classroom discussion, SME discussion and practical exercises.

U.S. tank master gunners from Company A were the primary instructors for the master-gunner cohort. They led discussions on the roles and responsibilities of the master gunner, training development and IWTS. The master gunners highlighted the importance of the master gunner's role during operations and gunnery while also providing training examples to Polish soldiers on Sabot Academy concepts, master-gunner professional timelines and collective-live-fire training requirements.

The classes concluded with a leader panel discussion on how the U.S. Army's standardized training strategy informs readiness and the benefits of standardized training requirements across the armor force.

Company B leaders in another classroom on Bucierz Range introduced maneuver to the tactics cohort through multiple discussions and live demonstrations. The 1st Platoon, Company B, provided classroom instruction on direct-fire-control measures, engagement-area development, limited-visibility operations, fratricide avoidance, mitigation techniques and movement-to-maneuver transitions. Company B concluded these discussions with a live demonstration on Bucierz Range, demonstrating movement techniques, forms of maneuver,

actions on contact and transitions with a tank platoon led by 1st Platoon Soldiers. This live demonstration allowed Polish soldiers to become familiar with the common tactical-employment considerations of an Abrams platoon.

Day 2

Day 2 of the AOS encompassed discussions and live demonstrations of Abrams gunnery operations, field maintenance and sustainment operations. Company A NCOs began the day with the master-gunner cohort, leading two discussions on shot-sheet development and the considerations of running an Abrams tank range. Both classes familiarized Polish soldiers and leaders with supporting gunnery operations, target engagement and range throughput considerations.

Upon completion of the classes and discussion, leaders from across the battalion, brigade and division escorted the tactics and senior-leader cohorts to the Bucierz Range's viewing area to observe a live-fire demonstration of Gunnery Table VI. Tank-crew evaluators walked the master-gunner cohort and senior-leader cohort through gunnery operations while concurrently running a crew-gunnery Table VI to standard.

Upon completion of the demonstration, Polish leaders and Soldiers were able to sit in on an after-action review (AAR) led by the tank-crew evaluators. Company A NCOs stood by to answer questions about scoring, point deductions, qualification standards and best practices when running an AAR.

In the forest behind the gunnery range, Companies B and H welcomed the sustainment and tactics cohorts to a fully operational UMCP to conduct a round-robin discussion and demonstration on different aspects of field maintenance and recovery operations. They used the terrain to select the UMCP placement and mixed artificial camouflage with the natural foliage.

It was both an excellent teaching point as well as great training for the FMT. Maintenance takes time, and the sustainment cohort did an excellent job of demonstrating how to conceal themselves to safely execute maintenance and repairs. Company B's FMT demonstrated the removal of an Abrams engine using an M88 to perform field maintenance. The demonstration included how the M88 conducts recovery operations in a field environment and the vehicle's other capabilities.

Company H Soldiers led discussions

about location selection for the UMCP and how clerks order parts to continue maintenance and services while in the field. These discussions culminated in the live demonstration of a service-station resupply and refuel-on-the-move to illustrate the transitions between resupply and maneuver.

Day 3

Day 3 of AOS started with SME discussion and a leader panel in the morning, focused on the combined-arms breach and gap crossing facilitated by the engineer platoon assigned to 2-34 Armor. Leaders from the task force focused on familiarizing Polish leaders and soldiers with the planning factors, coordination requirements and best practices regarding a breach and gap crossing for Abrams formations. The discussion concluded with introducing Polish soldiers to the echeloning of fires, breaching fundamentals, enablers needed to conduct a breach, mineplow and roller operations, and sustainment operations during breaching. Following these discussions, Polish Land Forces senior leaders, Polish soldiers and all cohorts moved to the gunnery-range viewing stand for the final event.

Following remarks from both Polish and American senior leaders, AOS concluded with the decisive operation, the live-fire demonstration of a combined-arms breach and gap crossing. This culminating event displayed all the lessons-learned during the three days of AOS, showing the Abrams tank in operation as part of a combined-arms team.

A tank company, the engineer platoon, one Bradley platoon and the battalion mortar platoon conducted a combined-arms breach demonstration. On order, Company B uncoiled from their tactical assembly area. Employing the characteristics of the offense, Company B maneuvered from low ground and used surprise to establish support-by-fire positions. They acted audaciously by aggressively engaging targetry while simultaneously maneuvering their breaching elements.

With the enemy suppressed, engineer assets were able to use a Joint Assault Bridge (JAB) to gain assured mobility against the protective obstacle (an



Figure 4. SFC Carlo Martínez Ruiz, a tank-company motor sergeant assigned to Alpha Company, 2nd Battalion, 34th Armored Regiment, teaches a class on sustainment to Polish soldiers as a part of AOS in the motorpool at Drawsko Pomorskie, Poland, April 26, 2022. (U.S. Army National Guard photo by SGT Tara Fajardo Arteaga)

anti-tank ditch). The JAB created a crossing for the advancing tanks and Bradley Fighting Vehicles to flow directly into reverse breaching operations. With the support-by-fire set and the assault element staged and ready to attack, the engineers went to work employing bangalores to breach the wire obstacle.

The battalion assaulted through the breach immediately following its reduction. Firepower and maneuver allowed the assaulting element to maintain tempo through the breach, seizing the enemy-based objective on the far side of the breached obstacle. The impressive display of the Abrams main battle tank slewing tank turrets, whining engines and churning track during a combined-arms breach definitively solidified and demonstrated the United States' commitment to its NATO allies.

Conclusion

Although AOS was initially briefed as a three-day crash course that would introduce critical concepts related to combined-arms tactics, sustainment, organization and master gunners to Polish soldiers, the impact ended up being far greater and of more strategic importance than expected. USA-REUR-AF and V Corps have highlighted AOS as a model for future engagements with other NATO countries. Also, planners are looking to

incorporate the AOS model for the fielding of other equipment, including air-defense artillery and the M142 High-Mobility Artillery Rocket System. AOS generated significant discussions between the U.S and Polish Land Forces, and there are now two more follow-up joint training programs (the Abrams Apprentice Program and Abrams Tank Training Academy) and a request from Polish GENCOM for a logistics-focused summit to occur later in 2022.

The tough, realistic training for the Polish tank crews and familiarization on the Abrams' capabilities and systems was a big step in increasing Poland's lethality. AOS was significant strategic steppingstone in assuring NATO allies that, together with the United States, they can rapidly surge combat power across all warfighting functions to maintain overmatch and increase lethality against adversaries.

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Leader's Course (CLC), Maneuver Captain's Career Course (MCCC), and Armor Basic Officer Leader's Course (ABOLC). He has a bachelor's of arts degree in political science from the University of North Carolina-Chapel Hill. CPT Elrod assisted with the planning and executed AOS during Operation Atlantic Resolve and Multi-Mission Assure and Deter.

CPT Cory Fetterolf commands Company B, 2-34 Armor. Previous assignments include battalion maintenance officer, 2-34 Armor, 1st ABCT, 1st Infantry Division; and deputy G-37/G-35, 1st Infantry Division Forward, Poznan, Poland. He also served as a platoon leader, executive officer and distribution-platoon leader while assigned to 2nd Battalion, 8th Cavalry Regiment, 1st ABCT, 1st Cavalry Division, Fort Hood, TX. CPT Fetterolf's military schools include CLC, MCCC and ABOLC. He has a bachelor's of arts degree in criminal justice from the University of North Carolina-Charlotte and a master's degree in public administration from Columbus State University. CPT Fetterolf assisted with the planning and executed AOS during Operation Atlantic Resolve and Multi-Mission Assure and Deter.

Notes

¹ "1st Infantry Division Support to the Polish Abrams Tank Program," 1st Infantry Division, Poznan, Poland, June 15, 2022.



Figure 5. Polish soldiers stand at an observation point as M1A2 Abrams tanks pass by during a range walk as a part of a master-gunner class during AOS at Bucierz Range, Drawsko Pomorskie, Poland, April 26, 2022. (U.S. Army National Guard photo by SPC Hedil Hernández)

ACRONYM QUICK-SCAN

AAR – after-action review
ABCT – armored brigade combat team
ABOLC – Armor Basic Officer Leader's Course
AOS – Abrams Operations Summit
BII – basic-issue item
CLC – Cavalry Leader's Course
DOTMLPF-P – doctrine, organization, training, materiel, leadership/education, personnel, facilities and policy
DPTA – Drawsko Pomorskie Training Area (Poland)
FMT – field-maintenance team
FRS – forward-repair system
FSC – forward-support company
GENCOM – General Command
IWTS – Integrated Weapons Training Strategy

continued next page

ACRONYM QUICK-SCAN

JAB – Joint Assault Bridge
MCCC – Maneuver Captain's Career Course
NATO – North Atlantic Treaty Organization

NCO – noncommissioned officer
PMCS – preventive-maintenance checks and services
Pol – program of instruction
SME – subject-matter expert

UMCP – unit-maintenance collection point
USAEUR-AF – U.S. Army Europe and Africa

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.

PORTER, AMBROSE

Rank and unit: Commissary sergeant, Company D, 12th Missouri Cavalry. Place and date of action: Tallahatchie River, MS, Aug. 7, 1864. Entered service: Rockport, Atchison County, MO. Born: Allegany County, MD. Date of issue: Aug. 24, 1905. Citation: Was one of four volunteers who swam the river under a brisk fire of the enemy's sharpshooters and brought over a ferry boat by means of which the troops crossed and dislodged the enemy from a strong position.

PORTER, WILLIAM SGT

Unit: Company H, 1st New Jersey Cavalry. Place and date of action: Sailors Creek, VA, April 6, 1865. Born: New York, NY. Date of issue: July 3, 1865. Citation: Among the first to check the enemy's countercharge.

POWELL, WILLIAM H. MAJ

Unit: 2nd West Virginia Cavalry. Place and date of action: Sinking Creek Valley, VA, Nov. 26, 1862. Entered service: Ironton, OH. Born: England. Date of issue: July 22, 1890. Citation: Distinguished services in raid, where with 20 men, he charged and captured the enemy's camp, 500 strong, without the loss of man or gun.

POWER, ALBERT PVT

Unit: Company A, 3rd Iowa Cavalry. Place and date of action: Pea Ridge, AR, March 7, 1862. Entered service: Davis County, IA. Born: Guernsey County, OH. Date of issue: March 6, 1899. Citation: Under a heavy fire and at great personal risk went to the aid of a dismounted comrade who was surrounded by the enemy, took him up on his own horse and carried him to a place of safety.

The Future Land Battlefield and Armor

by Dr. Azar Gat

Since the outbreak of war in Ukraine, we have heard a lot about the new technologies that have revolutionized warfare: drones of all types and sizes – armed, loitering and self-destructing; artificial intelligence and big data; cyber; automation and robotics.

All this is familiar enough. And still, it is unclear whether the full meaning of the revolution in shaping the armed forces and weapon systems in land warfare has been grasped. The term “revolution in military affairs,” already coined by 1980, says nothing about the causes and nature of this revolution. This article proposes a broad historical-conceptual framework within which all the above developments can be understood, and outlines what their practical consequences are likely to be.

Humanity is going through the third industrial-technological revolution – after the steam and iron revolution of the 19th Century and the revolution generated mainly by the internal-combustion engine during the first half of

the 20th Century – both of which also deeply affected warfare. Some call the changes we are living through today a fourth industrial revolution, but all the preceding changes are products of the same fundamental technology that has been advancing since the middle of the 20th Century: the exponential growth in electronic computational power.

Transformation

Note how this technological revolution has transformed naval and air warfare. At sea, the heavily armored, big-gun capital ships have vacated the scene, and warfare is carried out offensively by electronic guided missiles and defensively by electronic disruption and interception systems. Similarly, air warfare, once based on the kinetic capabilities of planes and their armament, now relies primarily on electronically guided weapons and electronic defensive systems. Both at sea and in the air, victory now depends on which nation is a step ahead of its rivals in these crucial techno-tactical spheres.

The medium in which land warfare takes place is far more complex than those of the sea and air, because of both the numbers involved and land’s complex topographical features. But at least since the early 1980s the direction has been clear to those who grasp the broader context. The revolution that land warfare is undergoing is no less profound and far-reaching than that generated by the mechanization revolution and the introduction of the tank and other armored fighting vehicles.

It was J.F.C. Fuller, the leading, pioneering theorist of mechanized warfare, who firmly placed the mechanization revolution in war within the context of the second industrial revolution and thereby helped people understand its full significance and scope. Incredibly, as early as 1928, he had already looked farther ahead, predicting that the third revolutionary wave of the future – which would shape war, as all other fields of life – would be “electric and robotic” (the word “electronic” did not yet exist).



Land warfare's backbone

Let us focus on the tank, a product of the second mechanization revolution and the backbone of land warfare for about 100 years. Ever since World War II, tanks have primarily been optimized to fight other tanks and, secondly, to withstand hollow charges. Their main armament is a high-velocity gun firing kinetic projectiles. Half their 60- to 70-ton weight in most armies consists of heavy armor, which in turn requires a 1,500-horsepower engine.

However, tanks will no longer be able to reach kinetic gun range from each other. They will be discovered and attacked at much longer ranges. This is no different than with the mighty battleships of World War II's Pacific Theatre, which never came within firing range of each other. New gun munitions adapted to the new forms of warfare, as well as the adjustment of the tank's gun to launch guided missiles, are merely intermediate solutions that bypass the question of what the current utility of the heavy kinetic gun itself is.

The tank's heavy armor has similarly reached the limits of its ability to withstand precision, tandem hollow-charge, fire-and-forget munitions, which target the tank's top. The wholesale destruction of the hapless Armenian army in the 2020 war against Azerbaijan – like the stranded and harassed Russian convoy enroute to Kyiv, Ukraine, and the image of the Russian armored battalion massacred during its attempted river crossing in the Donbas, Ukraine, with the shattered bridge in the middle – starkly expresses current reality.

This does not mean that the tank and other fighting vehicles are history. But the answer is not to be found in

further reinforcing heavy armor or in improved tactical practices, clumsy as Russian tactics proved to be. Rather, the answer lies in a full-scale adjustment of land fighting vehicles to the ongoing electronic revolution – above all in adopting active defense systems, such as the Israeli Trophy and Iron Fist, now purchased and installed by the United States, German and British armies.

Active defense means electronic detection, disruption and interception of incoming projectiles – the same revolution that sea and air warfare have already undergone. As these systems become standard everywhere – and this is only a matter of time – battlefield success will depend on the question of which side possesses the last word in terms of offensive and defensive electronic systems and counter-systems. As in air and sea warfare during the electronic age, it can be expected that when one side holds a decisive advantage in these systems, we shall see crushing, almost one-sided victories in regular conventional land warfare.

Such systems are currently installed on heavily armored fighting vehicles as something extra, whereas they are in fact destined to replace heavy armor, whose effectiveness has in any case been nosediving. Current fighting vehicles are thus intermediate breeds which combine two eras – the old and the new. This is true for the latest models of the Abrams, Leopard and Israeli Merkava alike. The heavy armor is no more necessary for land fighting vehicles than the 350-400mm steel armor of the past is necessary for warships today. It is a disadvantage.

Less can be more

Indeed, relying on electronic detection

and interception systems enables a drastic reduction in the armor of fighting vehicles for what is necessary against small arms, shrapnel and blast. Hence an expected reduction in their weight to about 10 to 25 tons; a parallel reduction in engine size and weight; and design re-orientation to electronically guided defensive and offensive systems. This, I submit, is the direction land warfare and land weapon systems are heading in the electronic-computerized age.

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Lessons-Learned in Company-Team Engagement-Area Development

by 1LT Mara S. Tazartus

Defensive operations are an essential part of large-scale combat operations, enabled by the efficient and deliberate execution of engagement-area (EA) development at the platoon and company levels. With that in mind, Company B, 1st Battalion, 64th Armor Regiment (“Black Knights”), conducted defensive operations during Operation Combined-Arms Resolve XVII (CBR XVII), identifying best practices and lessons-learned that will benefit maneuver leaders in the planning and execution of EA development. Maneuver leaders must create a unit-specific defense battle drill, formalize it in their tactical standing operating procedures (TSOP) and use it in time-constrained environments.

The Black Knights conducted tactical missions throughout CBR XVII at the Joint Multinational Readiness Center, Hohenfels Training Area, Germany. The Black Knights fielded two organic tank platoons, one attached mechanized-infantry platoon, one organic headquarters element and an attached field-maintenance team. The Black Knights’ defense of EA Knight stands out as a mission with valuable lessons-learned throughout the planning process.

The defense creates conditions for the offense that allows friendly forces to regain the initiative. Also, the defense can retain decisive or key terrain, deny vital areas to the enemy, attrit or fix an enemy as a prelude to the offense, counter enemy action and increase an enemy’s vulnerability.¹ Every defensive operation includes EAs at echelon. An EA is an area where the commander intends to contain and destroy an enemy force with the massed effects of all available weapons and supporting systems.²

EA development is a complex action demanding parallel planning and preparation if the platoon is to accomplish the myriad of tasks for which it is responsible.³ Platoon and individual preparations must produce a cohesive and integrated defense that nests with the company scheme of maneuver. The lessons-learned by the Black Knights will empower maneuver leaders with the knowledge to enhance their ability to conduct EA development.

EA development

Step 1: Identify all likely enemy avenues of approach (AoAs). The Black Knight company commander identified enemy AoAs using map

reconnaissance and the enemy situational template (SITTEMP). The commander briefed platoon leadership about two AoAs to EA Knight along main supply routes (MSRs) AoA A and AoA B. As platoons identified battle positions (BPs), leaders recognized more AoAs. Once local and far security was established by the Black Knights and battalion scouts, the Black Knight commander allowed platoon leaders time to conduct thorough leaders’ reconnaissance and report back. The leader reconnaissance at the platoon level provided true bottom-up refinement for the likely enemy AoAs.⁴

Within EA Knight, Platoon G observed a network of trails leading into the company area of operation (AO) from restricted and severely restricted terrain to the south. The network of trails produced several routes through AoA C. Left unaddressed, AoA C would allow the enemy to bypass EA Knight and flank Black Knight BPs. To counter the problem, Platoon G reported the severity of the trail network in the southern sector, allowing the commander to design a plan for the defense with AoA C as a focus for direct-fire and obstacles. This is an example of why leaders at the lowest level must take initiative, identify

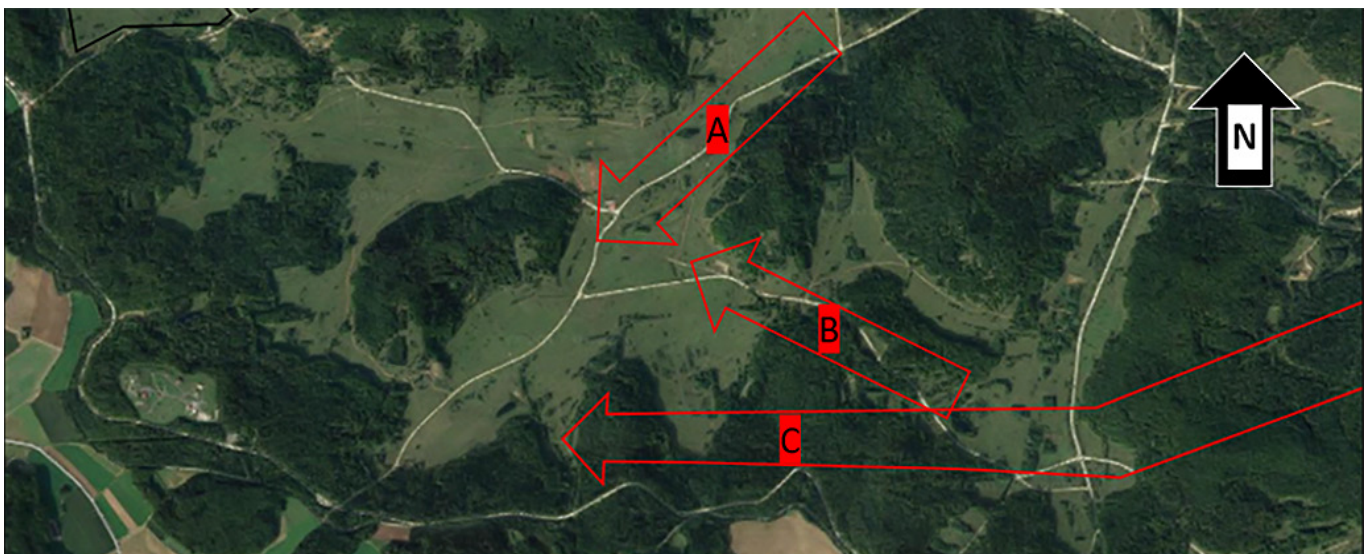


Figure 1. AoAs A, B and C, entering AO Black Knight. (U.S. Army graphic by 1LT Mara S. Tazartus)

discrepancies on the ground and rapidly report the information to enhance the commander's understanding of conditions on the battlefield.

Covered and concealed routes for friendly resupply operations and friendly counterattack or subsequent offensive operation AoAs were not addressed during this initial step of EA development. Although this step focuses on the enemy, an implied and crucial part of this step is also the analysis of friendly AoAs. Failure to develop friendly AoAs resulted in confusion regarding which trails in AoA C could be blocked with obstacles. Therefore, it is important for maneuver leaders to incorporate time for leader reconnaissance to initiate crucial bottom-up refinement and establish friendly AoAs for resupply, counterattack and offensive operations.

Step 2: Determine likely enemy schemes of maneuver. The enemy scheme of maneuver predicted the enemy approaching from AoA C. Along AoA C, the enemy would use mechanized infantry and scouts to clear the ground, make contact with the smallest force possible, and ultimately set conditions for *boyeva mashina pekhoty* (Russian fighting vehicles) and T-72 tanks to navigate the trails to bypass the friendly EA. During the rush to accomplish the steps of EA development, Black Knight focused heavily on preparation for the main body attack. Black Knight did not conduct rehearsals or disseminate specific information related to contact with the advance guard's spoiling attack until within an hour of the attack.

For commanders and the S-2 shop, the preferred method of communicating the enemy's scheme of maneuver is an event template (EVENTTEMP). EVENTTEMPS explain the enemy in motion: time, rates of march, all forms of contact and enemy decision points. EVENTTEMPS break down the enemy into its various elements, including reconnaissance, advance guard, main body (to include fixing, penetration and exploitation forces) and the enemy reserve.

An EVENTTEMP is superior to a SITTEMP, which is a static snapshot of how the enemy is arrayed at a given

time. If the enemy scheme of maneuver had been briefed as an EVENTTEMP, then platoons would have been better prepared for the advance guard. EVENTTEMPS also allow leaders to develop intelligence, surveillance and reconnaissance plans to confirm the enemy's scheme of maneuver and to apply fires in target areas of interest to attrit the enemy during their movement.

Step 3: Determine where to kill the enemy. The Black Knights maintained EA Knight and its boundaries as it was originally briefed, but half of Platoon G and three Bradley Fighting Vehicles were oriented on AoA C rather than the EA itself based on the templated enemy scheme of maneuver. The focus within the EA was the MSR and the open area to the far south. The enemy would make contact with Platoon G's element oriented on AoA C, which would turn the enemy north toward the open areas in EA Knight. The turning movement would remove the enemy's ability to maneuver undetected around or behind Black Knight BPs.

Every weapon, squad or track does not need to be oriented on target-reference points (TRPs) within the EA. Areas and routes surrounding EA Knight required security and observation, requiring EA Knight to break into smaller EAs at platoon level. With this in mind, leaders must be empowered to make necessary recommendations and changes to EA BP locations and security posture to successfully defend against a complex enemy.

Step 4: Plan and integrate obstacles. Black Knight used organic Class IV for all obstacles in and around EA Knight. Leaders placed obstacles in-depth to fix and turn enemy forces along AoA C. Tank platoons cross-loaded organic Class IV in support of the Platoon G obstacle belt emplaced in the south. Taking the initiative to cross-load organic Class IV proved critical to the overall success of the obstacle plan. If Black Knight had waited for the battalion-task-force engineer assets to supply materials, advise on location and emplace obstacles, obstacles would not have been in place for the arrival of the enemy's advance guard. The initiative taken by platoon leadership to communicate, cross-load equipment

and emplace obstacles based on the commander's intent produced a successful obstacle belt fast enough to impact the operation.

Due to the severely restricted terrain to the south, Platoon G fighting positions and BPs were within 100 meters of the trails and obstacles. The proximity of friendly positions to the obstacles they observed prevented obstacles from integrating indirect fires. This reliance on a direct fire, without the indirect-fire component, decreased the effectiveness of the obstacles. For best results, all maneuver leaders should strive to achieve both direct- and indirect-fire integration with obstacles emplaced during EA development.

The indirect-fire integration with obstacles often serves as a forcing function for the dissemination of obstacle-location grid coordinates. The exact obstacle locations and compositions in EA Knight were never disseminated throughout the company. Therefore, most of Black Knight had limited knowledge of the location and composition of obstacles to the south.

The failure to disseminate obstacle information resulted in a degraded ability to reverse breach and quickly counterattack following a successful defense. The information gap would have proved detrimental if the company had immediately gone on offense because most leaders would not have known which trails were accessible or blocked by obstacles. Defensive operations are complex and involve numerous individuals working interdependently at multiple echelons.⁵ Creating shared understanding in the small details like obstacle locations allows work at all echelons to produce a cohesive plan.

Step 5: emplace weapon systems. Emplacing weapon systems is crucial to a successful defense. Emplacement refers to verification of all BPs: primary, alternate, supplementary and subsequent BPs, as well as hide sites. Any position where a vehicle will fight from or maintain a prolonged presence needs to be scrutinized. Each Black Knight platoon emplaced weapons systems (M1A2 and M2A3) oriented on EA Knight and relevant AoAs. All

platoons emplaced weapon systems to allow observation and concentration of direct fires using company TRPs.

The company TRPs were linked to terrain, but the terrain was not as distinct and differentiable on the ground as it appeared on the map. Each platoon thought it understood the TRP locations based on its maps and graphic overlays, but discrepancies existed among all platoons. The lack of commonly understood TRPs failed to achieve mutually supporting and overlapping fields of fire. Unfortunately, Black Knight failed to create a shared understanding early in the EA development process by not marking TRPs according to the company TSOP.

The Black Knight TSOP called for placing Velocity System 17 (VS17) marker panel triangles on each TRP for daytime visibility. The VS17 triangles could be tied to a terrain feature or attached to a picket and pounded into the ground. Black Knight lacked a defined night-marking SOP or the resources to create night markings while conducting EA development. The Black Knight SOP has since been updated to include the following night-marking SOP: Use a picket with two nine-volt batteries connected on the inside, facing the friendly BP or fighting position. (The batteries facing toward friendly positions create a thermal signature gunners will identify.)

Day and night TRP markers should be immediately emplaced after the receipt of company graphics. Having marked TRPs is crucial to achieving mutually supporting and overlapping fields of fire. Black Knight emplaced weapon systems and finalized BPs based on each platoon's terrain-association-informed concept of the TRPs. When the company began marking TRPs, Black Knight was unknowingly H-2 hours away from an incoming enemy spoiling attack.

As Platoon G began emplacing TRP markings, the other platoons realized they could not see Platoon G's selections for TRPs 8 and 9. Neither of the tank platoons identified the markers, which revealed a 400-meter stretch of deadspace in EA Knight. This was bad because you should not leave your unit's mutually supporting and

overlapping fields of fire to chance. To prevent this problem, leaders must conduct pre-combat inspections and be forward-thinking in supply requests for upcoming missions. Get the marking material and mark TRPs early in the EA development process. Identify deadspace early enough in the planning process to place registered targets in the locations that direct fires cannot cover.

Creating and compiling sector sketches is another important step in emplacing weapons systems. The initial sector sketches each vehicle creates in the process of establishing initial security do not absolve Soldiers and leaders from continuing to update the accuracy of these sketches. Vehicles must produce more sketches for every fighting position and BP.

In Black Knight, the quality of sector sketches varied drastically between different platoons. Commanders and platoon leaders must ensure sector sketches are detailed enough to aid in planning to defend against complex attacks.⁶

Detailed sketches should cover:

- Key weapon locations;
- Weapon orientation;
- Obstacle locations;
- Areas of responsibility;
- Most likely enemy AoAs;
- Likely attack positions; and
- Accurate distances and locations of anything in the weapon's sector.

The preceding list incorporates locations and positions that are non-existent or unknown during the initial creation of the sector sketch. Much like BPs and fighting positions themselves, sector sketches should be continuously improved to paint the most accurate picture of the battlefield. Teach good habits when building sector sketches: use a laser rangefinder to get accurate distances and maintain one compass per vehicle to verify left and right limits, for example. If all sector sketches had met the preceding standard and produced a consolidated sketch, the TRP-placement issue Black Knight faced could have been identified and resolved sooner through an accurate comparison of left and right limits.

Step 6: Plan and integrate indirect fires. Fires planning and integration

occurred at the company and battalion levels. Fires were connected to the enemy's scheme of maneuver and the battalion obstacle belt. Black Knight targets had redundant observers, and all vehicle commanders had grid coordinates and preplanned target (PPT) locations on graphic overlays. All vehicle commanders in Black Knight knew the triggers and engagement criteria for company fire missions, and this should be the goal for all units as they plan for fires.

The next step is to rehearse calling the fire missions. Include vignettes and scenarios during rehearsals that force leaders to analyze the intent behind the engagement criteria so they can make decisions about when to call the mission. Black Knight rehearsed the primary observers calling fire missions but did not include alternate observers or other leaders in the company. Commanders and leaders must understand the time it takes for mortars and artillery to impact after a call for fire. This must be rehearsed given the anticipated enemy rates of march to provide timely and accurate fires.

During actions on contact in the defense, two chances to call fire missions on targets of opportunity arose. However, both fire missions were unable to be processed due to an inability to properly clear air and ground. When given the opportunity, register all potential fire targets while in the defense. Having more registered targets will make it easier to capitalize on targets of opportunity because the process can be streamlined to adjust fire missions off a known PPT.

Step 7: Rehearse the execution of operations in the EA. Black Knight conducted rehearsals frequently throughout defensive operations. Company leaders conducted rehearsal-of-concept (RoC) drills and radio rehearsals. At platoon level, every vehicle rehearsed movement between all hide sites and BPs to ensure driver confidence. Platoon RoC drills and radio rehearsals addressed contingencies, vignettes of potential enemy movement and casualty evacuation.

The only rehearsal in the Black Knight TSOP not used during the EA-development process was a terrain-model

rehearsal. Terrain-model rehearsals are the preferred method of rehearsing for a company-team and could have resolved issues Black Knight encountered in the defense. For example, a terrain model could have created a shared understanding of all obstacle locations.

An important part of radio rehearsals was identifying communications dead-space and BPs that would require a relay to the Black Knight command post. Leaders should strive to identify communications shortfalls early, decide if the position is advantageous enough to warrant enacting a communications contingency plan and create a plan and set of priorities for a relay.

TSOP

Some of the issues Black Knight encountered during the EA development process could have been resolved simply by referencing and following through with the Black Knight TSOP. The TSOP instructs the marking of TRPs with VS17 panels and provides a call-for-fire resource to facilitate fire rehearsals at all levels. The Black Knight TSOP provides detailed instructions and an example of a correctly drawn sector sketch.

The existence of a Black Knight TSOP, regardless of how Soldiers and leaders referenced it, allowed the Black Knights to perform at a high level. Research identifies that units with developed TSOPs for defensive operations performed better on most critical tasks. When assessing EA development and characteristics of defense, units with a TSOP performed better on all 14 items measuring those aspects of defensive operations; 11 of those comparisons reached statistical significance.⁷ High-achieving tactical organizations create, update and use TSOPs. With that in mind, you should empower your organization to create and refine a TSOP to improve tactical outcomes in EA development.

Conclusion

EA development is a complex series of simultaneous events. Maneuver leaders must achieve the doctrinal steps of EA development and recall, and to implement lessons-learned from personal experience and the experiences of others. They should also ensure the

unit-specific TSOP is updated and widely used to achieve the best outcome. Leaders will find success in synthesizing the tasks above by creating unit-specific defense battle drills.

Create a defense battle drill and rehearse using that battle drill thoroughly and often, not only during a combat-training-center rotation. Due to the required time to conduct deliberate defense to standard (72-96 hours for an armored brigade combat team), units often default to training and executing a hasty defense in the field. Therefore units need to employ creative methods to train deliberate defense to standard to build proficiency. Conducting deliberate defense training is the only method of validating whether the unit defense battle drill is comprehensive and universally understood.

Units can perform deliberate defense over multiple days in the Close Combat Tactical Trainer or Virtual Battlespace 3. Units can work through deliberate defense over time, having vehicles populate in the last-used fighting position after a break in training. A full operations order, including an enemy EVENTTEMP, can be briefed and generated in different areas of the battlefield accordingly. Platoons will react to each element of the enemy attack and use the EVENTTEMP as the guideline for how to array vehicles and adjust security during different parts of the operation. Over time, as proficiency increases, leaders can adjust mission factors and variables to provide more challenging dynamic and complex operational environments. Tabletop exercises with key leaders afford a chance to gain familiarity with the defense battle drill before entering a fully tactical environment.

The defense battle drill, including TSOPs and best practices, learned over years of operations, must be disseminated and used to the point of becoming a commonly understood system. CPT Kyle Frazer describes this process in *Infantry* magazine: "Expounding on this concept of systems establishment, we can boil the defense down to a battle drill. This requires commanders to analyze reoccurring tasks, identify who is responsible for the execution and decide the standard to which one

must execute. Battle drills are a fundamental way we fight and one we are familiar with, but the key to battle drills is that they are clearly defined and rehearsed. If you can break down the process of the defense, you can provide a framework and establish a sequential battle drill for the defense."⁸

A defending force contains enemy forces while seeking every opportunity to transition to the offense.⁹ A clearly defined, rehearsed and understood defense battle drill will help units and leaders conduct EA development with increased proficiency, resulting in more effective defensive operations overall. Increased success and lethality in the defense will create conditions that allow leaders to seize the initiative and transition to a counter-attack or offense.

Maneuver leaders need to create the defense battle drill that is right for their unit, incorporate the battle drill and its subcomponents into a TSOP and continuously refer to these resources. The preceding steps, paired with lessons-learned from Black Knight's execution of EA development, provide the foundation for greater success for all maneuver leaders in the most challenging aspects of the defense.

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Notes

¹ Field Manual (FM) 3-90, *Offense and Defense*, July 2019.

² Ibid.

³ Army Techniques Publication 3-20.15, *Tank Platoon*, July 2019.

⁴ CPT Kyle Frazer, "Engagement-Area Development in a Compressed Timeline," *Infantry*, Spring 2018, https://www.benning.army.mil/infantry/magazine/issues/2018/APR-JUN/PDF/9/Frazer-EA%20Dev_txt.pdf.

⁵ C. Vowels, W.A. Scroggins, Kyle T. Daniels, Paul M. Volino, "Defensive Operations in a Decisive-Action Training Environment," U.S. Army Research Institute for the Behavioral and Social Sciences, July 2017.

⁶ "Company Defense Planning Needs Improvement," Center for Army Lessons Learned, https://call2.army.mil/docs/doc4688/Tip_132.pdf.

⁷ Vowels, Scroggins, Daniels and Volino.

⁸ Frazer.

⁹ FM 3-90.

ACRONYM QUICK-SCAN

AO – area of operation
AoA – avenue of approach
BP – battle position
CBR XVII – (Operation) Combined-Arms Resolve XVII
EA – engagement area
EVENTTEMP – event template
FM – field manual
MSR – main supply route
PPT – preplanned target

RoC – rehearsal of concept
SITTEMP – situational template
SOP – standing operating procedures
TRP – target-reference point
TSOP – tactical standing operating procedures
VS17 – Velocity Systems 17 (marker panel)

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Painting the Picture: Executing a Better Combined-Arms Rehearsal

by LTC Mitchell Payne

Why do we do rehearsals as an Army? Everyone knows (or has at least had it repeated to them multiple times) that the combined-arms rehearsal (CAR) is one of the most critically important events a unit will do before executing an operation.¹

Some leaders might go so far as to say a half-done plan with a well-executed rehearsal will still allow mission success. But if we accept that rehearsals are important, it still bears asking the question, Why do we do them?

Our current doctrine asserts that we do rehearsals to identify friction points in the plan, facilitate internal coordination and help Soldiers build a lasting mental picture of the sequence of the events.² Others may see rehearsals as a venue to discuss contingencies with staff and leaders. All these reasons are critical aspects of a well-executed rehearsal, but they are secondary effects to a more primary function. Army units execute rehearsals to synchronize military efforts in purpose, space and time³ to achieve a shared understanding of the commander's visualization between the staff and subordinate leaders.

If we accept this premise as the underlying reason why we conduct rehearsals, the next question logically follows: Do our current rehearsals synchronize efforts in purpose, space and time? Put another way, do we walk away from our rehearsals with a shared understanding of what everyone is doing (what, why) at a given time (when) and in a given space (where)?

Problem with rehearsals

In 2019, Netflix released a critically acclaimed television series based on the fantasy-novel series by Andrzej Sapkowski entitled *The Witcher*. In the first season, arguably the most confusing aspect that generated negative feedback⁴ was the season's timeline. The show's first season was not told sequentially – it had multiple storylines across multiple timelines that

were tied together in the final episode of that season.

Unfortunately, the main problem with the TV show – the multiple stories across multiple timelines – is the same fundamental problem with how we execute our rehearsals. This is partially because we have a gap in our doctrine. Our current doctrine on rehearsals promotes a format that inherently compartmentalizes staff functions and subordinate actions throughout the brief.⁵ While this format certainly highlights the depth of knowledge of the individual briefer, the current CAR script construct does little to meet the ultimate purpose of the CAR: to synchronize efforts in purpose, space and time to achieve shared understanding.

This means while individuals may have a solid understanding of their part of the operation (the “what, where and why” of the operation), the disjointed nature of the current briefing format leads to a critical lack of understanding about the “when” of the operation. The fires lead might have a great understanding of the overall fires concept, but if he/she does not layer that in time with the rest of the operation, it becomes increasingly difficult to understand what fires is doing at a specific time to support the maneuver fight.

By its very nature, time is the one aspect that synchronizes everything because everything we do happens in time. Without a solid synchronization of the operation in time, we cannot achieve any degree of shared organizational understanding between staff and subordinates.⁶ Among other things, this has two distinct implications.

First, if we do not rehearse and synchronize operations in time, it becomes immensely harder to anticipate or identify operational friction points. As an example, if one does not clearly state when the start-point time is during a rehearsal, we cannot see if the intelligence-collection (IC) assets are in place to shape the deeper fight at

the right time. Another perspective is in the air-assault planning process where rehearsals are tied to a distinct “h-hour” sequence, to ensure that suppression of enemy air-defense fires, lift assets and ground forces are synchronized to mass elements of combat power at the decisive place and time.

Second, if we do not rehearse and synchronize operations in time, then we will lack an understanding of what the enemy forces are doing at that time. Most CAR scripts start with an intelligence representative briefing the enemy scheme of maneuver by phase. This tangibly means that in a good CAR, a G-2 or S-2 representative will walk onto the terrain model and lay down enemy icons on the map. Once that is briefed, the typical CAR script typically transitions to the other warfighting functions and subordinate units' briefings.

The problem with this construct, however, is that the enemy remains static as everyone else briefs their portion because the G-2 or S-2 has already finished their part of the CAR script. A static enemy cannot tell anyone else what the enemy is doing in time. This results in a myopic focus on each individual silo of excellence without an understanding of how friendly actions are affecting enemy actions. Furthermore, when the enemy remains static, commanders and leaders cannot gain an appreciation of enemy decision points and subsequent opportunities to exploit enemy decision points or friction points.

5 ways to improve CARs

If what we as an Army are doing for rehearsals does not allow us to meet the intent of the rehearsal, what can we do differently? Among other things, here are five discrete actions that organizations can take to improve their rehearsals.

1. Ditch the current script. If the current script does not help synchronize operations in time, get rid of it. The

current script typically focuses on each briefer briefing his/her aspect of the operation – telling in detail the “what, where and why” of their piece. Instead, rather than making time an afterthought, organizations should make it the first aspect in which we synchronize operations in the rehearsal. Doing this requires that we ditch the script – unit leaders must instead cognitively reframe how we look at rehearsals.

To our credit, our current doctrine supports the idea that a CAR should not be a rigidly scripted event but leave room for appropriate dialogue.⁷ Unfortunately, the desire to not look foolish in front of your commander or your commander’s commander means that many people prepare robotic scripts and shy away from a true dialogue between leaders at echelon. This means that people rely on scripts to look well-informed at the cost of actually synchronizing the operation across the organization.

2. Make it a story. Instead of relying on the previous way of doing rehearsals, Army leaders must make their rehearsals more like a story. At the most basic level, when telling a story, you start at the beginning and talk about what happens until you get to the end. The current script does not tell one story, it tells 15 different stories – one for each staff function and subordinate commander.

One way to make it more like a story is to functionally design your rehearsal away from a script and more toward a simulation. To do this, you must start with elements in place and then show (in time) the movement and actions of each element – both enemy and friendly – on the terrain model. As time progresses, this will help the collective group of staff leaders and subordinate commanders visualize how the enemy and friendly forces will move in the battlefield, which will better allow them to visualize the fight, identify enemy and friendly friction points, plan and think about contingencies during the rehearsal.

3. Embrace the matrix. To tell a better story, unit leaders must ditch the current script and adopt a new one. This does not mean that the staff must

create a whole other script; whenever possible, units should rely on the work they have already done to work more efficiently.⁸ In that spirit, planning staff may already have a document that synchronizes operations in time which they could use as a baseline rehearsal script: the synchronization matrix.

The synchronization matrix is a fighting product produced in the military decision-making process or the rapid decision-making synchronization process (RDSP) that organizes operations by unit, task and purpose across time.⁹ When used as a rehearsal script, the synchronization matrix will by its very nature force the rehearsal to account for actions and time. Even at the highest levels, using the synchronization matrix as a rehearsal script makes use of an existent product that should have the appropriate amount of detail, aligned in time to facilitate the shared visualization of the operation.

Some may object to this, arguing that a well-done synchronization matrix is too detailed to facilitate an effective dialogue in the rehearsal. This is a valid point, and one may respond by being selective in the information that is briefed in the rehearsal. Alternatively, the use of multiple rehearsals in addition to the combined-arms rehearsal (for example, the fires/intel rehearsal or the sustainment rehearsal) may allow alternative venues to delve a little deeper into the specifics of the operation nested within the overall maneuver plan.

Table 1 offers an example CAR script using the synchronization matrix.

4. Look down and in. Regardless of the specific script organizations use, often units fail to understand the complexities of the operation and the necessary internal coordination to make the rehearsals more effective. For example, rarely do maneuver units discuss casualty levels or attrition of combat power as they discuss their associated tasks and purpose on the terrain model. However, those are the explicit data points that will highlight the potential friction points or commander decision points (DPs).¹⁰ Furthermore, it is those very data points that will drive further staff coordination to provide the necessary sustainment

support to promote operational endurance.¹¹

Units executing rehearsals need to look down and in at themselves and the enemy. They need to understand the effects of their operations in time on the enemy, which will help them to identify enemy DPs and potential opportunities to exploit enemy friction points. Such examination will drive refinement to the IC and fires elements, which will further enable maneuver.

5. Look up and out. Simultaneously, well-executed unit rehearsals will also look up and out. As an essential aspect of our operations, units do not operate independently of each other, but within a larger framework that may include multidomain operations.¹² This requires organizations to not only look down and in (internally) but also up and out. No organization conducts operations in a vacuum; every action will affect the enemy and impact adjacent units, nested within the higher commander’s intent. This applies as much at the platoon and squad levels as it does to the division and corps levels of warfare.

This further necessitates a time-driven approach to rehearsals, because (particularly at the division and corps levels) most of the multidomain assets they may request are inherently linked to time, whether it is the air-tasking order or various convergence windows for multidomain assets. Units that cannot articulate or rehearse their plan in time cannot understand when they will need more external assets – or, more importantly, when they will need to request those assets to receive them at the appropriate time. Without a shared understanding of the operation in time, units often are unable to receive the right asset at the right time for those assets to be of any use, leading to catastrophic loss of combat power and inability to accomplish their mission.

Distributed rehearsals

Another aspect worth mentioning related to improving rehearsals in the modern fight is the necessity to execute them in a distributed format. The realities of large-scale combat operations in today’s environment require mobile command posts (CPs) simply to

Table 1. Example synchronization matrix for CAR script.

Overview		
1	S-3	Area-of-operations orientation
2	S-2	Enemy commander's intent and initial enemy arrayal
3	S-3	Higher-commander's intent
4		Commander's intent
6 p.m. – Line of departure (LD)		
1	S-3	The time is now 6 p.m. The first elements of the division will be Phase Line (PL) Adam. The rest of maneuver forces remain in Tactical Assembly Area (TAA) Iron.
2	S-2	200 th Mechanized Battalion begins movement from its TAA; 300 th Armor Battalion (notional) and 400 th Antitank Battalion remain in positions at enemy TAA. 100 th Reconnaissance Squadron screens between PL Doug and PL Evan.
3	S-2 IC	IC begins at Named Areas of Interest (NAIs) 1 and 2.
7 p.m. – Saber Squadron forward-passage-of-lines (FPoL)		
1	S-2	200 th Mech Battalion reaches PL Kevin. Initial support-by-fire begins observation on friendly forces in vicinity of (IVO) PL Bob. Enemy intelligence, surveillance and reconnaissance (ISR) special-purpose forces (enemy special-operations forces, notional) begins flying IVO PL Chuck.
2	Saber 6	Saber in vicinity PL Bob and conducting FPoL with 4 th United Kingdom Brigade at PL Bob.
3	Mech 6	1 st Battalion begins LD from TAA Iron.
4	Armor 6	2 nd Battalion begins LD from TAA Iron.
8 p.m. – Movement to passage lanes		
1	S-2	200 th Mech Battalion reaches PL Jim. 300 th Tank Battalion reaches PL Kevin, continues movement south. 400 th Antitank Battalion reaches PL Luke. Enemy ISR identifies Saber moving northeast of PL Chuck.
2	Saber	Conducts area recon east to identify enemy indirect fires (IDF) in NAI 1.
3	Mech 6	1 st Battalion (Mech) continues movement north to passage lanes at PL Bob.
4	Armor 6	2 nd Battalion (Armor) continues movement to passage lane at PL Bob.
5	Fire-support officer (FSO)	Close-air support (CAS) on-station, executing targets AB001 to destroy enemy IDF assets (Priority 1) and enemy movement-and-maneuver forces (Priority 2).
6	Stryker 6	3 rd Battalion (Stryker) begins LD from TAA Iron.
9 p.m. – 1st Brigade FPoL/counter-reconnaissance fight		
1	S-3	Initial brigade forces reach probable line of contact (PLOC) with 100 th Recon Squadron between PLs Chuck and Doug and begin receiving IDF.
2	S-2	100 th Recon Squadron begins shooting IDF at Saber. 200 th Mech Battalion reaches PL Hank. 300 th Tank Battalion reaches PL Jim, 400 th Antitank Battalion (notional) moves west between PL Kevin and PL Jim. 5 th Fires Battalion moves west past PL Kevin.
3	Saber	Cav conducts counter-reconnaissance with 200 th Antitank Brigade recon forces.
4	S-3	1 st , 2 nd and 3 rd battalions execute FPoL with 4 th United Kingdom K Brigade at PL Bob.
5	Thunder 6	Thunder at positioned area for artillery (PAA) 1, establish radars to detect enemy IDF assets between PL Evan and PL Frank.
6	FSO	CAS on-station, executing targets AB001 to destroy enemy IDF assets. Priority shifts to supporting Saber.
7	S-1 / medical operations (MEDOPS)	Assess Saber receives 10-percent casualties on Saber.

10 p.m. – Disruption-zone fight		
1	S-2	Loss of 1x troop and 1x battery causes 100 th Recon to collapse. 200 th Mech, 300 th Tank and 400 th Antitank Battalion reach PL Hank and begin to establish hasty defense.
2	Saber	Saber conducts area recon between PL Evan and PL Frank oriented on Objective Pats to identify enemy forces IVO Objective Pats.
3	Mech 6	1 st Battalion attacks to destroy enemy on Objective Browns.
4	Armor 6	2 nd Battalion attacks to destroy enemy of Objective Packers.
5	Thunder 6	Thunder in position at PAA 2, executes fires support to 1 st Battalion (Priority 1) and 2 nd Battalion (Priority 2).
6	FSO	CAS off-station. Next CAS window is midnight to 2 a.m.
7	S-1 / MEDOPS	Saber passes off casualties to 3 rd Battalion (Stryker).
11 p.m. – Movement to attack Objective Pats		
1	S-3	Collapse of disruption zone allows 1 st Brigade to move between PL Evan and PL Greg (PLoC).
2	S-2	Enemy on Objective Pats continues to build defensive positions; two obstacle belts emplaced in Objective Pats.
3	Saber	Saber conducts area recon between PL Frank and PL Greg oriented on Objective Pats to identify enemy forces IVO Objective Pats.
4	Mech 6	1 st Battalion moves east to Attack Position Reds.
5	Armor 6	2 nd Battalion moves east to Attack Position Jays.
6	Stryker 6	3 rd Battalion moves east to Attack Position Braves.
7	Thunder 6	Thunder moves east to occupy PAA 3.
8	FSO	CAS off-station. Next CAS window is midnight to 2 a.m.
Midnight – Shaping Objective Pats		
1	S-3	1 st Brigade arrayed in attack position along PL Greg.
2	S-2	Enemy on Objective Pats emplaces the third obstacle belt.
3	Saber	Saber conducts area recon along PL Greg oriented on Objective Pats to identify enemy forces IVO Objective Pats.
4	S-3	1 st Battalion occupies Attack Position Reds, 2 nd Battalion occupies Attack Position Jays, 3 rd Battalion occupies Attack Position Braves.
5	Thunder 6	Thunder occupies PAA 3. Attacks to destroy enemy forces on Objective Pats. Primary observer is Saber.
6	FSO	CAS on-station, attacks to destroy IDF and M2 forces in AB002.
7	S-1 / MEDOPS	Assess Saber receives 10-percent casualties.
1 a.m. – Attack to seize Objective Pats		
1	S-3	After shaping is complete, 1 st Brigade attacks to seize Objective Pats.
2	S-2	Estimate enemy forces on Objective Pats reduced to 60-percent strength due to Blue CAS and IDF. IC focus shifts to NAI 3 to identify reinforcements moving northwest.
3	Saber	Saber screens north along Objective Pats to protect 1 st Brigade’s northern flank.
4	Mech 6	1 st Battalion conducts breach and attacks to seize Objective Broncos.
5	Armor 6	2 nd Battalion conducts breach and attacks to seize Objective Jets.
6	Stryker 6	3 rd Battalion attacks to fix enemy forces on Objective Jags.
7	Thunder 6	Thunder occupies PAA 4. Attacks to destroy enemy forces on Objective Pats. Primary observer is Saber.
8	FSO	CAS remains on-station, attacks to destroy IDF and M2 forces in AB002. Priority of support is 2 nd , 1 st and 3 rd battalions.

Table 1 continued.

2 a.m. – Seize Objective Pats, establish hasty defense		
1	S-2	1 st Brigade IC focus shifts to NAI 3 to identify counterattacking forces moving northwest to Objective Pats.
2	Saber	Saber screens north IVO PL Kevin to protect northern flank.
3	Stryker 6	3 rd Battalion conducts breach and attacks to seize Objective Jags. On order establishes hasty defense along PL Jim.
4	Mech 6	1 st Battalion establishes hasty defense along PL Jim.
5	Armor 6	2 nd Battalion establishes hasty defense along PL Jim.
6	Thunder 6	Thunder occupies PAA 4 to support seizure of Objective Jags. On order moves to PAA 5 to support defense along PL Jim.
7	FSO	CAS goes off-station. Next CAS window is 5-7 a.m.
8	S-1 / MEDOPS	Assess 1 st and 2 nd Battalions receive 15-percent casualties. Role II co-located with brigade engineer battalion (BEB).
Friction points		
1		Loss of combat power in Saber in the counter-reconnaissance fight.
2		Inability of 3 rd Battalion (Stryker) to fix enemy on Objective Jets.
Decision points		
DP1		Commit the reserve.
DP2		Adjust priority of support for fires and CAS.
DP3		Displace main command post.

Table 1 continued.

survive. As CPs become more and more distributed, however, they also start to mitigate their functionality. This tenuous balance requires a careful understanding of how to manage command-and-control responsibilities. Units therefore must be able to execute rehearsals in a distributed

fashion. Two options may facilitate these distributed rehearsals.

First, at the division and higher level, many units have simulation-operations Functional Area (FA) 57 officers assigned to them. These officers have the training capability to build

simulations that can help graphically depict the rehearsal as a simulation. This requires a degree of preparation on the unit's part as well as the appropriate simulation software to depict the operation this way.

Also, in a tactical environment, there

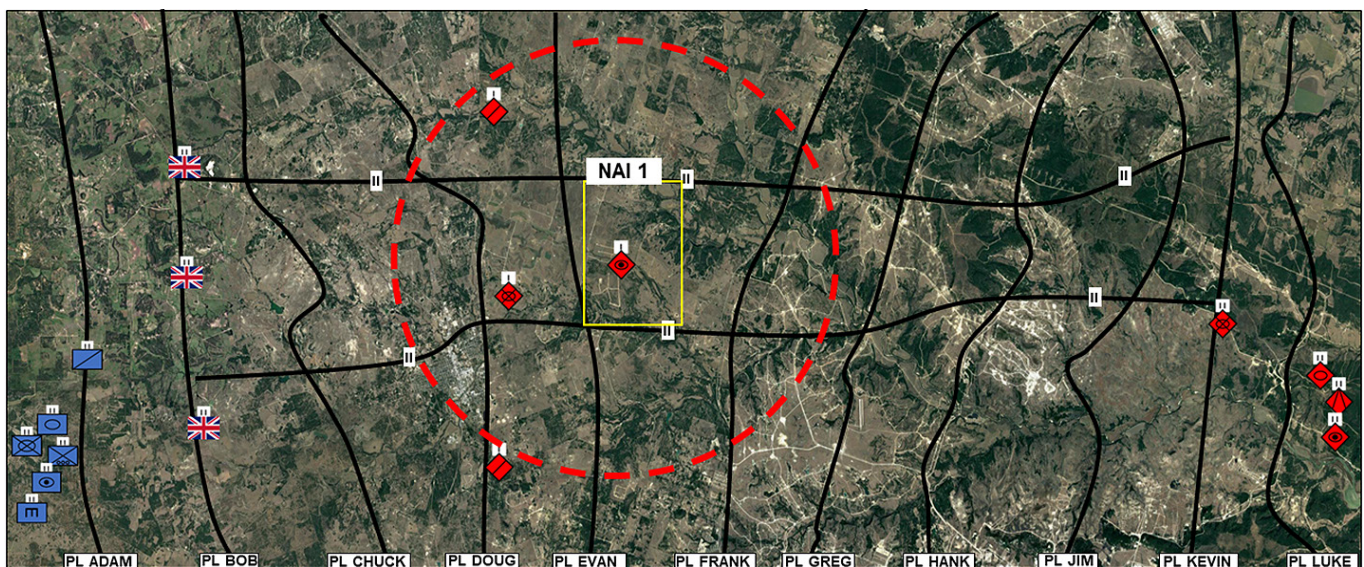


Figure 1. Graphic to establish line of departure. First graphic in a distributed CAR brief. (Graphic by author)

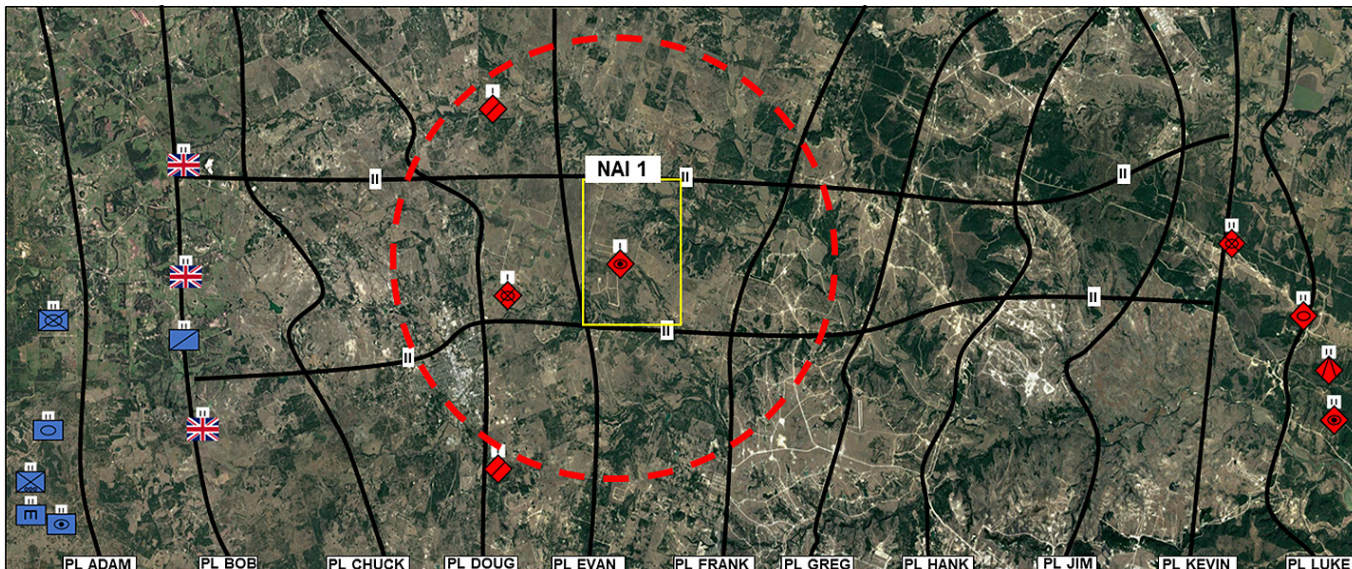


Figure 2. Saber Squadron forward-passage-of-lines. Second graphic in a distributed CAR brief. (Graphic by author)

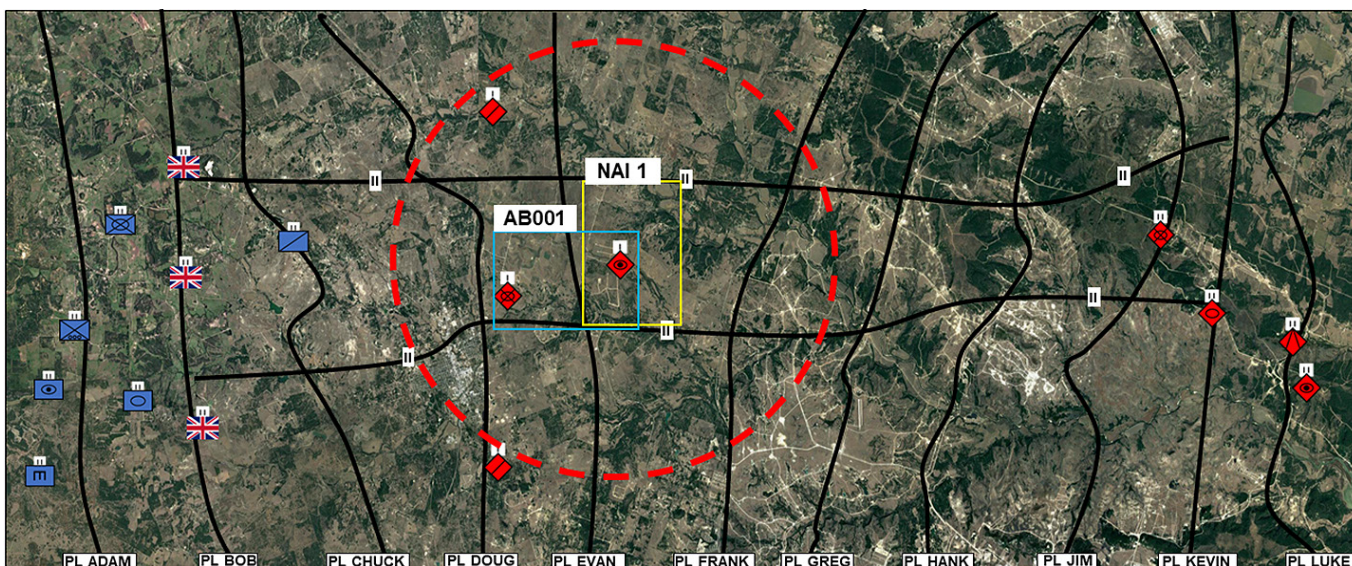


Figure 3. Movement of passage lanes. Third graphic in a distributed CAR brief. (Graphic by author)

may be bandwidth issues to consider with this option.

For units below the division level or those that do not have FA57 simulation officers organic to their formations, a second option is available. Conceivably, to support a rehearsal for a discrete combat operation, a unit may take a fixed hourly period and break it down into hourly increments. Planners can then take the operational graphics and show the movement of units and operations in time and space across the hourly slides. (Figures 1-8, a distributed CAR brief)

With the appropriate knowledge-management procedures, this rehearsal script could be posted where all

parties can receive shared access and execute the rehearsal from their respective CP or command-and-control node. With minimal front material, a unit could post a brief at 30 slides for a distributed rehearsal and achieve a high degree of synchronization and shared understanding.

Conclusion

Despite the gaps in our current doctrine, one thing is certain: rehearsals are a critical component to successful mission accomplishment at every echelon. Many units, however, waste critical time by executing rehearsals in a desynchronized and silo-centric manner. This does nothing to add to the shared understanding of all Soldiers

because it doesn't tie the operation together in time. Time is the most basic synchronizing function and therefore the most important aspect of successfully telling a coherent story.

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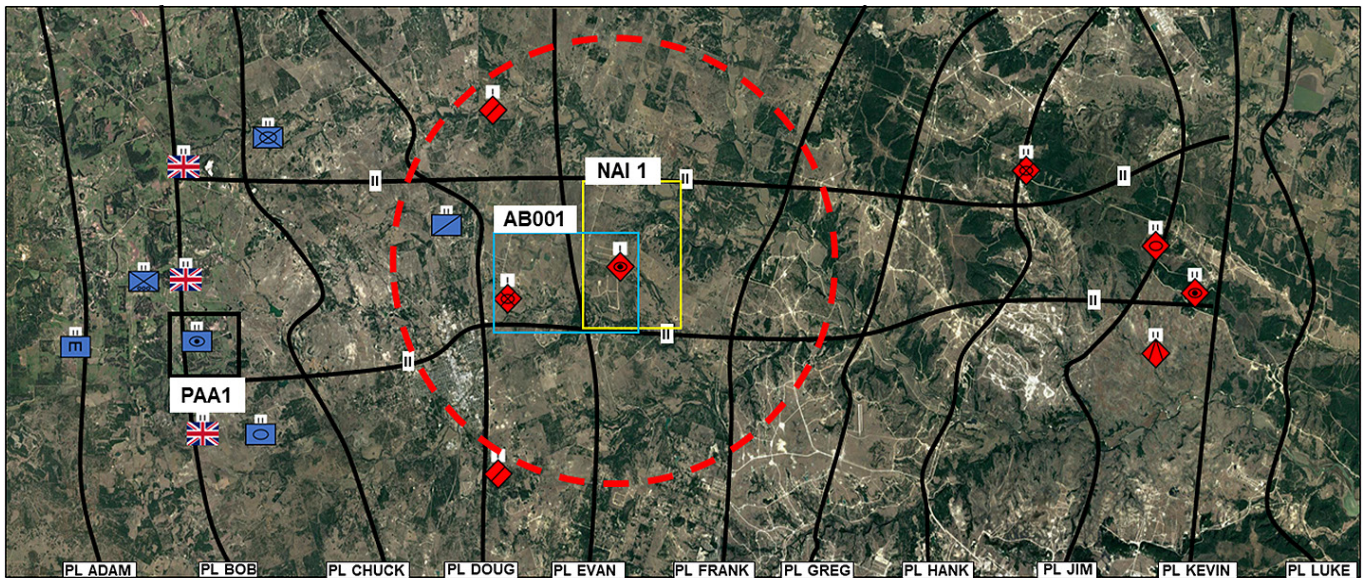


Figure 4. 1st Brigade FPoL/counter-reconnaissance fight. Next graphic in a distributed CAR brief. (Graphic by author)

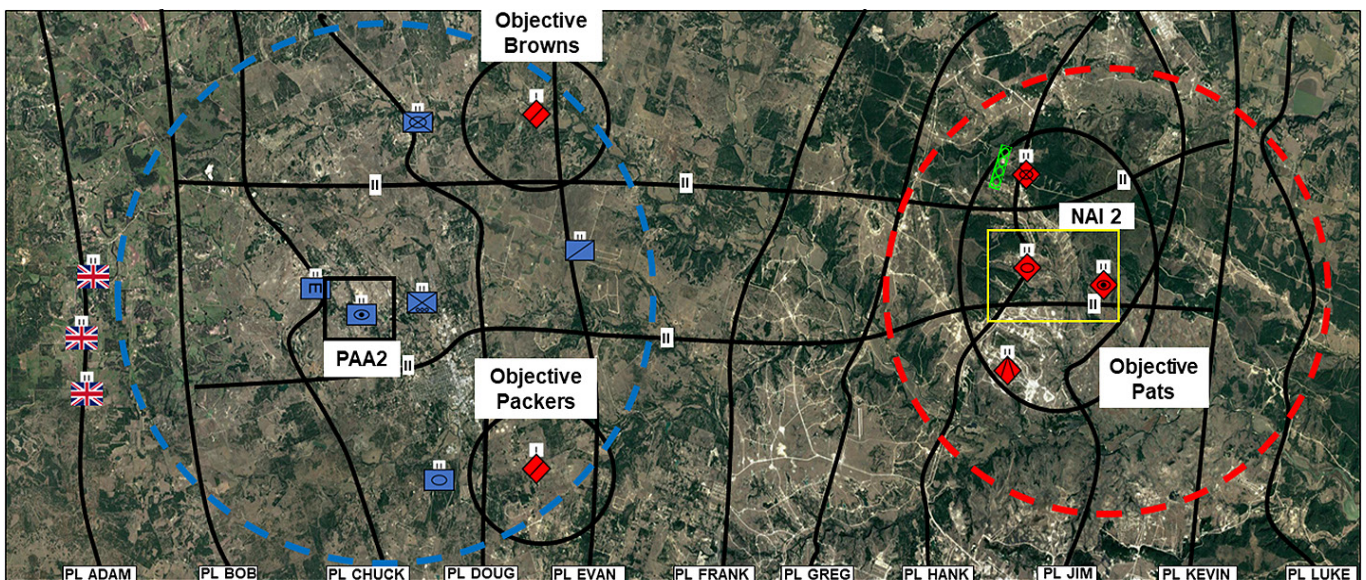


Figure 5. Disruption-zone fight. Fifth graphic in a distributed CAR brief. (Graphic by author)

officer, 5th Squadron, 1st Cavalry Regiment, 1st Stryker Brigade Combat Team, 25th Infantry Division, Fort Wainwright, AK; and battalion executive officer, 1st Battalion, 5th Infantry Regiment, 1st Stryker Brigade Combat Team. LTC Payne's military schools include the Armor Basic Officer Leader's Course, Maneuver Captain's Career Course and Command and General Staff College (CGSC). He has a bachelor's of arts degree in philosophy from Wheaton College and a master's of military arts and science degree from CGSC (thesis in applied ethics). He's also a doctor of philosophy candidate in organizational leadership at Regent University School of Business and

Leadership. LTC Payne has previously published works on RDSP, assessments, leader cognition and the Army ethic.

Notes

- ¹ Field Manual (FM) 6-0, **Commander and Staff Organization and Operations**, May 2022.
- ² Ibid.
- ³ FM 3-0, **Operations**, October 2022.
- ⁴ Tim Surette, "The Witcher's Complicated Season 1 Timeline, Explained," **TV Guide**; accessed on-line, Dec. 14, 2021, <https://www.tvguide.com/news/the-witcher-season-1-timeline-netflix-when-are-things-happening-chronological-order/>.
- ⁵ FM 6-0.

⁶ Joint Publication 2-0, **Joint Intelligence**, defines synchronization as "the arrangement of military actions in time, space and purpose to produce maximum relative combat power at a decisive place and time," as cited in FM 3-0.

⁷ FM 6-0.

⁸ LTC Mitchell Payne, "RDSP in LSCO," Center for Army Lessons Learned, 2022.

⁹ FM 5-0, **Planning and Orders Production**.

¹⁰ LTC Mitchell Payne and J. Watts, "Staff Facilitation of Commander Decision-Making," Center for Army Lessons-Learned (pending publication).

¹¹ FM 3-0.

¹² Ibid.

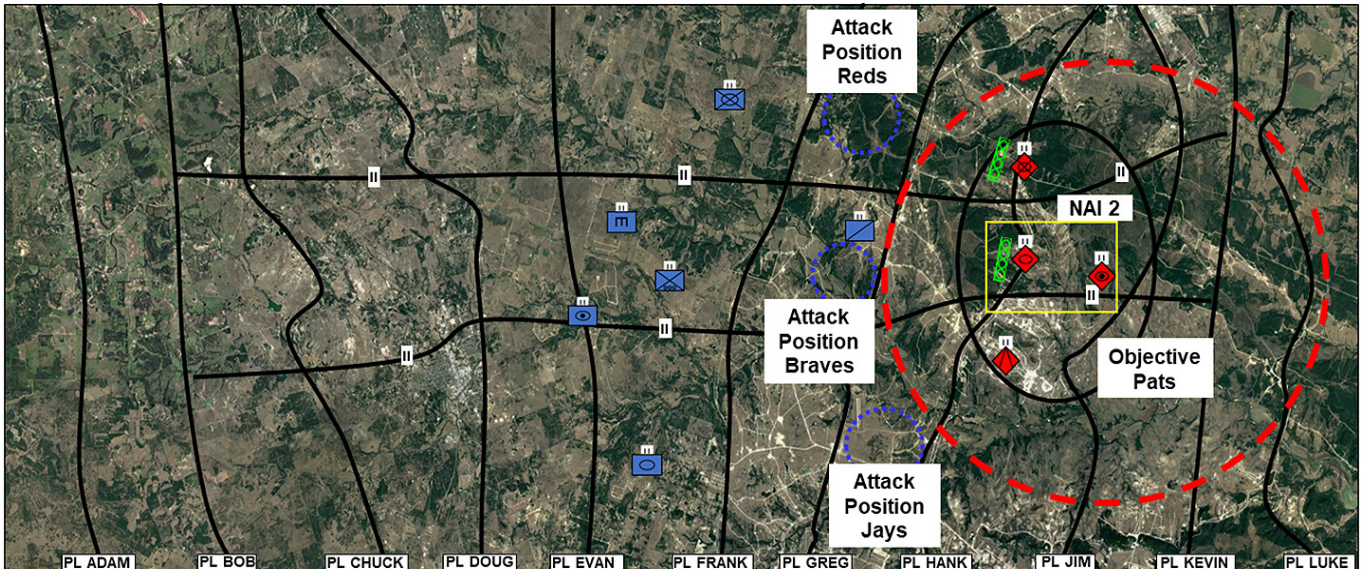


Figure 6. Movement to attack Objective Pats. Sixth graphic in a distributed CAR brief. (Graphic by author)

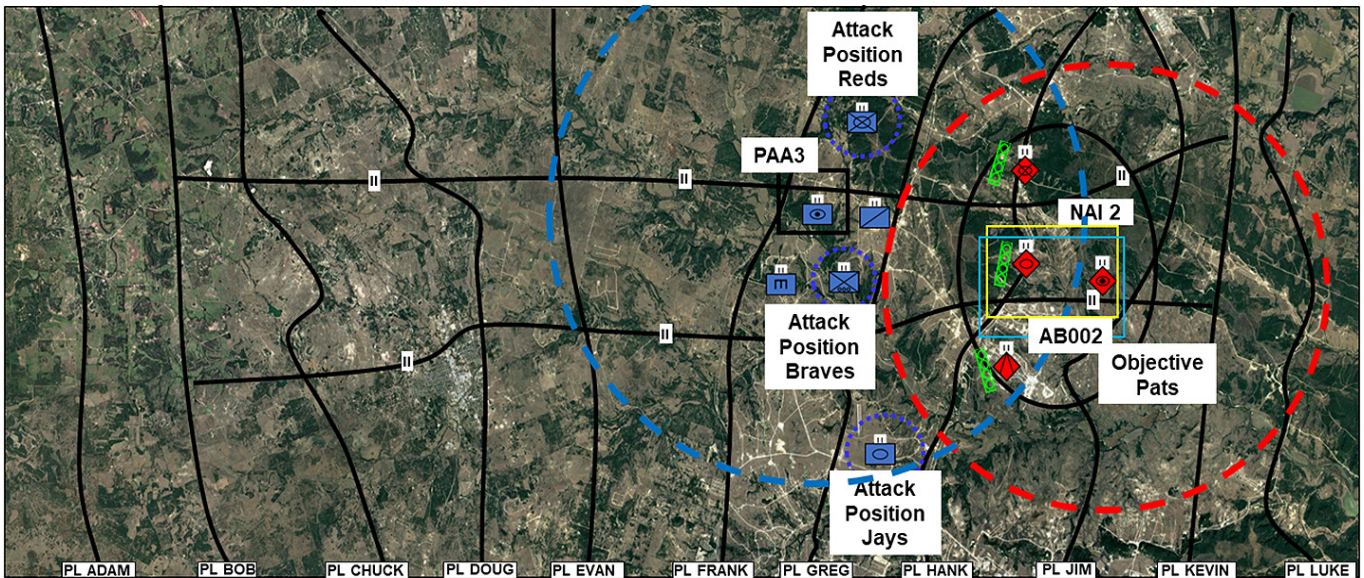


Figure 7. Shaping Objective Pats. Seventh graphic in a distributed CAR brief. (Graphic by author)

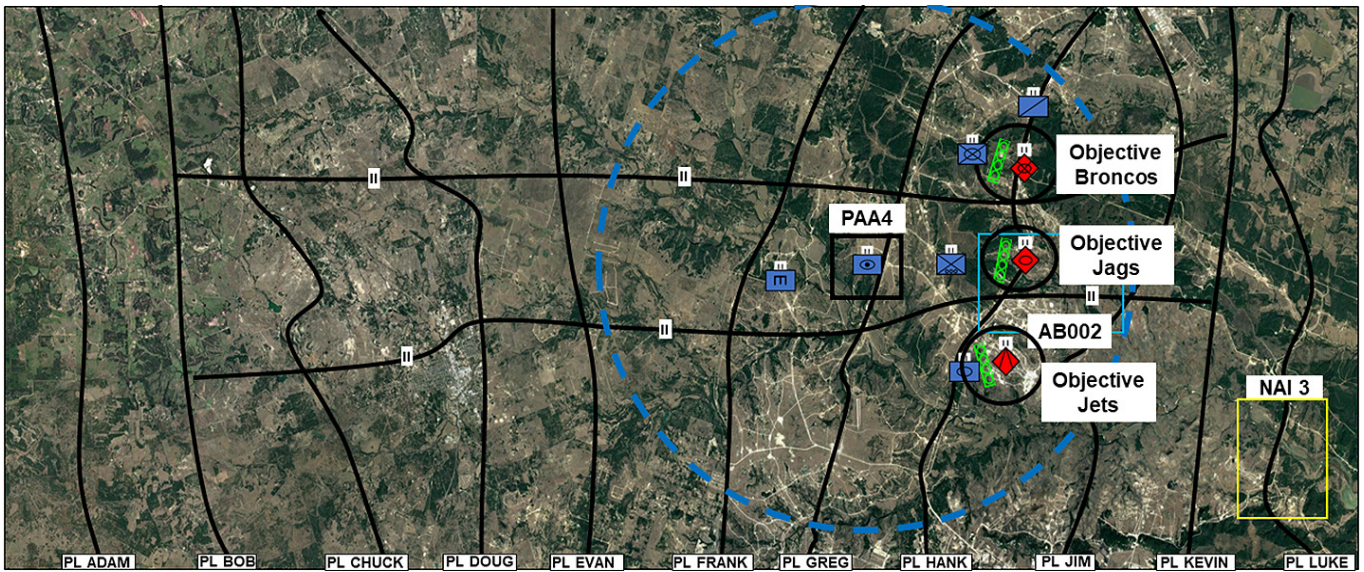


Figure 8. Attack to seize Objective Pats. Last graphic in a distributed CAR brief. (Graphic by author)

ACRONYM QUICK-SCAN

CAR – combined-arms rehearsal
CAS – close air support
CGSC – Command and General Staff College
CP – command post
DP – decision point
FA – functional area
FSO – fire-support officer

FPoL – forward passage of lines
IC – intelligence collection
IDF – indirect fires
ISR – intelligence, surveillance and reconnaissance
IVO – in vicinity of
LD – line of departure
MEDOPS – medical operations

NAI – named area of interest
PAA – positioned area for artillery
PL – phase line
PLoC – probable line of contact
RDSP – rapid decision-making synchronization process
TAA – tactical-assembly area

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.

PRESTON, NOBLE D. 1LT

Unit: 10th New York Cavalry. Place and date of action: Trevilian Station, VA, June 11, 1864. Entered service: Fulton, NY. Date of issue: Nov. 22, 1889. Citation: Voluntarily led a charge, in which he was severely wounded.

PUTNAM, EDGAR P. SGT

Unit: Company D, 9th New York Cavalry. Place and date of action: Crumps Creek, VA, May 27, 1864. Entered service: Stockton, NY. Born: Stockton, NY. Date of issue: May 13, 1892. Citation: With a small force on a reconnaissance, drove off a strong body of the enemy, charged into another force of the enemy's cavalry and stampeded them, taking 27 prisoners.

RANNEY, GEORGE E.

Rank and unit: Assistant surgeon, 2nd Michigan Cavalry. Place and date of action: Resaca, GA, May 14, 1864. Entered service: Detroit, MI. Born: June 13, 1839, Batavia, NY. Date of issue: April 24, 1901. Citation: At great personal risk, went to the aid of a wounded soldier, PVT Charles W. Baker, lying under heavy fire between the lines, and with the aid of an orderly carried him to a place of safety.

READ, MORTON A. LT

Unit: Company D, 8th New York Cavalry. Place and date of action: Appomattox Station, VA, April 8, 1865. Entered service: Brockport, NY. Born: Brockport, NY. Date of issue: May 3, 1865. Citation: Capture of flag of 1st Texas Infantry (CSA).

BOOK REVIEWS

To Boldly Go: Leadership, Strategy, and Conflict in the 21st Century and Beyond by Jonathan P. Klug and Steve Leonard, editors; Havertown, PA: Casemate Publishers; 2021; 304 pages; \$15.99 Kindle, \$17.06 hardcover.

To Boldly Go is a fascinating collection of short essays that explore a variety of science-fiction movies, books and television programs from the recent era to highlight what leaders can learn about strategy and leadership, and to interrogate the very idea of futurology.



Steve Leonard (aka Doctrine Man) and Jonathan Klug have assembled a diverse array of authors who collectively weave a tapestry of insights through their examinations of fictional worlds that deepen our understanding of the dilemmas and challenges faced by leaders charged with the defense of liberal democracies today. Leaders in every Army branch will find at least some of the essays useful not just for ideas about tomorrow's technology but for what a thoughtful reading or viewing of a fictional world removed from our own can reveal about how to lead with wisdom when faced with the unfamiliar or the unexpected.

The strongest essays in this collection examine science fiction – not to dwell on specific plot points or characters but to analyze the genre itself as a place where authors use the possibilities of space and advanced technology to probe reality and to reveal truths about how humans behave individually or in groups. The essays that address the stories of science fiction are interesting in their analysis of narrative but not nearly as thought-provoking as the essays that probe why the settings, themes and tropes of works of sci-fi are revealing about the very contemporary problems facing leaders and strategists.

This is most evident in the book's stand-out essay, "You're Not Ender Wiggin, and That's Okay" by MAJ Will Meddings of the British army. Meddings, who led the British army's Long-Range Recon Group in an environment not dissimilar to that of the deserts of Arrakis or Tatooine, reminds readers that they are not a hero of a fictional story, but they can still gather leadership lessons from any genre means if they embrace their own very human limitations.

Several of the essays embrace this more holistic view of their source material that deepens their analysis. Jacqueline Whitt's essay neatly combines explorations of theme, narrative and philosophy that reveals the possible new ways of seeing the world that the best science fiction makes possible. Also, those essays that explore the very near term by asking questions about the challenges of the technology of today and tomorrow such as murderbots or space debris are equally satisfying in demanding leaders squarely face the challenges of what war next year might entail.

Several essays on **The Expanse**, a book series turned Amazon television program, cover both areas of inquiry by describing the dangers of worlds where the untrammelled power of corporations has exceeded that of governments, while noting that both the books and the television show are distributed by a private company that can already reach into space. A clever essay by Dan Ward draws more useful details on the dynamics of toxic leadership from the antics of Dark Helmet than from then menacing tactics of Darth Vader.

The idea of fiction as a medium for learning about the real world also points to the project's limits. Quite often the reader is presented with the elements of a story without any examination of the values of the author or artists behind the story. George Lucas' reflection of Joseph Campbell's monomyth through the prism of the America counterculture or Frank Herbert's deep ecology are essential

frameworks to understand and appreciate their works if the time spent reading is meant to be more than entertainment.

With the increasing weaponization of space, cyber and even the very ways people perceive reality and each other, looking to fiction about insights about the future is still powerful and provocative. In particular, the best dystopian sci-fi combines warnings about the future while embracing the tropes of entertainment. The mass use of pharmacology as a method of social control in **Brave New World**; the corporatization of cities and the use of machines in policing in **Robo-Cop**; as well as the cheeriness of news that showed horrific scenes of war that punctuated the movie version of **Starship Troopers** all were warnings about what a version of the future might look like that the works' creators did not wish to see come to pass.

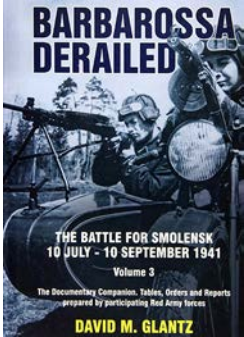
Despite these warnings, the problem with novelty is that it becomes normalcy in very short order. Science fiction may not be predictive enough. Because neither professional futurologists nor storytellers can be guaranteed to get the future right, leaders need to think for themselves about how they as well as their superiors, peers and subordinates in the very futuristic year of 2023 will act when confronted with "what if." **To Boldly Go** is a fantastic tool for beginning this journey of exploration.

LTC ANDY WHITFORD

Barbarossa Derailed: The Battle for Smolensk 10 July-10 September 1941 (Vol. 3: The Documentary Companion) by David M. Glantz; Warwick, United Kingdom: Helion and Company; reprinted 2022; 628 pages; \$2.99 Kindle, \$68.35 hardcover, \$47.26 paperback.

Indispensable. Indispensable. Furthermore, **Barbarossa Derailed: The Battle for Smolensk 10 July-10 September 1941** Vol. 3 by David Glantz is simply indispensable to understanding the Smolensk battles on the Army Group Center axis of attack in the summer and early fall of 1941. Paradoxically, it

was the publication of *Panzergruppe Guderian*, a simulation of the Smolensk encirclement battles by Simulation Publications that gave new context to this early phase of Operation Barbarossa to both then-military leaders and upcoming future armor leaders.



This volume is the documentary companion; it sets forth tables, orders and reports prepared by the Red Army during the Smolensk battle July-September

1941. Glantz's companion books to his other studies are never a disappointment. For example, his *Companion to Colossus Reborn: Key Documents and Statistics* published through the Modern War Studies is a boon to grasping the enormity contained within the earlier works *Stumbling Colossus* and *Colossus Reborn: The Red Army at War*. *Barbarossa Derailed* Vol. 3 follows in that vein, adding far greater fidelity for the reader through the actual word of the participants.

What will strike the reader as odd at first is that once you get past the list of abbreviations and preface, the rest of the book is a series of appendices. Many of the appendices contain either a further directive or an Oberkommando des Heeres staff order. In general, Glantz doesn't try and force the material into an unnatural cookie-cutter approach because as you get deeper into these appendices, you see the material lends itself poorly to doing so. You may not notice this lack of standardization due to the incredibly fascinating material. Glantz allows the material to do the talking, with no

commentary from him.

What we get is an almost-intimate look at an Army as it is struggling to survive and learn in the crucible of combat. Across the span of documents Glantz uses are a mixture of strategic, operational and even tactical snippets to give the reader a sense of the myriad of factors facing the Russians, who have been rocked back hard on their heels by the Wehrmacht. One can feel the desperation in some of the early reports with comments such as "get your command-and-control right" (Pg. 32) or "[s]top panic and cowardice on the spot" (Pg. 36). More telling is the comment – surprising in its bitter truthfulness – that "[o]ur forces are unstable owing to the protracted withdrawals [and] the recent sustained fighting, as well as the carelessness in bringing them up to strength and the great losses of weapons" (Pg. 39).

The last report segment betrays that hard and brutal truths were not being reported at times up the Soviet chain of command. Yet there are begrudging notes of admiration to their German enemy such as noting the Luftwaffe's pressure, which was operating in an "extraordinarily impudent" manner (Pg. 57).

One also senses the intense pressure being put on all levels of command to achieve something positive, no matter the cost. Yet even within that, we read time and time again of chastisement of commanders and units that failed to attack on time or coordinate their flanks, or who poorly employed armor without infantry support. The recorded transcriptions with "the Boss" when Stalin called down to commanders is quite interesting, as with each week that goes by, there is a greater sense that Stalin is perhaps relying a bit more upon their battlefield judgment, but that isn't true in all cases here. Lest we forget, there was always

a chilling aspect to failure in the Soviet system as when Zhukov asks Stalin, "I request you permit me to arrest and condemn all of the scaremongers to which you refer," to which Stalin simply replies, "We gladly permit you to judge them with full severity" (Pg. 472).

The biggest weakness of *Barbarossa Derailed* Vol. 3? It is the same weakness of every Glantz book: maps that are in black and white, making them hard to read due to being dark and plagued with tiny font. Yes, they are "archival" maps. So why not either include them as an appendix for the hard-core Ost Front person and put in readable and usable maps for the reader? Helion and Company should know better, but editors and such no longer focus on that type of capacity. It feels like annoying smugness, as every work of Glantz's bears this same burden. In an era when technology could easily make these maps more accessible, why not get an artist or a smart information-technology type and lessen the burden on your reader, and engage them with colorful, friendly and readable maps to enhance their overall understanding, reading and learning experience?

In the interim, we recommend *Atlas of the Eastern Front 1941-1945* by Robert Kirchubel; though lacking in the microfidelity for Smolensk, it is still useful.

We started off the review with the word "indispensable," and Volume 3 bring this trilogy of the Smolensk battles full circle. With this volume, Glantz supplies the missing pieces that made it an enthralling read. Without hesitation, it is a must for any East-Front aficionado, as well as those wanting to see and understand the interplay between the state and the military in totalitarian states.

DR. (LTC) ROBERT G. SMITH

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----- reviewer; ***Stalingrad 1942-1943 (2), The Fight for the City*** by Robert Forczyk (book review); Spring 2022.

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PRESTON, NOBLE D. 1LT
Unit: 10th New York Cavalry. Place and date of action: Trevilian Station, VA, June 11, 1864. Entered service: Fulton, NY. Date of issue: Nov. 22, 1889. Citation: Voluntarily led a charge, in which he was severely wounded.

PUTNAM, EDGAR P. SGT
Unit: Company D, 9th New York Cavalry. Place and date of action: Crumps Creek, VA, May 27, 1864. Entered service: Stockton, NY. Born: Stockton, NY. Date of issue: May 13, 1892. Citation: With a small force on a reconnaissance, drove off a strong body of the enemy, charged into another force of the enemy's cavalry and stampeded them, taking 27 prisoners.

RANNEY, GEORGE E.
Rank and unit: Assistant surgeon, 2nd Michigan Cavalry. Place and date of action: Resaca, GA, May 14, 1864. Entered service: Detroit, MI. Born: June 13, 1839, Batavia, NY. Date of issue: April 24, 1901. Citation: At great personal risk, went to the aid of a wounded soldier, PVT Charles W. Baker, lying under heavy fire between the lines, and with the aid of an orderly carried him to a place of safety.

READ, MORTON A. LT
Unit: Company D, 8th New York Cavalry. Place and date of action: Appomattox Station, VA, April 8, 1865. Entered service: Brockport, NY. Born: Brockport, NY. Date of issue: May 3, 1865. Citation: Capture of flag of 1st Texas Infantry (CSA).

113TH CAVALRY REGIMENT



Yellow is the color traditionally associated with Cavalry. The “red horse,” symbolizing the popular name of the regiment, is in a rampant position to denote aggressiveness and is bridled to indicate discipline. The prickly-pear cactus represents service on the Mexican border, and the fleur-de-lis signifies service in France during World War I of the original 113th Cavalry. The distinctive unit insignia was originally approved for 113th Regiment Cavalry, Iowa National Guard, Feb. 12, 1927. It was redesignated for 113th Antiaircraft Artillery Automatic Weapons Battalion June 8, 1950. It was redesignated for 113th Armor, Iowa National Guard, Oct. 31, 1960. The insignia was redesignated for 113th Cavalry Regiment effective Sept. 1, 1992, with the description and symbolism revised.

FUNDAMENTALS OF SECURITY

MAINTAIN ENEMY CONTACT

Once the security force makes enemy contact, it does not break contact unless the main force commander specifically directs it. The security force must continuously collect information on the enemy's activities to assist the main body in determining potential and actual enemy COAs and to prevent the enemy from surprising the main body. This requires the security force to maintain continuous visual contact, to be able to use direct and indirect fires, and to freely maneuver, which requires the security force have depth in space and time.

FM 3-90-2

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