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Military Review

THE PROFESSIONAL JOURNAL OF THE U.S. ARMY

NOVEMBER-DECEMBER 2017



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The Return of Field Manual 3-0 Lundy and Creed, p14

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Military Review

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Cover photo: A Stryker vehicle belonging to the 4th Stryker Brigade Combat Team, 2nd Infantry Division, based out of Fort Lewis, Washington, fires a tube-launched, optically-tracked, wire-guided missile at a range 17 June 2009 during the brigade's rotation through the Joint Readiness Training Center, Fort Polk, Louisiana. (Photo by Pfc. Victor J. Ayala, U.S. Army)

Next page: Romanian, U.K., and U.S. soldiers from Battle Group Poland began Bull Run II, an alert and readiness exercise 5 September 2017 at the Bemowo Piskie Training Area, Poland. Bull Run II is a two-day exercise to test the speed of assembly, collective defense, and interoperability of the NATO battle group. (Photo by Capt. John W. Strickland, U.S. Army)

WINNERS!

2017 General William E. DePuy Special Topics Writing Competition

The 2017 theme was "What needs to be fixed in the Army?"



1st Place

Lt. Col. Thomas Holland

"How the Army Ought to
Write Requirements"
(In this edition, page 100)



2nd Place

1st Lt. James Tollefson

"Fixing Army Doctrine: A
Network Approach"



3rd Place

Capt. Molly Kovite

"Mission before Comfort:
A Mission-Focused Approach
to Gender in the Army"

Honorable Mentions

Lt. Col. Trent Lythgoe, "An Army Overseas: Expeditionary Maneuver through the Maritime Domain"

Cadet Noelle Walker, "Growing a Garden in a Wasteland: A Case for Preventative, Cognitive Therapy
for Soldiers Suffering from Post-Traumatic Stress Disorder and Traumatic Brain Injury"

For updates and information on the DePuy writing competition, please visit

<http://www.armyupress.army.mil/DePuy-Writing-Competition/>.



Themes and Suggested Topics

Institutional

- How do we change our culture and develop leaders to:
 - overcome seventeen years of institutional/operational experience?
 - see/understand/seize fleeting opportunities?
 - develop the situation in contact and chaos?
 - offset "one-off" dependencies and contested domains?
 - rapidly exploit positions of advantage?
 - survive in hyper-lethal engagements?
 - continuously present multiple dilemmas to the enemy?
 - decide and act at speed?
 - fully realize mission command?
- What are the greatest threats the Army faces (either externally or internally)? How should the Army deal with them?
- Case studies of how to properly integrate emerging technology.
- What is needlessly duplicated in the Army (e.g., what should be done away with, how should the Army adjust, and how would it benefit)?



- What must be done to adjust junior leader development to a modern operational environment?
- What must we do to develop a more effective means of developing and maintaining institutional memory in order to deal with emerging challenges?
- What is the role for the Army in homeland security operations? What must the Army be prepared for?
- Impact of nepotism on the officer development system.
- Impact of funding shortfalls on readiness.
- The potential adverse impacts on military standards due to factors associated with poor integration of new cultures, ethnicities, or racial considerations and how to mitigate them.
- How is gender integration changing the Army and how it operates?

Global Security

- What nations consider themselves to be at war or in conflict with the United States? How are they conducting war, and what does this mean for the Army?
- What operational and logistical challenges are foreseen due to infrastructure limitations in potential foreign areas of operation and how can we mitigate them?
- What lessons did we learn during this year's hurricane relief operations?

Soldiers assigned to 11th Armored Cavalry Regiment provide "enemy" fire from a mountaintop 28 August 2016 during Decisive Action Rotation 16-09 at the National Training Center in Fort Irwin, California. (Photo by Spc. JD Sacharok, U.S. Army)



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2018 General William E. DePuy Special Topics Writing Competition

This year's theme: "World Hot Spots: Which of the world's hot spots is the Army least prepared for? Should resources be diverted to prepare for them? What is the most efficient way to become ready for conflict in this region?"

Articles will be comparatively judged by a panel of senior Army leaders on how well they have clearly identified issues requiring solutions relevant to the Army in general, or to a significant portion of the Army; how effectively detailed and feasible the solutions to the identified problem are; and the level of writing excellence achieved. Writing must be logically developed and well organized, demonstrate professional-level grammar and usage, provide original insights, and be thoroughly researched as manifest in pertinent sources.

Contest opens 1 January 2018 and closes 16 July 2018

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|-----------|---|
| 1st Place | \$1,000 and publication in <i>Military Review</i> |
| 2nd Place | \$750 and consideration for publication in <i>Military Review</i> |
| 3rd Place | \$500 and consideration for publication in <i>Military Review</i> |

For information on how to submit an entry, please visit
<http://www.armyupress.army.mil/DePuy-Writing-Competition/>.





Multi-Domain Battle

The Advent of Twenty-First Century War

Gen. David G. Perkins, U.S. Army

This is the final article in a series discussing multi-domain battle through the lens of U.S. Army Training and Doctrine Command. This article discusses how the Army must adapt to meet the requirements for a future force operating in a multi-domain environment.

In July 1940, the U.S. Army could no longer dither about preparing to conduct armored warfare. France had just fallen to Germany in a lightning-fast campaign led by combined arms mechanized

and motorized formations that integrated airpower at the tactical and operational level while synchronizing all elements of combat power on a scale and in a manner for which the Allies had no effective solutions. German success in such a short timeframe illuminated both that World War I-based doctrine had run its course and that the failure to adapt to changes brought by advances in technology had left the U.S. Army on its heels, facing a war that would eventually unfold on two fronts and requiring a modern army that did not yet exist. In a



matter of years, the U.S. Army would transform from a small active force of less than 250,000, devoid of modern equipment, to a modern army capable of defeating the Axis in Africa, the Pacific, and Europe.

Lessons of the Past—Failure to Adapt

After World War I, the Army failed to effectively modernize, despite efforts over two decades to do just that. At the beginning of the Second World War, the U.S. Army found itself little better off than it had been

in 1920.¹ This failure to maintain a modern military during the interwar period was the result of a poor understanding and visualization of what constituted a modern force. The difficulty of securing money to modernize was exacerbated by the lack of a compelling vision of future combat. Still, the Army did try.

Significant efforts to modernize the U.S. Army began in 1920, when the Army took on a strategy of readiness specifically focused on personnel and mobilization as the core components to victory in modern war.

However, prioritizing personnel and mobilization came at a direct cost to overall force modernization. Given limited resources, it was difficult to promote or coordinate equipment and organizational modernization efforts in a cohesive manner.

As an example, over the next twenty years, the United States failed to produce a capable armor force. In part, this was due to an inability to field modern tanks. Infantry Branch created a set of requirements for the production of a tank that could not be met by a vehicle under the weight of fifteen tons. Fifteen tons was the maximum weight that could be carried on Army pontoon bridges, the capabilities of which Engineer Branch was unwilling to commit research and development funds to increase. At a stalemate, neither side saw finding a solution a priority.

Even in 1939, with the invasion of Poland, the War Department pushed the chief of cavalry to deactivate horse cavalry units and provide personnel for new mechanized forces.² He refused, stating, “Under no circumstance will I agree to any further depletion of my horse cavalry. To do so would be a betrayal of the nation’s defense.”³

With limited funding, the Army defaulted to funding personnel and mobilization capabilities. These decisions ultimately played a role in a U.S. armored force meeting German panzers for the first time without adequate protection, firepower, and training.⁴ Drawing lessons from this period, it is clear that we must understand the operational environment and visualize how the Army will operate with concepts that accurately address the requirements of future warfare.

In 2018, the U.S. Army requires concepts that allow us to begin a modernization program to meet anticipated threats. The complexity of war on land continues to grow as the number of actors able to employ capabilities in the air, sea, space, and cyberspace domains increases. The interrelationship of military activities within domains becomes much more problematic than when forces enjoyed nearly uncontested

Previous page: Artist Spiros Karkavelas envisions combat on a future urban battlefield. Success in a complex environment like this will require coordinated, mutually supporting efforts by all U.S. services across the entire multi-domain battlefield. (Artwork by Art of Spiros, Spiros Karkavelas Entertainment Design, artofskar.blogspot.com; modified by Jim Crandell, Army University Press)

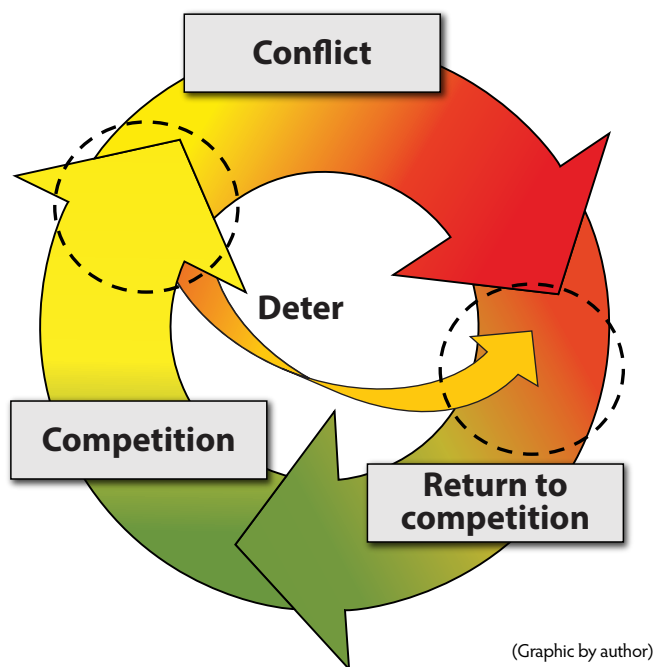


Figure. Conflict Continuum

superiority in each of them. The Army’s dominance on land has become dependent, if not contingent, on access to the air, cyber, and space domains. These domains are a challenge not just because they will be contested. They also challenge our previous views of responsibilities at echelons of command and geographical containment of actions and effects. When the next major fight comes, twenty-first century large-scale ground combat will arrive with it, whether the Army is prepared or not. To be ready, the Army must work toward an accurate vision of the future battlefield and understand its operational environments. Multi-domain battle is the start of this process. It is an evolving warfighting concept designed to win in an ever-changing complex world, leveraging the lessons of the past with twenty-first century capabilities.

Multi-Domain Battle: A New Concept for a New World

In 1940, the U.S. Army began to learn the hard way how to become a modern military force.⁵ We face indications of similar challenges today. Operational environments are evolving through technological advancements and diffusion, increasingly weaponized information, and divergent political systems designed to upend the current international order. These

challenges demand a new perspective on how the Army fights both in purpose and in design.

The nature of war will remain unchanged. However, the continuum of conflict must be understood in the current and future context. There is and always will be strategic competition. You are either winning or losing, present tense. Seldom will conflict result in a permanent win or loss. The linear depiction of peace to war and back again must be revised to reflect the cyclical nature of war where there are only positions of relative advantage. The continuum of conflict is defined by *competition* short of conflict, *conflict* itself, and the *return to competition* (see figure, previous page).

Our adversaries and potential adversaries have studied and learned from our battlefield successes since the first Gulf War. With that knowledge, they are adapting their methods of warfare, while accelerating the modernization and professionalization of their combat forces. They seek to gain strategic advantage by offsetting the advantages we have enjoyed over the last twenty years. Through these new methods, they are competing now below the threshold of open armed conflict while continuing to posture to more effectively engage in large-scale combat, if it were to come to that. To offset our key advantages, three macro lessons are guiding their new approach to warfare. First, do not let the United States and our allies gain access to the area of operations. Once fully established, we have the operational advantage in logistics, firepower, and command and control necessary to overwhelm anyone. Second, try to fracture the joint team by isolating our air, sea, and land forces to prevent mutual support. It is the synergies of our interdependent joint capabilities that make us dominant. Third, fix us and do not allow our forces to maneuver and bring all of our elements of combat power (including leadership) to bear in the close fight.

We can expect all domains to be contested. Adversaries possess significant integrated air defenses and long-range fires, as well as sophisticated intelligence, surveillance, and reconnaissance and information, electronic warfare, and cyber capabilities. It is no longer possible to maintain total dominance in all domains all of the time.

Multi-domain battle is a concept designed to overcome our adversary's integrated defensive capabilities, avoid domain isolation and fracturing, and preserve freedom of action. The joint force must be able to penetrate adversarial defenses at a time and place of

our choosing, in more than one domain, by opening windows of domain superiority to allow maneuver inside our adversary's integrated defense. The rate and speed of current and future world events will not allow us the time to synchronize federated solutions. In order to present the enemy with multiple dilemmas, we must converge and integrate multi-domain solutions and approaches before the battle starts. We must become sensor-shooter agnostic in all our platforms, and we must maintain a common operating picture.

Evolving Capabilities from Vision to Reality

Success of multi-domain battle is contingent on our ability to match the concept to the doctrine, organization, training, materiel, leadership and education, personnel, and facilities capabilities and material modernization requirements. Some of the emerging required capabilities to achieve this follow:

Long-range precision/cross-domain fires. The U.S. Army is developing multipurpose munitions and sensors for long-range precision fires and air-delivered electronic warfare. The goal is to have both lethal and nonlethal fires that are delivered from the land domain to produce effects in all domains. The ability to deliver precision fires at extended ranges is essential to mitigate risks associated with semi-independent maneuver and create the conditions necessary for deep maneuver to defeat the threat's integrated fires complex.

Next generation combat vehicle. The next generation of combat vehicles will incorporate new weapons with greater range, as well as utility for urban environments. Designed to be optionally manned, they will be smaller in size, allowing greater maneuverability in restricted areas. They will have reduced fuel and bulk ammunition consumption rates while also incorporating integrated active protection combined with advanced-material armor. The next generation of combat vehicles will incorporate emerging technologies such as networked targeting systems, directed energy weapons,

Gen. David G. Perkins, U.S. Army, is the commanding general of the U.S. Army Training and Doctrine Command. He has commanded from the company to the division level in the operating force and in combat. He previously served as commander of the U.S. Army Combined Arms Center at Fort Leavenworth, Kansas.

semiautonomous wingman teaming, and increased-range munitions.⁶ These will enable the type of semi-independent maneuver that multi-domain battle requires.

Future vertical lift. Future vertical lift will play a critical role in moving combat power directly into the fight and ensuring casualties retain access to lifesaving treatment—despite distances. In multi-domain battle, aviation reconnaissance units will cover greater areas, aviation attack units will apply increased adaptability to take advantage of fleeting opportunities and respond more quickly to friendly ground units in need, aviation assault and transport units will move larger forces further and faster to build combat power at decisive points, and medevac units will move casualties over greater distances within the “golden hour” of lifesaving treatment. Future vertical lift, using supervised autonomy, will provide commanders additional options of manned and unmanned platforms dependent upon mission requirements and level of risk.

The network. The network will increase the speed and flow of the right information to the right people, enabling faster understanding and action while simultaneously denying our adversaries freedom of maneuver on the “electronic battlefield.”⁷ To do this, the U.S. Army is creating a single end-to-end network framework and advanced cyberspace offensive and defensive capabilities. The network will deliver a common understanding of the operational environment while sharing information horizontally and vertically across all services and partners—managing information from home station to the tactical edge. Offensive and defensive cyber capabilities, using artificial intelligence, protect the friendly network and create windows of opportunity while disrupting and denying the enemy’s use of the electromagnetic spectrum.

Air/missile defense. The Army is taking steps to defend key fixed sites and provide effective air and missile defense protection of maneuvering forces by modernizing short-range air defense and Terminal High Altitude Area Defense systems as well as developing onboard aerial and ground vehicle advanced protection systems. Survivability of units will be dependent on the success and distribution of these capabilities. As an enabler, increasing ground-based fires will support joint force commanders with more options while simultaneously providing force protection against enemy missile and manned and unmanned air system attacks. As a deterrent, positioning and

demonstrating these abilities will frustrate adversaries’ aims to fracture the joint force.

Soldier lethality. The soldier and squad are the cornerstone of the U.S. Army. Our Army is only as good as our soldiers’ ability to perform both physically and cognitively. They must have overmatch with their weapons and equipment to succeed in high-intensity combat. Lethality must be balanced between fire and maneuver with systems to increase the delivery of accurate and lethal fires while increasing individual soldier maneuverability. In terms of lethality, the Army is increasing close- and long-range small arms accuracy via new fire control systems, munitions, and weapon designs. The introduction of robotics in terms of exoskeleton suits and manned-unmanned teaming will improve maneuverability by decreasing the individual soldier’s load while also increasing small unit range, coverage, and responsiveness.

Organizational design. One example of force design and experimentation pertaining to the multi-domain battle concept is the multi-domain task force (MDTF). The MDTF is experimenting under the guidance of U.S. Army Pacific. It delivers operational fires to enable joint force freedom of maneuver at the earliest stage of deployment and conflict. The MDTF achieves this by deploying and managing capabilities like long-range precision fires, air and missile defense, attacking enemy networks, and defending the friendly network. While still experimental, the first MDTF is a major step toward realizing the multi-domain battle concept.

From Parochialism to Understanding

Between 1920 and 1939, there was no greater challenge to modernization than branch and service parochialism. We cannot allow that to happen again.

Parochialism was mitigated in the past with significant and effective results. A great example of overcoming parochialism is the U.S. Army and U.S. Air Force’s 31 Initiatives. As part of AirLand Battle, 31 Initiatives brought modernization efforts that had been in the works since the early 1970s to a combined recommendation shared between the Air Force and the Army.⁸ Central to the success of this interservice effort was a shared Terms of Reference (TOR) that articulated a common understanding of demands on the present force as well as the process to design and field the best affordable AirLand combat forces.⁹ The TOR began with Army doctrine in FM 100-5, *Operations*, as the point of departure to

conduct joint training and exercises—to reach a shared understanding of what AirLand Battle would require.¹⁰

For multi-domain battle, we have already begun to build the components for future collaboration in the spirit of the 31 Initiatives. As with AirLand Battle, multi-domain battle naturally challenges domain-based parochial positions. It readily identifies that land components cannot dominate without convergence across domains. With publication of the first version of the concept we are working to establish a clear point of departure for additional multiservice and joint collaboration, and building a coalition of leaders committed to developing a shared understanding and visualization of the future force and multi-domain battle.

The idea of a coalition of leaders from across the services is not aspirational. From inception, the U.S. Marine Corps partnered with the Army to develop the original multi-domain battle white paper and concept (version 1.0). The Marines brought their extensive experience in both combined arms maneuver and cross-domain maneuver. The Air Force also committed to working multi-domain battle issues. They helped identify U.S. Army natural bias to think spatially at the cost of functional perspectives when viewing the operational framework.¹¹ The Air Force, through the Air Combat Command (ACC), also committed to conducting multiservice exercises, experiments, and wargames on multi-domain battle to increase shared understanding and visualization. The U.S. Army Training and Doctrine Command and Air Combat Command are working jointly to develop a converged operational framework to

visualize multiple domains simultaneously. Finally, there are the invaluable roles of U.S. Pacific Command and U.S. Army Pacific, which have provided, and continue to provide, opportunities to operationalize multi-domain battle through exercises and taking on the first MDTF.

Conclusion

The U.S. Army must continue to strive to be a premier learning and innovative institution. Multi-domain battle and the subsequent Army capabilities will continue to be assessed through our iterative processes of think, learn, analyze, and implement. To get where we want to go, it is critical to understand that multi-domain battle, at this stage, is still a concept. Transitioning the Army from the constabulary force of 1917 to a modern army took over twenty years and two world wars. Transitioning the Army from the Vietnam War to AirLand Battle took over ten years. In the years to come, multi-domain battle is our concept to drive change. We will invariably find that the ideas, capabilities, and requirements we generate are not always correct—what will be critical is that we adapt and innovate consistently with a common joint vision and shared understanding.

Twenty-first century warfare is coming. In many respects it has already arrived. The challenge the Army and Joint Force face today is whether we can adapt. The battlefield has simultaneously compressed and expanded globally.¹² Unlike the past, we will not have two years to correct the mistakes of twenty. The force that is postured, resilient, and able to converge its capabilities across all domains will win. We must be that force. Victory starts here. ■

Notes

1. David E. Johnson, "From Frontier Constabulary to Modern Army," in *The Challenge of Change: Military Institutions and New Realities, 1918-1941*, eds. Harold R. Winton and David R. Mets (Lincoln, NE: University of Nebraska Press, 2000), 204.

2. "Memorandum, Brig. Gen. F. M. Andrews for the Chief of Cavalry, G-3/42070," 23 February 1940, file 322.02, Office of the Chief of Cavalry, correspondence, 1921-42, Box 7b, Record Group 177, National Archives and Records Administration.

3. "Memorandum, Maj. Gen. J. K. Herr for the Assistant Chief of Staff, G-3," 28 February 1940, file 322.02, Office of the Chief of Cavalry, correspondence, 1921-42, Box 7b, Record Group 177, National Archives and Records Administration.

4. *Ibid.*, 201.

5. Johnson, "From Frontier Constabulary to Modern Army," 191.

6. "U.S. Army Future Force Development Strategy (unsigned)," May 2017, 26; "U.S. Army Tanks, Strykers, and Bradleys Are Getting Active-Protection Systems to Fend off Enemy Fire," Business Insider website, 8 June 2017, accessed 7 September 2017, <http://www.businessinsider.com/us-army-tanks-strykers-and-bradleys-getting-active-protection-systems-2017-6>.

7. "U.S. Army Future Force Development Strategy," 24.

8. Richard G. Davis, *The 31 Initiatives: A Study in Air Force-Army Cooperation* (Washington, DC: Office of Air Force History, 1987).

9. *Ibid.*, 38.

10. *Ibid.*, 35; Field Manual 100-5, *Operations* (Washington, DC: U.S. Government Printing Office, 1982 [obsolete]).

11. James M. Holmes and David G. Perkins, "Multi-Domain Battle: Converging Concepts toward a Joint Solution," *Joint Force Quarterly* (forthcoming).

12. *Ground Force Modernization Budget Request, Before the Subcommittee on Tactical Air and Land Forces, Committee on Armed Services, U.S. House of Representatives*, 115th Cong. (24 May 2017) (statements of Lt. Gen. John M. Murray and Lt. Gen. Paul A. Ostrowski), accessed 21 September 2017, <https://armedservices.house.gov/legislation/hearings/ground-force-modernization-budget-request-0>.

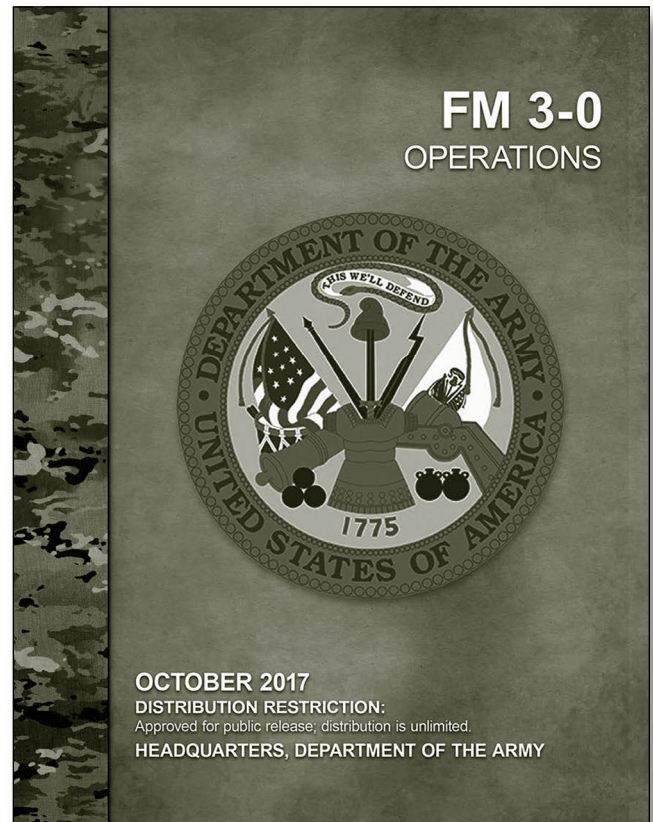
The Return of U.S. Army Field Manual 3-0, *Operations*

Lt. Gen. Mike Lundy, U.S. Army

Col. Rich Creed, U.S. Army

When the U.S. Army rescinded Field Manual (FM) 3-0, *Operations*, and published Army Doctrine Publication 3-0, *Unified Land Operations*, in 2011, the world was a different place.¹ The likelihood of large-scale ground combat against an enemy with peer capabilities seemed remote. While the Russians had intervened in Georgia with ground forces in 2008, there were few indications that they would engage in further physically aggressive behavior. Chinese maritime claims in the South China Sea seemed to have little to do with Army concerns. The Korean Peninsula remained tense, but resumption of war seemed no more likely than at any other time since the 1953 armistice. The Army's two remaining armored brigade combat teams in Germany were directed to return to the continental United States, and the Army was downsizing while building momentum toward a decision that would make a significant portion of Army forces in Korea rotational as well.

The strategic environment has changed significantly since then. Russian aggression against the Ukraine and increasingly bellicose behavior by the North Koreans and Iranians are prime examples. The rapidly modernizing Chinese military added to the sense that the Army needed to quickly adapt to the increased possibility of large-scale ground combat against adversaries significantly more capable than al-Qaida, Iraqi insurgents, and the Taliban. As a result, the Army began training for large-scale combat operations during mission command training program exercises and at its "dirt" combat training



centers after a decade-long hiatus. It also discovered our current tactical doctrine for large-scale combat operations was inadequate.

In 2016, the Army chief of staff directed Training and Doctrine Command to write an operations manual that would provide the doctrinal basis for prevailing in large-scale ground combat against enemies whose military capabilities, in regional contexts, rivaled our own. While the Army had some doctrine that was relevant to fighting big wars, it lacked a single, up-to-date, unifying doctrinal manual focused on large-unit tactics for use against contemporary threats. There was also a definitive need to address Army operations along the continuum of conflict and the roles the Army fulfills for the joint force as our adversaries challenge the status quo in various regions around the world.

Previous versions of FM 3-0, *Operations*, and its predecessor, FM 100-5, contained useful ideas relevant to current problems, but none adequately addressed all the challenges of today's operational environment. Reasonably informed professionals can and do argue which challenges are the most serious, but most might agree that they fall into three general categories. The first, and arguably most important, is that the Army's culture needed to change. The focus on regularly scheduled deployments of brigade combat teams, higher echelon

gains to achieve the desired political purpose, comes from the demonstrated readiness to prevail in large-scale ground combat against the most lethal threats. This is why the core of FM 3-0 addresses large-scale ground combat operations at the brigade, division, and corps level. It describes the tactics and procedures used during both the defense and the offense, and those familiar with previous editions of FM 3-0 or FM 100-5 are unlikely to be surprised by what they read in those three chapters. There are no new tactical tasks,

“ Since 2003, seldom have units larger than a platoon been at risk of destruction by enemy forces, and no units faced enemy forces able to mass fires or maneuver large-scale forces effectively. ”

headquarters, and supporting formations to conduct counterinsurgency operations (COIN) from static bases against enemies with limited military capabilities created a view of ground combat incongruent with the realities of fighting large-scale combat against a peer threat. Few leaders with significant experience training or fighting against peer threats remain in our tactical formations, and those with experience at more senior levels were out of practice after a decade or more focused on COIN. The new FM 3-0 addresses the need to change our Army culture by describing the operational environment and threat, emphasizing the important roles of echelons above the brigade level during operations, and addressing the training readiness considerations in each warfighting function during large-scale ground combat.²

The second category of challenges is improving our Army's readiness to prevail in large-scale ground combat against opponents with peer capabilities. Our Army and our doctrine became optimized for limited contingency operations that primarily focused on operations where counterinsurgency and stability tasks made up the bulk of what both units and headquarters were expected to do. Since 2003, seldom have units larger than a platoon been at risk of destruction by enemy forces, and no units faced enemy forces able to mass fires or maneuver large-scale forces effectively. The problem is that the ability to effectively shape security environments and prevent conflict through credible conventional deterrence, or to consolidate

but there is a renewed recognition and deeper discussion of the tactics required to employ capabilities within and across multiple domains to enable freedom of action for subordinate echelons.

What is new from previous editions, however, are the chapters focused on operations to shape, operations to prevent, and operations to consolidate gains. A large proportion of the Army engages in these operations around

the world continuously, and how well the Army does so has a significant

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influence on both the likelihood of large-scale ground combat and the strategic outcomes of that combat should it occur. FM 3-0 thus addresses the operations the Army conducts across the continuum of conflict as it fulfills its strategic roles as part of the joint force, recognizing that it is the demonstrated capability to prevail in large-scale ground combat that enables the effective prosecution of missions supporting the other strategic roles. As a result, the manual also contains a renewed emphasis on the roles of the Army's corps and division echelons to employ capabilities as formations.

Corps and divisions play a central role in large-scale ground combat, which is not and cannot be a brigade combat team (BCT)-centric endeavor. When properly constituted, trained, and led, echelons of command unburden subordinate formations by narrowing their focus, reducing their spans of control, and maintaining the broader perspective in time and space necessary for effective planning. The division is the first echelon able to effectively plan and coordinate the employment of all multi-domain capabilities across the operational framework. The same is true for the corps during operations that require multiple divisions. Each higher echelon has a perspective that should look at time, geography, decision-making, and the electromagnetic spectrum differently. This is not a new military idea but reflects a significant change from the formative experiences of the majority of our Army's leadership during a time when divisions and corps were serving in the roles of joint headquarters or more focused at the operational versus tactical level.

The third category of challenges pertains to the reality that the U.S. Army does not enjoy overwhelming advantages against every opponent it may be required to fight. FM 3-0 recognizes that some adversaries have equal, or even superior capabilities that may put Army forces at a position of relative disadvantage, particularly in a regional context. Some threat capabilities, particularly integrated air defense systems and long-range surface-to-surface fires, severely impede freedom of action in the air and maritime domains, meaning that the other services may not be able to help solve ground tactical problems as quickly or easily as they did in Iraq and Afghanistan. Against some opponents, U.S. Army cannon and rocket artillery is likely to be both outranged and significantly outnumbered, which would present a tactical problem even if friendly forces were not contested in the air domain. The potential combination of relative disadvantage

in the ground, maritime, and air domains has implications for how Army forces conduct operations against enemy formations designed around long-range fires systems, which employ maneuver arms in support of fires more often than the other way around. Understanding the various methods our adversaries and potential foes employ (systems warfare, isolation, preclusion, information warfare, and sanctuary) is therefore critical to devising tactical plans to defeat them, and it is important to understand that these methods are likely to manifest themselves differently in each situation.

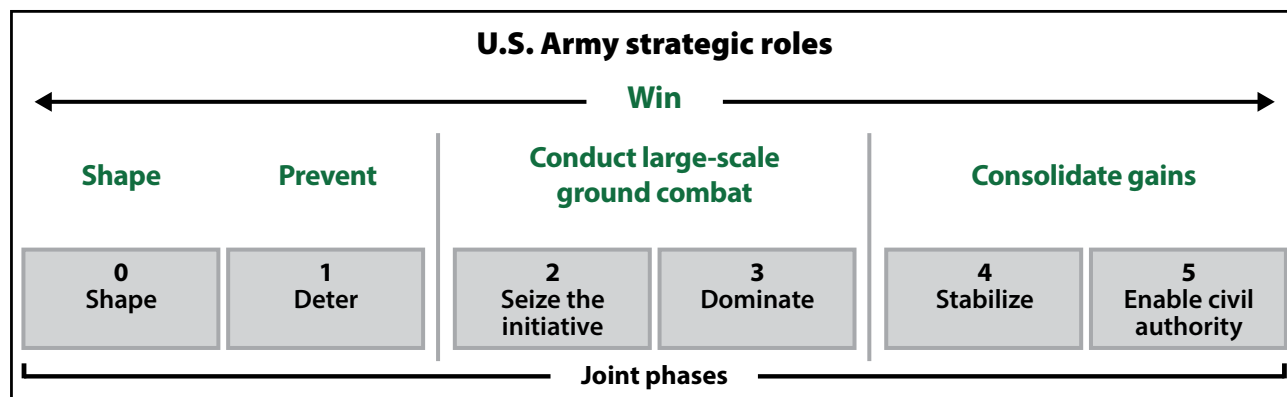
Unlike AirLand Battle, which was focused on one enemy, or previous iterations of FM 3-0, which really didn't focus on any particular threat, this edition of FM 3-0 is focused on peer or near-peer adversaries (Russia, China, Iran, and North Korea) in the current operational environment. For that reason, the operational challenges our Army faces span the range of military operations across all domains, and they needed to be addressed. FM 3-0 is not optimized for any one type of operation or single threat, but rather benchmarked against the most potent adversary capabilities and methods that have proliferated worldwide, and accounts for what the Army is required to do—from large-scale ground combat to shaping the security environment through regional engagement, and all operations in between. FM 3-0 does not change the Army's foundational operational concept, which remains unified land operations. What it does is better account for the reason behind the operations we conduct to clarify the interrelationship between strategic purpose, planning, readiness, and the tactical tasks assigned to units.

Organization and Purpose

FM 3-0 arranges operations by purpose, in accordance with the four Army strategic roles. The Army *shapes the operational environment, prevents conflict, conducts large-scale ground combat, and consolidates gains*. Army forces do this as part of the joint force, generally in a multinational context, for a joint force commander. Previous versions of FM 3-0 and FM 100-5 did not adequately emphasize the critical linkage between tactical tasks and achieving the strategic purpose for which we conduct them. Categorizing types of operations by purpose aligns with the joint phasing construct found in JP 3-0, *Joint Operations*, while emphasizing that there is not always a direct linear relationship between those phases

(see figure 1).³ Chapters 3 (Operations to Shape) and 4 (Operations to Prevent) of FM 3-0 describe operations conducted short of large-scale ground combat, when adversaries seek to use methods below the threshold of

when we follow through to ensure the enemy cannot constitute other forms of resistance to protract the conflict or change its nature in ways that thwart our purpose. In short, FM 3-0 provides a context for commanders and



(Graphic from U.S. Army Field Manual 3-0, *Operations*)

Figure 1. Army Strategic Roles and Their Relationships to Joint Phases

armed conflict to upset the status quo or subvert friendly nations. Chapters 5 (Large-Scale Ground Combat), 6 (Defense), and 7 (Offense) focus on large-scale ground combat, and chapter 8 (Operations to Consolidate Gains) addresses the echeloned transition from large-scale ground combat to the final achievement of the operational or strategic purpose.

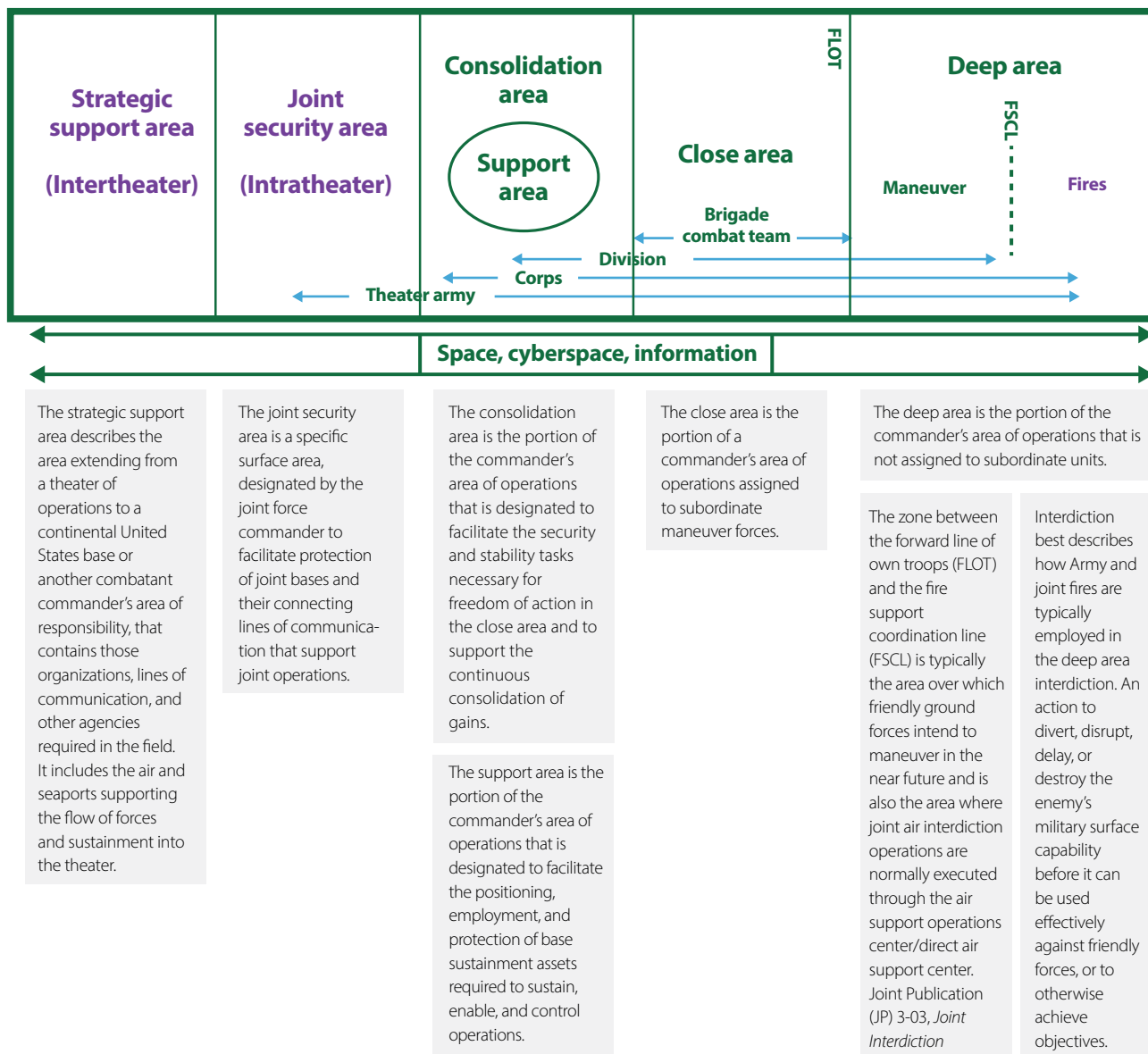
Achieving the strategic purpose of operations is the underlying theory of victory in FM 3-0 and is addressed at the end of chapter 1. There are few acceptable permanent solutions to conflict at the strategic level. The majority of conflicts in the world are managed over long periods of time, with each side trying to increase and exploit positions of relative advantage. In effect, the joint force is either winning or losing a competition that provides opportunities to achieve favorable results during operations short of armed conflict, during armed conflict, and during the transition that occurs after armed conflict. The Army, acting in performance of its strategic roles as part of the joint force, conducts operations across the conflict continuum to ensure the United States maintains a position of advantage relative to actual and potential threats. Operations to shape or prevent are successful when they defeat an adversary's purpose, such as an attempt to destabilize the desired status quo or subvert a friendly state. We win during large-scale ground combat by destroying or defeating the enemy's conventional capabilities and will to resist. We effectively consolidate gains

their staffs to successfully practice operational art appropriate for the range of military operations.

Old and New

Any discussion about new doctrine for large-scale ground combat operations tends to generate the discussion that the U.S. Army is pining for the "simpler" days of the planning for the Soviet threat in Europe as an escape from the challenge of COIN. Another is the Army is seeking to bring back large-scale combat as a justification for maintaining force structure. Neither is the case. Chapter 1 describes a very different operational environment than that of thirty-five or even five years ago. The intellectual approach is to specifically account for today's adversaries and the broad categories of operations the Army conducts to confront them as part of the joint force. Incorporating the Army chief of staff's guidance with regard to preparing the Army for large-scale land combat against an opponent with peer capabilities was critical, and FM 3-0 makes it clear that there are linkages between what the Army does during operations short of conflict and what it needs to do if it is to prevail in war. FM 3-0 accounts for both what is enduringly fundamental and what has changed in the context of current environmental realities, Army organizations, and Army capabilities.

There are several big ideas that are not necessarily new to operations but have not been adequately addressed in recent doctrine or experience. We specifically



(Graphic from U.S. Army Field Manual 3-0, *Operations*)

Figure 2. FM 3-0 Operational Framework for Unified Land Operations

sought to account for the importance of friendly and threat capabilities across multiple domains and the information environment. As a result, we modified the operational framework to approximate the extended battlefield framework found in the multi-domain battle concept (see figure 2).⁴ Doing so recognizes the realities of the operational environment, current Army and joint capabilities, and the planning considerations essential for winning. The new operational framework adds the strategic support area, joint security area (JSA), consolidation area, and deep fires area to the previously designated deep, close, and support areas.

The strategic support and joint security areas encompass where Army activities occur outside the areas of operation for which Army tactical level commanders are responsible. Army forces transit and operate in those areas, but the areas themselves are primarily the purview of the other services, combatant commanders, and joint headquarters because they largely encompass domains other than land. We added them because Army forces are heavily influenced by what happens there and have planning responsibilities for Army activities in those areas and the information environment. The deep fires area is that part of the deep area that is beyond where Army

forces would immediately plan to maneuver with ground forces and where primarily joint and Army cross-domain capabilities would be employed. The strategic support area, JSA, and deep fires area actually describe what already existed in fact but were not accounted for in previous large-unit tactical doctrine. It is the consolidation area that reflects the biggest change to the operational framework in terms of how Army forces look at areas of operation at the corps and division level.

power necessary to consolidate gains as large-scale combat ended in a particular area of operations. While this is still the case in Korea, and likely to be true when fighting as part of NATO, there are other places in the world where Army forces would need to consolidate gains ourselves, at least initially. This is especially important when we conduct high tempo offensive operations that bypass significant enemy maneuver forces to avoid being fixed while inside the range of enemy long-range

“When we plan operations and allocate forces, we must account for the requirement to consolidate gains as part of making accurate, responsible staff estimates.”

The consolidation area was designed to solve an age-old problem during operations. The Army has long wrestled with the security challenges behind its forces while maintaining tempo in the close and deep areas, particularly during offensive operations when brigade combat team rear boundaries shift forward and increase the size of the division support area beyond the capability of the units operating there to control terrain, secure populations, or protect themselves against bypassed enemy forces. The typical solution was to assign combat power from brigades committed to operations in the close and deep areas to the maneuver enhancement brigade (MEB) during exercises, which was satisfactory as long as the division bypassed only small enemy formations and the training scenario was metered to keep the enemy forces from being too aggressive. Actual experience against Iraqi forces during the first few months of Operation Iraqi Freedom indicated this approach entails significant risk both during and after execution of large-scale ground combat operations. The enemy cannot be allowed time to reconstitute new forms of resistance to protract the conflict and undo our initial battlefield gains. Against more capable threats, we need to address the problem directly by planning for and employing the necessary *additional* combat power beyond what is required for the close and deep areas to consolidate gains during large-scale combat operations.

During the Cold War in Europe, the Army could depend upon its allies to quickly provide the combat

cannon, rocket, and missile fires. FM 3-0 says that corps and division commanders *may* designate a consolidation area to a subordinate echelon as an area of operations to facilitate freedom of action by unburdening units in the support, close, and deep areas. For a division, this would be typically executed by an additional BCT that must be accounted for when the theater army conducts force tailoring for the joint force commander. A corps would assign a division responsibility for its consolidation area, which would expand as its divisions moved forward and unit boundaries shifted to maintain momentum.

Consolidation areas are dynamic, as the units assigned them initially conduct offensive, defensive, and the minimal stability tasks necessary to defeat bypassed forces, control key terrain and facilities, and secure population centers. Over time, as the situation matures, the mix of tactical tasks is likely to be equal parts security and stability in each consolidation area. However, security-related tasks always have first priority. Planning and execution to consolidate gains must account for all potential means of enemy resistance and be approached as a form of exploitation and pursuit if we want to create enduring outcomes. It is critical to avoid giving enemies the time to reorganize for a different kind of fight.

As mentioned above, the forces assigned consolidation areas are additive and not intended to draw combat power away from the close area. When we plan operations and allocate forces, we must account for the requirement to consolidate gains as part of making accurate, responsible staff estimates. The requirement to consolidate gains doesn't go away when we ignore

it, and the longer the delay in addressing it the greater the impact on the force's ability to sustain tempo and the more challenging the requirement likely becomes overall. The Army has always been tasked to consolidate gains. It did so with varying degrees of success in the

perspective across the operational framework and are where the capabilities resident in each domain are orchestrated and synchronized to converge in time and space to enable freedom of action for subordinate echelons. It is they who identify and exploit windows of opportunity.

“ Brigade combat teams fighting in the close area generally lack the time or ability to effectively plan and employ multi-domain capabilities other than those already under their control. ”

Indian wars, after the Civil War during Reconstruction, during the Spanish-American War, during World War II and Korea, and in Vietnam, Haiti, Iraq, and Afghanistan. How successfully we did it informs how the outcomes of those wars or conflicts are viewed today.

There are obvious implications to this idea. Follow-and-support units task organized to conduct combined arms operations are essential. The units could be in theater, or forces arriving later in the deployment process. Coalition units could often be well suited for assignment to consolidation areas. The biggest implication is that more forces are required and must be allocated to defeat the enemy on the battlefield and consolidate gains to attain a strategic objective than to just simply defeat the enemy on the battlefield.

Army Echelons and the Operational Framework

FM 3-0 recognizes the importance of cyberspace and space-enabled capabilities, electronic warfare, and the heavily contested information environment. It pulls key aspects of the latest doctrine in those areas into the operations conducted by theater armies, corps, and divisions. Converging those capabilities in support of ground forces to gain and exploit positions of advantage is a critical role played at the division level and higher. Brigade combat teams fighting in the close area generally lack the time or ability to effectively plan and employ multi-domain capabilities other than those already under their control. Mobility, lethality, and protection dominate the cognitive focus at the brigade and lower echelons during ground combat. Theater armies, corps, and divisions are far enough removed from the close fight to have a broader

How we think about the operational framework has changed. The first difference to consider is that we no longer discuss linear versus nonlinear constructs. Instead, FM 3-0 has contiguous and noncontiguous areas of operation to better account for the nonlinear nature of all operations, regardless of the physical lines on a graphic overlay. The next, and largest difference, is that each area of the operational framework has *physical*, *temporal*, *cognitive*, and *virtual* considerations that correlate with the focus of a particular echelon. Without an echelon-specific focus in time and space across multiple domains, the likelihood would be that everyone focuses on the close fight and current operations.

The operational framework considerations provide commanders and staffs a way to look at multiple domains and the information environment in the context of operations on land. The considerations are as interrelated as the domains in any specific situation and have different implications for different echelons operating in different areas of the operational framework. The physical and temporal considerations pertain to space and time, and have been with us a long time. Cognitive considerations are those things pertaining to enemy decision making, enemy will, our will, and the behavior of populations. Virtual considerations are in regard to activities and entities that reside in cyberspace, both friendly and threat. Taken together, the four considerations allow commanders and staffs to account for the reality that all battle is multi-domain battle and has been for a long time.

Maritime capabilities have influenced land combat for more than two thousand years. Air capabilities have done the same for more than a century, while space capabilities have been with us for more than

forty years. Even cyberspace has played a critical role for almost two decades. By explicitly expanding the operational framework beyond a tactically focused physical model, FM 3-0 accounts for the employment of capabilities unbound by range constraints during operations short of armed conflict, during small-scale contingencies, during large-scale ground combat, and as we consolidate gains to achieve enduring outcomes to our tactical operations.

The Way Ahead

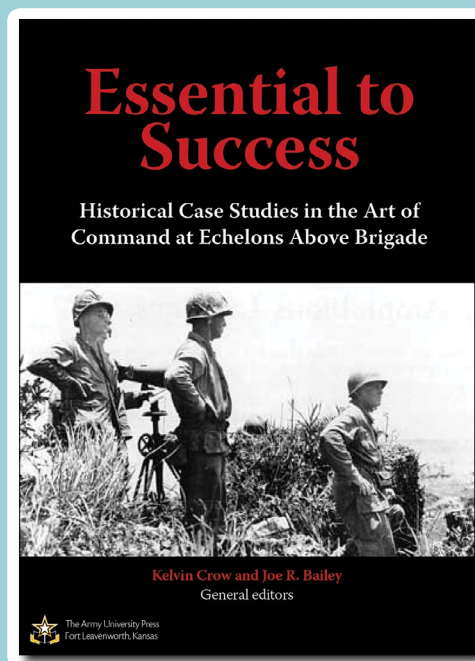
The new FM 3-0 has significant implications for the Army as it reorients on large-scale ground combat while simultaneously conducting other types of operations around the world to prevent peer and near-peer adversaries from gaining positions of strategic advantage. Many of the considerations necessary to achieve military success in the current operational environment are fundamentally unchanged, but what has changed is important. Army forces do not have the luxury of focusing solely on large-scale land combat at the expense of the other missions the Nation requires them to do, but at the same time, they cannot afford to be unprepared for those kinds of operations in an increasingly unstable world. Being prepared for large-scale ground combat generates credible deterrence and contributes to worldwide stability. Being prepared requires doctrine suitable for theater armies, corps, divisions, and brigades to conduct operations with the right mix of forces able to execute tactical tasks to achieve operational and strategic goals. We look forward to a spirited professional discussion across our Army as we integrate our new operational doctrine into the force. That professional discussion will undoubtedly inform more changes in the future and make us a better Army. ■

Notes

1. Field Manual (FM) 3-0, *Operations* (Washington, DC: U.S. Government Publishing Office [GPO], 2008 [obsolete]). Change 1 to this version was published in 2011; Army Doctrine Publication 3-0, *Unified Land Operations* (Washington, DC: U.S. GPO, 2011 [obsolete]).
2. FM 3-0, *Operations* (Washington, DC: U.S. GPO, 6 October 2017).
3. *Ibid.*, figure 1-4.
4. For more on the multi-domain battle concept, see David G. Perkins, "Multi-Domain Battle: Driving Change to Win in the Future," *Military Review* 97, no. 4 (July-August 2017): 6–12.

Military Review

WE RECOMMEND



Essential to Success: *Historical Case Studies in the Art of Command at Echelons Above Brigade* is the latest book from Army University Press. Commissioned as a companion to the Army's 2017 version of FM 3-0, *Operations*, it contains twenty engaging and thought-provoking chapters by scholars and former large-unit commanders who analyze key decisions, enabling factors, and limiting factors in large-unit combat operations from the Second World War to current conflicts.

The U.S. Army's recent history of small-unit operations, combined with increased potential for large-scale combat against peer or near-peer rivals and advances in technology and social media call for a reassessment of command at senior levels. *Essential to Success* highlights situations faced by commanders of the past, and it explains and contextualizes the problems they faced, the decisions they made, and the outcomes of those decisions. The book invites readers, commanders, and their staffs to think critically and apply historical experience to large-scale ground combat of the future in an attempt to preserve American lives and valuable national resources.



General of the Army Valery Gerasimov, Chief of Staff of the Russian Federation Armed Forces, congratulates servicemen and veterans during a speech 1 October 2016 on Russia's Ground Forces Day, noting their significant contribution to the protection of Russia's national interests. (Photo courtesy of Ministry of Defence of the Russian Federation)

Contemporary Warfare and Current Issues for the Defense of the Country

General of the Army Valery Gerasimov, Chief of the General
Staff of the Russian Federation Armed Forces

Translated by Dr. Harold Orenstein; Foreword by Timothy Thomas

Foreword

In March 2017, Russian General Staff Chief Valery Gerasimov spoke on the topic “Contemporary Warfare and Current Issues for the Defense of the Country” at a conference held at the Academy of Military Sciences. This speech is presented here in direct translation (without conversion to vernacular English).¹

Gerasimov discusses several elements that characterize war today and what tasks to tackle. First, he lists the features that characterize contemporary military conflicts. They include noncontact operations, weapon costs, the use of robotics, various forms for employing forces, the use of information-psychological and information-technical effects, and other factors. Second, he discusses hybrid operations and the “flip side,” which he labels as a new perception of peacetime, when security and sovereignty are threatened by means other than violent measures, (i.e., nonmilitary means). Third, he lists tasks for the Academy of Military Science to study, to include the current forms of confrontation and the methods to oppose them, the development of counters to hybrid warfare means used by the West against Russia, the development of forms and methods of operations under various conditions, and the problems associated with organizing force regroupings. Fourth, he notes that Russia’s military capabilities have been improved via the balanced development of all services and branches. Specifically, he highlights five areas: the development of high-tech weapons, new communication means, intelligence, automated command and control, and radio-electronic warfare. Fifth, he underscores one thought on several occasions—that the use of military force is still the best way to describe “war.” Additionally, Gerasimov warns that there has not been enough attention paid by military scholars to certain topics including “combat operations against irregular enemy formations; employment of groupings consisting of regular forces and national militia detachments; combat under urban conditions, including where fighters are holding civilians as ‘human shields’; and post-conflict normalization.”

Finally, it should be noted that Gerasimov’s speech offered a good example of “how to think like a Russian officer,” as he mentions key elements associated with their military science: trends, forecasting, the correlation of types of struggles, and forms and methods. Special attention should also be paid to how Gerasimov characterizes “hybrid operations” as a U.S. and NATO activity and “hybrid warfare” as promoted by mass media and “as an established term is, at present, premature.” It is significant that when he states “the Russian army has shown skill [in Syria] in conducting new-type warfare,” new-type warfare is understood as the emerging depiction for Russian thinking on war.

Timothy Thomas, Foreign Military Studies Office

Remarks by General of the Army Valery Gerasimov, “Contemporary Warfare and Current Issues for the Defense of the Country”

War has always been a constant companion of humanity. It was born before the appearance of the state and is one of the factors of the development of the state.

It is natural that the problem of defining the nature and essence of warfare has always been at the center of attention of domestic and foreign scholars. Clausewitz singled out the political nature of war, treating it as a continuation of politics by other means. He understood “other means” to be violent ones. He compared war to “extended single combat,” defining it as “an act of violence having the goal of forcing the enemy to carry out our will.”

Snesarev and Svechin—eminent Russian and Soviet military theorists at the beginning of the twentieth century—made a significant contribution to the development of “the science of war.” The principal trends of waging war, which are a result of not only political, but also economic and social relations, are an example of their research.

By the beginning of the 1990s, a firm understanding of war as a means of achieving political goals exclusively on the basis of employing means of armed struggle developed.

War as a phenomenon occupies the minds of both domestic and foreign military specialists. At present, the United States has a classification of military conflicts, including traditional and nontraditional warfare. At the beginning of the twenty-first century, American theorists proposed the inclusion of “hybrid warfare” in this classification. This refers to actions that occur in a period that cannot possibly be associated purely with war or with peace.

In domestic science and practice, a more weighty approach to the classification of

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contemporary military conflicts has been determined. It takes into account a greater number of attributes of wars and armed conflicts.

According to the *Military Doctrine of the Russian Federation*, wars, together with armed conflicts, comprise the general content of military conflicts. They are

characteristics and features of contemporary military conflicts and clarifying their genesis and development.

Military conflicts at the end of the twentieth century and beginning of the twenty-first century differ from one another with respect to composition of participants, weapons employed, and forms and methods of troop



A substantive feature of contemporary military conflicts is the increasing employment of the latest robotic complexes and unmanned aerial vehicles with varied designations and actions. New forms of employment of different forces and means have appeared.



“a form of resolving interstate or intrastate conflicts with the employment of armed force.” At the same time, there is no definition of “war” in official international or domestic documents.

The term “war” is used in domestic military science. It is defined in the *Military Encyclopedia*. Today, the military and scientific community is dynamically discussing issues regarding a clarification of the concept of war.

Some scholars and specialists adhere to the classical treatment of the nature and content of war. Here, the objectivity of the evolutionary development of warfare as a phenomenon and the necessity of introducing changes into its theory are not rejected. Others recommend a fundamental reexamination of views on the nature and content of the concept of war, taking into consideration that armed struggle is not an obligatory attribute.

At present, one can encounter in print and in public discussion such phrases as “information warfare,” “economic warfare,” “hybrid war,” and a multitude of other variants of the use of the word “war.” All this must be analyzed and discussed. It is evident that a healthy scholarly discussion can only be something good for domestic military science.

The General Staff is focusing the necessary attention on resolving this issue. In 2016, a discussion on the nature of the concept of war under contemporary conditions was organized at the General Staff Military Academy.

A meeting of the military security issues section of the Security Council’s science board also examined this issue. During the discussion, general guidelines were developed regarding the necessity of analyzing the

activities. At the same time, military conflicts have not gone beyond the bounds of the conventional nature of war; their components are types of struggle such as direct armed struggle, political struggle, diplomatic struggle, information struggle, et al. New features have appeared in them such as a change in the correlation of the contribution of one type of struggle over another to the overall political success of a war, the overwhelming superiority of one of the sides in military force and economic might, etc.

There are a number of features that are characteristic for contemporary military conflicts.

The experience of NATO operations in Yugoslavia, which heralded the era of so-called “noncontact” or “remote” warfare, has not received widespread circulation. The reason is an objective one: restrictions of a geographic and economic nature were imposed on the achievement of the goals of the war. The cost factor for weapons and war began to play an important role in the selection of methods for conducting military operations.

A substantive feature of contemporary military conflicts is the increasing employment of the latest robotic complexes and unmanned aerial vehicles with varied designations and actions. New forms of employment of different forces and means have appeared. For example, during the operations in Libya, a no-fly zone was established and a naval blockade was carried out in combination with the joint operations of private military companies from the NATO countries and the opposition’s armed formations.

The leading countries of the world have declared that gaining information superiority is an indispensable condition of combat operations in their concepts

for the employment of armies. To resolve this task, mass information and social network resources are used. At the same time, the forces and means of information-psychological and information-technical effects are involved. Thus, in conflicts in the Middle East, the mobilized capabilities of the social networks Facebook, Twitter, and other information-technical effects were used widely for the first time.

The conflict in Syria was an example of the use of “hybrid” methods of operation. Traditional and nontraditional operations of both a military and nonmilitary nature were used simultaneously in this conflict. In its first stage, Syria’s internal conflicts were transformed into armed assaults by the opposi-

The spectrum of reasons and approaches for the use of military force is broadening. It is being used increasingly more often to support the economic interests of a state under the slogan of protecting democracy or instilling democratic values in some country.

The emphasis in the content of methods of confrontation is shifting in the direction of extensive employment of political, economic, diplomatic, information, and other nonmilitary measures, implemented with the involvement of the protest potential of a population.

Nonmilitary forms and means of struggle have received unprecedented development and have acquired a dangerous, sometimes violent nature. The practical use of nonmilitary methods and means can cause a

“Nonmilitary forms and means of struggle have received unprecedented development and have acquired a dangerous, sometimes violent nature. The practical use of nonmilitary methods and means can cause a collapse in the energy, banking, economic, information, and other spheres of a state’s daily activities.”

tion. Then, with the support of foreign advisors and dynamic information effects, these actions acquired an organized character. As a result, terrorist organizations, supplied and directed from abroad, joined the opposition to the government.

The United States and NATO countries are actively introducing “hybrid operations” in the international arena. For the most part this was conditioned by the fact that this operational variant does not fall under the definition of aggression.

The mass media are calling these methods “hybrid warfare.” However, using the phrase “hybrid warfare” as an established term is, at present, premature.

An analysis of the conflicts of the beginning of the twenty-first century points to a number of trends with respect to their transformation.

Today the blurring of the line between a state of war and peace is obvious. The flip side of “hybrid operations” is a new perception of peacetime, when military or other overt violent measures are not used against some state, but its national security and sovereignty are threatened and may be violated.

collapse in the energy, banking, economic, information, and other spheres of a state’s daily activities. One can cite as an example the results of the cyberattacks on Iran’s energy infrastructure in 2015.

An analysis of the characteristic features, traits, and trends in the development of contemporary military conflicts indicates that one general feature is inherent to all of them, one way or another: the use of military force. In some conflicts, as in the two U.S. wars against Iraq or in the NATO operation against Yugoslavia, this is almost classical armed struggle. In other conflicts, as, for example, in Syria, armed struggle is conducted by one side in the form of antiterrorist operations, and by the other side in the form of operations by illegal irregular armed formations and terrorist organizations.

Thus, the main content of contemporary warfare and warfare in the foreseeable future remains as before, and its principal indicator will be the presence of armed struggle.

Taking all these factors into consideration, it is still practical to keep the definition of “war” as given by the *Military Encyclopedia*.

In addition, the issue of determining the essence of war is not closed; it is current and requires continuous study and careful consideration. With this goal, a roundtable discussion on the theme, “Contemporary Warfare and Armed Conflicts: Characteristic Features and Traits,” will be held in August of this year [2017] within the framework of the program of the ARMIIA-2017 international military-technological forum. Scholars from the Academy

unparalleled in the world. Strategic aviation aircraft—our legendary TU-160s and TU-95MSs—are being modernized. This will make it possible that, as a whole, 90 percent of the strategic nuclear forces will be outfitted with contemporary equipment by 2020.

The strike potential of high-tech weapons in the armed forces will increase fourfold by 2021. This will make it possible to safeguard Russia’s security along the

“The capabilities of the armed forces are being improved by means of a balanced development of all services and branches and the development of high-tech weapons, contemporary means of communication, intelligence, automated command and control, and radio-electronic warfare.”

of Military Sciences should most actively participate in the round table and forum. It is necessary to continue work on interdepartmental standardization of military-political and military terms and definitions.

The growth of conflict potential in the world emphasizes the urgency of a number of tasks in the field of the country’s defense. The principal one remains as before—the guaranteed repulsion of possible aggression from any direction in the relationship of the Russian Federation and its allies. In peacetime, when carrying out measures for strategic deterrence, it is necessary to ensure the neutralization of threats to the country’s security by relying on available forces and means.

In this regard, the role and importance of forecasting and assessing military dangers and threats is growing. It is advantageous to implement them together with an assessment of economic, information, and other threats to the Russian Federation.

The capabilities of the armed forces are being improved by means of a balanced development of all services and branches and the development of high-tech weapons, contemporary means of communication, intelligence, automated command and control, and radio-electronic warfare.

At present, large-scale outfitting of the Strategic Rocket Forces with contemporary missile complexes is underway. The Navy is acquiring new atomic submarines with ballistic and cruise missiles that are

entire border perimeter. The percentage of contemporary weapons and military equipment in the Ground Forces will reach no less than 70 percent by 2021. The Aerospace Forces will acquire new-generation aircraft, which will increase the combat capabilities of aviation 1.5 times. The Navy will be supplied with contemporary ships equipped with high-tech, long-range rockets.

Robotics is playing a substantial role in increasing combat capabilities. The large-scale, but reasonable employment of various types of robotic complexes will increase the effectiveness of troop operations and ensure a substantial reduction in personnel losses.

Today, the armed forces have acquired a unique opportunity to verify and test new models of weapons and military equipment under complex climatic conditions.

It is necessary to continue to generalize the experience of the employment of the means of armed struggle in the Syrian events and to extract lessons to fine-tune and modernize them.

Victory in any war is achieved not only by the material, but also by the spiritual resources of the nation, its cohesion, and the attempts by all forces to oppose aggression. Therefore, the Russian Federation’s military-political leadership is exerting considerable efforts to restore the people’s faith in the army. Today the armed forces are arriving at a fundamentally new level of combat readiness, and this is finding full support in Russian society.

In the interests of further increasing the prestige of the armed forces, it is important to develop ties between the army and society. For this, it is necessary to improve systems for training servicemen and for the military-patriotic education of young people.

The resolution of current tasks for safeguarding the country's military security is impossible without their careful and advanced study.

At the same time, as the experience in Syria has shown, today we are resolving many tasks through practical experience, without having the opportunity to draw upon the recommendations of military science.

Thus, military scholars have not given the necessary attention to the problems of conducting combat operations against irregular enemy formations; the employment of groupings consisting of regular forces and national militia detachments; combat under urban conditions, including where fighters are holding civilians as "human shields"; and post-conflict normalization.

During the operation for stabilizing the situation in Syria, missions that were new for the troops were often resolved on the spot, taking into account the experience that had been acquired and expedience. Here, the Russian army has shown skill in conducting new-type warfare, organizing coalitions, and working with allies.

Russia's growing combat might and the capabilities of the armed forces to resolve strategic missions on a remote theater of military operations was demonstrated to the world community.

Practical experience has been acquired in planning and conducting air operations, delivering massive rocket and air strikes, and employing air-, sea-, and land-based high-tech weapons.

Deck aviation of the heavy aircraft carrier *Admiral Kuznetsov* took part for the first time in combat operations, completing more than sixty sorties.

Under the guidance of Russian military advisors and with the continuous support of Russia's Aerospace Forces' aviation, large gangs were crushed in the provinces of Latakia, Aleppo, and Damascus. Control was reestablished over Palmyra.

It is extremely important that the combat experience that was gained be maximally used in the combat development and preparation of command-and-control organs and of the troops.

On the whole, the role of military science remains, as ever, fundamentally important, and its results should be drawn on in practice. In this regard, I would like to linger on the priority tasks of the Academy of Military Sciences and of military science on the whole.

First and foremost is the study of new forms of interstate confrontation and the development of effective methods for countering them.

It is necessary to focus special attention on determining preventive measures to counter the unleashing of "hybrid warfare" against Russia and its allies.

It is necessary to effectively study the features of contemporary military conflicts and, on the basis of this, develop effective forms and methods of troop and force operations under various conditions.

The problems of organizing and implementing force regroupings on remote theaters of military operations require separate research.

Nor have the general tasks of military science lost their urgency. They also require further work, development of new ideas, and acquisition of new knowledge.

I am sure that the scholars of the Academy of Military Sciences, together with representatives from Russia's military-science complexes, are making an important contribution to the resolution of these and other problems, which will make it possible to increase the defensive capabilities and security of our country. ■

Note

1. "Sovremennaya voyna i aktual'nye voprosy oborony strany" [Contemporary Warfare and Current Issues for the Defense of the Country], *Journal of the Academy of Military Sciences* 2, no. 59

(2017). Translated by Dr. Harold Orenstein. The article appears under the general heading of "Military-Scientific Conference at the Academy of Military Sciences."

Compelling Reasons for the Expansion of Chinese Military Forces

Lt. Cmdr. Cindy Hurst, U.S. Navy, Retired



In March 2015, during the ongoing civil war in Yemen, the situation deteriorated as Saudi Arabia led air strikes against Houthi forces. In an unprecedented move, China's People's Liberation Army (PLA) Navy fleet withdrew from an escort mission in the Gulf of Aden off the coast of Somalia to directly assist in evacuation operations in Yemen.¹ The warships managed to evacuate over 600 Chinese citizens and 279 foreign citizens, demonstrating China's growing commitment to protect its overseas assets. This marked a new milestone for the country.

China has long stood firm on its policy of noninterference. Over the past two decades, however, with global tensions heating up, China's growing global investments, and the increasing number of Chinese citizens traveling and working abroad, there has been a significant shift in actions being taken by China to assist its overseas citizens.

An opinion piece published in the East Asia Forum explained that the concept of "protecting nationals abroad" first caught the attention of China's top leadership as early as 2004. By 2012, it had become a priority of the Chinese Communist Party. According to the article, China now faces new global risks, since Chinese companies, workers, and tourists are now located all over the world.²

While the efforts of embassy personnel to facilitate the evacuation of Chinese nationals and foreign citizens from dangerous situations are not surprising, the more recent commitment of military resources is. These are signs of a new trend, one of increased military intervention and an extended overseas military presence in the years to come. This article provides some possible insights into China's perception of its transitioning role and what we might expect in the future based on its involvement in overseas evacuations over the past several decades.



A Chinese soldier of the People's Liberation Army Navy stands guard 29 March 2015 as Chinese citizens board the naval ship *Linyi* at a port in Aden, Yemen. China's Defence Ministry said its warships had completed an evacuation of Chinese nationals with more than 570 people safely transported across the Red Sea to Djibouti to be flown home. The Chinese characters on the banner read, "Welcome Chinese compatriots on board." (Photo by stringer, Reuters)

Evolution of China's Commitment to Overseas Citizens and Assets

Since Deng Xiaoping's economic reforms opened up China to the rest of the world nearly four decades ago, an increasing number of Chinese citizens have been traveling abroad. Each year their numbers climb. In 1978, approximately two hundred thousand Chinese citizens traveled overseas. By 2003, that number increased one hundred times to 20.2 million.³ In 2014, over one hundred million Chinese citizens had traveled abroad.⁴

There has also been a marked increase in the number of Chinese working abroad. By the end of 2006 an estimated 675,000 Chinese worked overseas, mostly in developing countries. That same year, more than ten thousand Chinese enterprises had set up businesses in over two hundred countries and regions.⁵ By 2012, there were more than five million Chinese nationals working abroad.⁶ They can be found in both developed and developing countries.

The growing number of Chinese citizens working overseas can be attributed to a number of factors. For example, China's saturated domestic markets and inadequate access to domestic resources have prompted companies to operate in other countries. The nonrenewable nature of petroleum, coupled with China's current and forecasted requirements, has scattered the country's oil companies across the globe in search of energy.

Oftentimes, Chinese companies have sought opportunities in some of the more volatile, less desirable regions of the world, attracted by decreased competition and easier access. Potential competitors often avoid doing business in certain locations for a variety of reasons, ranging from legalistic (i.e., sanctioned countries) to moralistic (i.e., countries accused of gross corruption, genocide, or other atrocities). However, China's business policy makes

it an ideal partner for such countries. While China willingly renders aid to corrupt and problematic countries with no questions asked, Western organizations demand transparency and accountability.

China's growing involvement in unstable countries increases its need to protect its assets and citizens. In the past, any assistance to Chinese citizens came from other countries, sometimes through coordination by Chinese embassies, but with no involvement by the Chinese military. For example, in March 1997, foreign militaries stepped in to evacuate their citizens from Albania when the country slipped into anarchy fueled by failed investment schemes. The German army, the U.S. Marine Corps, and the British, French, and Greek navies were among some of the foreign militaries carrying out evacuation operations. At one point, Greek armed forces evacuated 250 people—mostly Chinese, Jordanian, and Egyptian nationals—via a missile boat and frigate. However, there was no indication of any involvement by the Chinese military during the crisis.⁷

The following year, after an escalation of the Ethiopia-Eritrea conflict, the Chinese government facilitated the evacuation of Chinese business people and part of the Chinese embassy staff from Eritrea.⁸ Again, there was no indication that the military was involved. Two years later, during a military coup in the Solomon Islands on 7 June 2000, the Chinese Foreign Ministry set up an emergency group and assisted Chinese citizens in evacuating the islands, including seeking assistance from other countries.

In 2004, during the 10th National People's Congress, Foreign Minister Li Zhaoxing promised that more effort would be given to caring for the interests of the Chinese people in the international arena. Luo Tianguang, director general of the Department of Consular Affairs under the Ministry of Foreign Affairs, said the ministry had been working hard to improve the system by providing better consular protection.⁹ According to Luo, the ministry had built an emergency response mechanism to be activated during any major incident involving mass deaths, injuries, or property loss of Chinese citizens overseas.¹⁰ As part of the plan, the ministry had set up a twenty-four-hour telephone hotline and various departments to step in when necessary.

During March 2005, in Kyrgyzstan, opposition supporters seized the presidential headquarters and ousted Askar Akayev's government from power. Rioting and looting took place and, among other things, dozens

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of Chinese shops were ransacked. With four Chinese businessmen injured, the Chinese Embassy in Bishkek arranged for special planes and cars to help Chinese citizens evacuate from the country. Approximately ten thousand Chinese citizens lived in Kyrgyzstan at the time.¹¹

In 2006, diplomats from the ministry's consular division helped evacuate about eight hundred Chinese citizens from Solomon, East Timor, Lebanon, and Tonga.¹² The increased consular intervention in evacuations prompted the Chinese government in 2007 to vow to improve protection of the "growing numbers of Chinese citizens living and working abroad."¹³ In 2008, an outbreak of civil war in Chad prompted Chinese embassy officials to arrange for the evacuation of over four hundred Chinese engineers and experts working with Chinese funded enterprises in the country.¹⁴

Over time, consular intervention and action increased. In late 2009, Beijing arranged to have eleven commercial aircraft evacuate 3,100 Chinese citizens from Thailand following the dissolution of the ruling party and the banning of Premier Somchai Wongsawat from politics over vote-buying allegations that sparked turmoil in the country.¹⁵

Soldiers of the Chinese People's Liberation Army 1st Amphibious Mechanized Infantry Division prepare to provide Chairman of the Joint Chiefs of Staff Adm. Mike Mullen with a demonstration of their capabilities 12 July 2011 during his visit to the unit in China. (Photo by Mass Communication Specialist 1st Class Chad J. McNeeley, U.S. Navy)

In 2010, China turned to chartered planes to airlift 1,200 Chinese citizens from Kyrgyzstan after ethnic violence broke out in June. This was reportedly the largest evacuation operation using charter flights.¹⁶

There was no evidence of involvement by the Chinese military during any of the aforementioned evacuation operations. However, later in 2010, Gu Weijun, a scholar with the Chinese Academy of Military Sciences, outlined five ways he believed that Chinese troops would be used in the future. Stressing the need for more armed intervention to protect and evacuate Chinese overseas expatriates, Gu pointed out that China's citizens and expatriates living abroad had encountered an increasing number of attacks in recent years. He argued that China's global economic expansion meant that it would also need to expand its military globally and, "in the future, China's use of troops

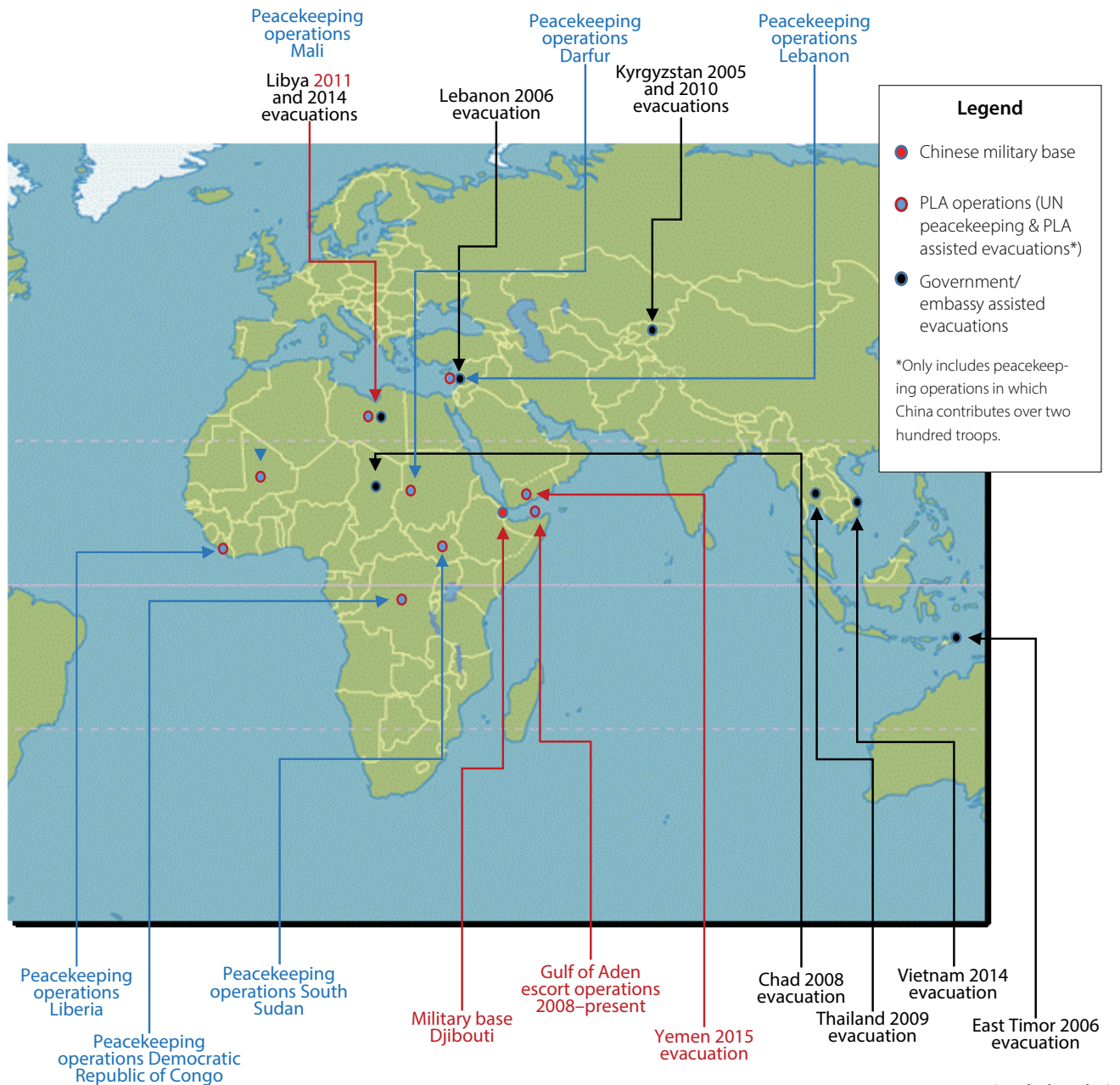


Figure. People's Liberation Army's (PLA) Expanding Global Presence

overseas will be inevitable.”¹⁷ Then, in 2011, for the first time, the Chinese military stepped in to perform an international evacuation of Chinese citizens abroad.

Militarization of China's International Evacuation Operations

In February 2011, as Libyan Prime Minister Muammar Gaddafi's regime stood on the brink of collapse, both the PLA Navy (PLAN) and the PLA Air Force (PLAAF) were tasked to assist in the evacuation of

over thirty-five thousand Chinese nationals from Libya. This marked an important turning point for the PLA.

As part of the effort, the PLAN summoned its frigate, *Xuzhou*, which was part of a flotilla off the Gulf of Aden protecting Chinese vessels and personnel sailing through the Somali waters. *Xuzhou* was ideally located to assist in the evacuation effort. The decision to task *Xuzhou* set a new precedent and attracted the attention of scholars and PLA analysts inside and outside of China. Some claimed that “the move reflected an array of strategic interests for

Beijing—and could prove to be the first of many such missions.”¹⁸ Maj. Gen. Ji Mingkui, a professor with the PLA’s National Defense University, suggested that the role of the PLAN abroad should expand into other less traditional areas: “We will not only dispatch warships to evacuate our people overseas (when needed) in the future, but in other ways ... to protect our national interests overseas because our navy’s mission will be expanded as time goes on.”¹⁹

The *Xuzhou*, which had special forces troops, a Z-9 helicopter and hangar, and a “store of surface-to-air missiles” lacked the capacity to transport any evacuees. Instead, it escorted merchant ships tasked with rescuing Chinese civilians while remaining alert for any significant increase in the threat level.²⁰

In addition to the PLAN, the PLAAF also contributed evacuation efforts in Libya. In one article, PLAN Capt. Liu Jun recounts the day the PLAAF was summoned to provide assistance to the evacuation. He explains that, upon receiving the command, his regiment thought they had misheard. The distance between the airfield in which his (unidentified) PLAAF regiment was located and Sabha, Libya, was more than 9,500 km (5,903 miles). It was the longest flight path ever taken by the PLAAF, and it spurred a new way of thinking about building battle effectiveness. Liu raises the question, “In the past, everyone compared the military to the Great Wall and emphasized our duty to defend our territory and position consciousness. However, today, where are the frontiers that we have to defend?”²¹ China’s 2013 defense white paper offers more details in the PLAAF’s role, explaining that “the PLAAF sent four aircraft at short notice, flew forty sorties, evacuated 1,655 people (including 240 Nepalese) from Libya to Sudan, and took 287 Chinese nationals from Sudan back home.”²² The White Paper further states, “vessel protection at sea, evacuation of Chinese nationals overseas, and emergency rescue have become important ways and means for the PLA to safeguard national interests and fulfill China’s international obligations.”²³

The 2011 evacuation from Libya was truly a milestone. Not only was it the biggest evacuation effort in which China had participated, but it drew attention to the growing importance of these types of operations. Following China’s use of the *Xuzhou* to provide security for the 2011 evacuation from Libya, Song Xiaojun, a Beijing-based military analyst, concluded that the PLAN’s participation in the humanitarian crisis in Libya would help our army to fight for

more funding and resources for our defense budget. With more ... Chinese workers and technicians working overseas, in ... countries with unstable political situations, our country needs to protect their lives and safety as they are also working for our overseas investments.”²⁴

By 2014, Libya was once again in turmoil, as rival militia clashes in the Libyan capital of Tripoli and the eastern city of Benghazi left at least 214 people dead and nearly 1,000 more wounded. Fearing that the fighting would escalate into a full-fledged civil war, countries (China among them) rushed to evacuate their citizens caught within the turmoil.²⁵ Between May and September 2014, over one thousand Chinese citizens were evacuated from Libya.²⁶ While there are no indications that the PLA assisted in the evacuation, that September China opened a twenty-four-hour global hotline, “12308,” to help Chinese citizens abroad. According to Foreign Minister Wang Yi, the hotline would allow Beijing to be briefed “in a timely manner about the suffering and demand of Chinese citizens abroad” and deliver help when it is needed.²⁷ A Chinese antiterrorism studies researcher from the China Institute of Contemporary International Relations attributed the increase in China’s consular assistance service to “the increasing complexity of security overseas.”²⁸

An Unprecedented Evacuation from Yemen

In March 2015, the PLAN once again sprang into action, this time in Yemen. As mentioned above, with an ongoing civil war, the atmosphere in Yemen deteriorated as Saudi Arabia led air strikes against Houthi forces. With the situation escalating, a number of countries, China included, began evacuating their citizens.

China has a special interest in Yemen. Having established diplomatic relations with Yemen in 1956, bilateral relations were upgraded to “ambassadorial level” in 1963. Over the years, China has invested heavily in Yemen’s development and construction sectors. However, energy has since become a huge draw. In September 2012, the China National Corporation of Overseas Economic Cooperation agreed to construct three natural-gas-fueled power plants in the country. Then, in 2013, both countries reached a deal to build a series of power plants with a combined capacity of five gigawatts (a gigawatt is equal to one billion watts, enough to power between 300,000 and 750,000 homes if it were in the United

States.)²⁹ And, by 2014, Chinese companies Sinochem Corp and Sinopec were producing approximately twenty thousand barrels of oil per day (80 percent of Yemen's total production).³⁰ In 2014, Beijing was selected for a \$508 million project to expand two container ports in Aden and Mokha. China is reportedly financing the projects through a soft loan. It has also offered millions of dollars in relief aid for displaced Yemenis, medical supplies to the Yemeni-Chinese Friendship Hospital, and grants and loans to Yemen's defense ministry.

Similar to the 2011 evacuation from Libya, China tapped into its PLAN escort mission in the Gulf of Aden. This time, however, instead of summoning one ship, China summoned three ships—two missile frigates and a supply ship with two shipborne helicopters onboard. Also in contrast to the 2011 operation, the PLAN physically carried out the evacuations as opposed to serving in a security or escort role. Yemen marked the second time the PLAN was involved in evacuating Chinese and other citizens.³¹

Approximately six hundred Chinese nationals—embassy personnel, oversees students, medical workers, journalists, and technicians working for Chinese companies in oil exploration and production, communication, and other industries—were evacuated. In addition to Chinese citizens, according to Hua Chunying, a spokesperson from China's Foreign Ministry, China also helped ten countries evacuate 225 of their citizens.³²

Interestingly, only one year earlier, China had conducted another major evacuation, this time from Vietnam, following a wave of anti-Chinese riots. The unrest was caused over a Chinese oil rig *Haiyuang Shiyu* 981 moving into disputed waters in the South China Sea and resulted in two Chinese workers being killed and over one hundred injured. Many of those evacuated were workers employed at Chinese-owned factories or construction projects in Vietnam.³³

The evacuation from Vietnam, however, did not involve the PLA. Instead, Chinese officials dispatched four passenger ships to evacuate more than 3,500 Chinese nationals affected by the violence. Each of these ships, the *Wuzhishan*, *Tongguling*, *Zijing 12*, and *Baishiling*, had a capacity of one thousand passengers. Most of the evacuees on the four ships were workers from Metallurgical Corporation of China, a state-owned contractor helping construct an iron and steel complex in Vietnam's Ha Tinh Province.

Why China opted to send either PLA forces or charter ships and aircraft in these situations is not completely clear. In the case of Vietnam, it could be that China did not want to come across as using military force due to the already volatile situation in the South China Sea. To introduce the PLAN or PLAAF to the situation could have further stirred the pot of ongoing tension. In the case of the Yemen and Libya evacuations, sending the PLA might have been born out of convenience and reassurance that Chinese forces were not making a show of power, but rather simply ensuring Chinese citizens had a safe passage home. The perceptions of the PLA differed in each situation and environment. Understanding that brings a modicum of clarity to China's motivations.

Beefing Up Global Presence

Along with its escort mission in the Gulf of Aden, China has been taking other steps that are creating a more global military presence. Whether intentional or not, in each case, China has been opening up new security options from which to be able to draw in the event of future evacuation operations. The PLA has been expanding its presence through escort missions, peacekeeping missions, and most recently a forward-deployed base reportedly serving as a logistics hub for these missions (see figure, page 32). In addition, China now has an aircraft carrier in its inventory, with more on the way, giving the country even greater global reach.

Escort missions in the Gulf of Aden. The PLAN has been conducting escort missions in the Gulf of Aden since late 2008 as part of the UN's antipiracy operations.³⁴ The first fleet assigned to the mission consisted of two destroyers and one supply ship originating from China's Hainan Island. Onboard were approximately eight hundred crew members, including seventy soldiers from the Navy's special forces. The destroyers were equipped with missiles, cannons, and light weapons.³⁵ Since then, the PLAN has had a task force in place to conduct naval escort missions. It launched its twenty-third mission on 7 April 2016.

International UN peacekeeping missions. China has been a regular contributor to UN peacekeeping missions for over twenty-five years. Since 1990, over thirty thousand Chinese peacekeepers have served in more than thirty peacekeeping missions around the world, with the highest concentration in Africa. Recent missions indicate an even more dramatic shift toward



the commitment of its forces. For example, on 26 March 2015, China sent a peacekeeping infantry battalion to Juba, South Sudan. This commitment of armed and more capable personnel set a new standard and marked a profound shift in the country's attitude toward UN peacekeeping missions. Since Chinese peacekeepers are drawn from a pool of some of the most qualified members of the PLA, these forces are an excellent source of support for evacuation operations if needed.

Djibouti: China's first overseas military base. In 2013, the National Defense University of the PLA submitted a proposal to the Central Military Commission (CMC) to build a military base in Djibouti. Approved by President Xi Jinping and operational in 2017, this marks China's first overseas military base.

According to various Chinese sources, when China first began conducting escort missions in the Gulf of Aden, the ships and their crews received no breaks, remaining at sea for six months straight. This caused depression and mental anguish amongst Chinese sailors. The base in Djibouti gives Chinese ships a port to freely access whenever needed for port calls to improve personnel morale. It also meets the logistical needs of the task force and the supply ships that transport goods to the ships.³⁶

Some sources claim that the base is not responsible for combat operations, referring to it instead as a "support facility." According to the Chinese Foreign Ministry, the base will provide logistics to Chinese troops and naval vessels participating in UN peacekeeping and humanitarian aid operations.³⁷

Other Chinese sources in favor of the base explain that "regional peace and stability serve the interests of all countries and meet the shared aspirations of China, Djibouti, and other countries around the world."³⁸

The People's Liberation Army Navy (PLAN) Jiangkai II class guided-missile frigate *Xuzhou* (FFG 530) steams past the forward-deployed Arleigh Burke-class guided missile destroyer *USS Stethem* (DDG 63) 20 November 2015 after participating in a Code for Unplanned Encounters at Sea and a search-and-rescue exercise in the East China Sea. *Stethem* visited Shanghai to build relationships with the PLAN and demonstrate the U.S. Navy's commitment to the Indo-Asia-Pacific. (Photo by Mass Communication Specialist 2nd Class Kevin V. Cunningham, U.S. Navy)

Chinese reports, however, seem contradictory as to the function of and intention behind the Djibouti base. Chinese officials insist that the base is nothing more than a support facility, but what does this mean exactly? One report explains that

China's overseas interests are expanding. At present, there are thirty thousand Chinese enterprises all over the world and several million Chinese working and living in all corners of the world. Last year [2015] ... the stock of China's overseas assets reached several trillion U.S. dollars. So, it has become a pressing task for China's diplomacy to better protect our ever-growing overseas interests.³⁹

However, according to the same report, "The PLA's responsibilities today have gone beyond the scale of guarding Chinese territories. The PLA must protect China's interests anywhere in the world. Overseas military bases will provide cutting-edge support for China to guard its growing overseas interests." In addition, one Navy commander alludes to building more bases by pointing out that Djibouti provides China with experience to build (additional) overseas military bases. As the report notes, "Djibouti is just the first step."⁴⁰



Aircraft carrier diplomacy. Another example of the expansion of China's overseas military presence, and another source to draw from for evacuations, is the country's first aircraft carrier, the *Liaoning*. Commissioned in 2012, the *Liaoning* was originally a Soviet aircraft carrier known as *Varyag*. China purchased the unfinished hull in 1998 and, after towing it from Ukraine three years later, completely modernized the hull, radar, and electronic systems. While the *Liaoning* was originally intended to be used for training missions, it was reported to be combat ready in November 2016, and one month later, China reportedly staged the first live-fire drills involving the carrier.⁴¹ According to the Taiwanese Defense Ministry, China is building two more aircraft carriers that will be the same size as the *Liaoning*. Some sources believe a second carrier will be complete by 2020.⁴²

While the *Liaoning* has attracted international attention and raised some concern over China's military expansion, the country has downplayed it by describing it as "aircraft carrier diplomacy." According to an article published in *China Military Online*, "aircraft carrier diplomacy can improve the overseas environment for investment and the living environment of

United Nations (UN) trucks transport the military personnel of the Chinese engineering company of the UN Organization Mission in the Democratic Republic of the Congo to a 1.8 kilometer-long road rehabilitation project 11 April 2008. The road provides greater access to the Ruzizi One Dam Power Plant, the only source of electricity for eastern Democratic Republic of Congo, Africa. (Photo by Marie Frechon, UN)

overseas Chinese and Chinese nationals, and help protect the state's overseas assets and the life and property of overseas Chinese and Chinese nationals."⁴³

The article further states that,

if the massive and powerful aircraft carrier taskforce is used as an effective tool of foreign exchange, it can influence and improve China's relations with the investment destinations and host countries, and prevent anti-Chinese events. In case of a crisis, we can also quickly dispatch the aircraft carrier task force to relevant sea areas to bear down strongly on the anti-Chinese forces, stop their violent actions, and take emergency measures when necessary to evacuate both Chinese citizens in

China-funded enterprises and Chinese nationals and overseas Chinese.

Training in Noncombatant Evacuation Operations

The PLA has been speeding up its emergency responses and “improving the mobilization of national-level resources.”⁴⁴ In March 2016, China established the Overseas Operations Office. According to *Janes*, the office is a component of the Operations Bureau of the Joint Staff Department, one of the fifteen primary departments now under the CMC.⁴⁵ The CMC Joint Staff Department is the headquarters and command organ of the PLA. The Overseas Operations Office, which is run by the PLA, is reportedly responsible for directing and coordinating actions, including overseas evacuations, carried out by Chinese troops overseas. Due to the diverse international nature of its tasks, it is expected to have a high level of political and diplomatic savvy, or what one article describes as “policy capacity” so that it can effectively spearhead international operations. In other words, with each unique military operation—such as overseas escort, rescue, and evacuation operations—having unique requirements, there are different expectations and actions that need to be taken. A hostage rescue might require special negotiations. An evacuation might require special consent from a foreign government for PLA troops to enter.

The responsibilities of the Overseas Operations Office are also believed to include participating in joint actions with foreign militaries. The Overseas Operations Office first made its debut in March 2016 during a two-day “Joint Evacuation-2016” China-U.K. joint noncombatant evacuation operations tabletop exercise held in Nanjing. It was reportedly the first evacuation drill “jointly conducted by the Chinese and a foreign military.” According to Zhang Junshe, a military expert, the Chinese Navy has gained a wealth of experience from its past evacuations in Libya and Yemen. Meanwhile, China was further able to benefit from the British Navy, which

has “rich experience in overseas evacuations.” Finally, the exercise helped to pave the way for China to work with foreign militaries on similar operations in the future.⁴⁶

Conclusion

Turbulence, terrorism, and piracy, as well as natural disasters and epidemics in some areas, have posed threats to China’s overseas interests. The changing international arena is forcing the country to rethink its strategies. According to “The Diversified Employment of China’s Armed Forces,”

With the gradual integration of China’s economy into the world economic system, overseas interests have become an integral component of China’s national interests. Security issues are increasingly prominent, involving overseas energy and resources, strategic sea lines of communication, and Chinese nationals and legal persons overseas. Vessel protection at sea, evacuation of Chinese nationals overseas, and emergency rescue have become important ways and means for the PLA to safeguard national interests and fulfill China’s international obligations.⁴⁷

The latest white paper on *China’s Military Strategy* lists safeguarding “the security of the country’s overseas interests” and its “security and interest in new domains” as a strategic task to be shouldered by its armed forces.⁴⁸

China’s use of its military in evacuation operations shows growing capability and confidence in that capability. While some might view China’s increasing use of its military overseas as a threat, China sees it as a necessity. Furthermore, as China expands its overseas interests abroad, the Chinese government and military are forced to increase their involvement. China is taking steps that indicate the PLA will become increasingly more active in the evacuation of its citizens overseas, which means that it will most likely also increase its presence in other ways overseas. The question is, how far will it go? ■

Notes

1. “China Sends Fleet to Help Evacuate Nationals from Conflict-Torn Yemen,” *Xinhua*, 30 March 2015, accessed 14 August 2017, http://news.xinhuanet.com/english/2015-03/30/c_134109246.htm.

2. Jonas Parello-Plesner and Mathieu Duchâtel, “How Chinese Nationals Abroad are Transforming Beijing’s Foreign Policy,” *East Asia Forum* website, 16 June 2015, accessed 14 August 2017,

<http://www.eastasiaforum.org/2015/06/16/how-chinese-nationals-abroad-are-transforming-beijings-foreign-policy/>.

3. Ding Ying, “Close to the People—Overseas Chinese Nationals Get Better Support System,” *Beijing Review*, 26 August 2004.

4. “Foreign Ministry Spokesperson Hua Chunying’s Regular Press Conference on December 5, 2015,” Ministry of Foreign Affairs

of the People's Republic of China, 5 December 2014, accessed 14 August 2017, http://www.fmprc.gov.cn/mfa_eng/xwfw_665399/s2510_665401/t1216978.shtml.

5. Qin Jize, "Govt Vows to Protect Citizens Overseas," *China Daily*, 1 September 2007.

6. Mathieu Duchâtel and Bates Gill, "Feb. 12: Overseas Citizen Protection: A Growing Challenge for China," Stockholm International Peace Research Institute website, 24 February 2012, accessed 14 August 2017, <http://www.sipri.org/media/newsletter/essay/february12>.

7. "Evacuation of Foreign Nationals from Albania," Athens News Agency: News in English, 97-03-15, website, 15 March 1997, accessed 14 August 2017, <http://www.hri.org/news/greek/apen/1997/97-03-15.apen.html>.

8. "Spokesman on Escalation of Ethiopia-Eritrea Conflict," Xinhua, 9 June 1998.

9. Ding Ying, "Close to the People."

10. Ibid.

11. Mu Zi, "Embassy Assists Citizens in Bishkek," *China Daily*, 28 March 2005.

12. Qin Jize, "Govt Vows to Protect Citizens Overseas."

13. Ibid.

14. Liu Chao, "China's Diplomacy Striding Ahead with New Steps," People's Daily Online, 5 March 2008, accessed 14 August 2017, en.people.cn/90001/90780/91342/6366983.html.

15. "PRC FM Spokesman Says China Concerned by Thai Unrest, Evacuates Citizens," Agence France-Presse, 2 December 2009.

16. As reported on Jiao Dian Fang Tan, *Focus*, China Central Television-1 (CCTV-1), 24 June 2010.

17. Gu Weijun, "China Should Study Ways to Use Troops Overseas," Huanqiu Shibao online, 29 June 2010, accessed 14 August 2017, http://www.360doc.com/content/10/0629/17/363711_35942674.shtml. The other four uses for troops overseas envisioned by Gu are to protect the "sovereignty and territorial integrity of the motherland in the Yellow Sea, East China Sea, and South China Sea; to conduct counterterrorism operations overseas; to serve as a deterrent; and simply as part of a bigger plan to eventually establish military bases overseas."

18. Minnie Chan, "PLA Navy Sends Warship to Safeguard Libya Evacuees," *South China Morning Post*, 26 February 2010, accessed 14 August 2017, <http://www.scmp.com/article/739196/pla-navy-sends-warship-safeguard-libya-evacuees>.

19. Ibid.

20. Ibid.

21. An Pushong et al., "Capability-Led, the Path to Tempering a Great Power Military—News Investigation of Guangzhou Theater Units' Close-to-Actual Combat Training," *Jiefangjun Bao*, 12 December 2013.

22. "The Diversified Employment of China's Armed Forces," white paper (Beijing: Information Office of the State Council, 16 April 2013), published online by Xinhua, http://www.nti.org/media/pdfs/China_Defense_White_Paper_2013.pdf.

23. Ibid.

24. Minnie Chan, "PLA Navy Sends Warship."

25. Xinhua, "Chinese Evacuees from Libya Arrive in Greece," China Daily website, 3 August 2014, accessed 15 August 2017, http://www.chinadaily.com.cn/china/2014-08/03/content_18237463.htm.

26. Xinhua, "Chinese Nationals to Evacuate from Warring Libya," China Daily website, 31 July 2014, accessed 15 August 2017, http://www.chinadaily.com.cn/china/2014-07/31/content_18223061.htm; Zhang Yunbi, "Hotline Helps Nationals Overseas," China Daily website, 3 September 2014, accessed 15 August 2017, http://www.chinadaily.com.cn/china/2014-09/03/content_18535426.htm.

27. Ibid.

28. Ibid.

29. "Yemen: International Energy Data and Analysis," Energy Information Administration website, 25 September 2014, accessed 15 August 2017, <http://www.eia.gov/beta/international/analysis.cfm?iso=YEM>.

30. Muhammad Zulfikar Rakhmat, "Why is China Interested in a Volatile Yemen?" *The Diplomat*, 4 June 2014, accessed 15 August 2017, <http://thediplomat.com/2014/06/why-is-china-interested-in-a-volatile-yemen/>.

31. Liu Xin and Guo Yuandan, "Over 500 Chinese Escape from Yemen," Global Times website, 31 March 2015, accessed 15 August 2017, <http://www.globaltimes.cn/content/914709.shtml>.

32. Xinhua, "Evacuation of Foreigners Based on Humanitarianism: FM Spokeswoman," China Daily website, 3 April 2015, accessed 15 August 2017, http://www.chinadaily.com.cn/china/2015-04/03/content_19996745.htm.

33. "Vietnam Riots: China Ships to Evacuate Workers," BBC News, 18 May 2014, accessed 15 August 2017, <http://www.bbc.com/news/world-asia-27458866>.

34. "China's Peacekeeping Contribution to UN Missions in Africa Shows Growing Sense of Responsibility," Xinhua website, 27 March 2015, accessed 15 August 2017, http://news.xinhuanet.com/english/2015-03/27/c_134104184.htm.

35. "Chinese Naval Fleet Carries out First Escort Mission off Somalia," People's Daily Online, 6 January 2009, accessed 15 August 2017, <http://en.people.cn/90001/90776/90883/6568232.html>.

36. Zhang Tao, ed., "PLA's First Overseas Base in Djibouti," China Military Online, 12 April 2016, accessed 15 August 2017, http://english.chinamil.com.cn/news-channels/pla-daily-commentary/2016-04/12/content_7002833.htm.

37. Kor Kian Beng, "Leaner, More Global Chinese Army Takes Shape," The Straits Times online, 5 December 2015, accessed 15 August 2017, <http://www.straitstimes.com/asia/leaner-more-global-chinese-army-takes-shape>.

38. Li Ruohan, "Speculation on Djibouti Military Base Meant to Hype up China Threat: Expert," Global Times online, 10 November 2015, accessed 15 August 2017, <http://www.globaltimes.cn/content/951745.shtml>.

39. Zhang Tao, ed., "PLA's First Overseas Base in Djibouti."

40. Ibid.

41. Andrew Erickson, "How Does China's First Aircraft Carrier Stack Up?" Center for Strategic & International Studies, December 2016, accessed 15 August 2017, <http://chinapower.csis.org/aircraft-carrier/>.

42. J. R. Wu, "China Building two Aircraft Carriers: Taiwan Defense Ministry Report," Reuters, 3 September 2015, accessed 15 August 2017, <http://www.reuters.com/article/us-taiwan-china-aircraft-carriers-idUSKCN0R30L520150903>.

43. "China Opens Age of Aircraft Carrier Diplomacy," China Military Online, 8 August 2014.

44. Zhang Yunbi, "China's Hotline Helps Nationals Overseas."

45. Andrew Tate, "China Establishes Overseas Operations Office," IHS Janes Defence Weekly, 29 March 2016.

46. Guo Yuandan, "PLA Sets Up Overseas Operations Office to Strengthen Overseas Rapid Reaction," China Military Online, 25 March 2016, accessed 15 August 2015, http://eng.chinamil.com.cn/news-channels/pla-daily-commentary/2016-03/25/content_6977517.htm.

47. "The Diversified Employment of China's Armed Forces."

48. Ministry of National Defense, the People's Republic of China, "China's Military Strategy," U.S. Naval Institute News, 26 May 2015, accessed 15 August 2017, <https://news.usni.org/2015/05/26/document-chinas-military-strategy>.



Soldiers drive sixty-eight ton M1A2 Abrams main battle tanks and twenty-seven ton M2A3 Bradley infantry fighting vehicles across a floating bridge over the Imjin River 8 April 2016 near Seoul, South Korea. The Imjin River is the seventh-largest river in Korea and flows from North Korea into South Korea across the Demilitarized Zone. Soldiers from the 2nd Battalion, 8th Cavalry Regiment, 1st Armored Brigade Combat Team, 1st Cavalry Division, crossed the bridge assembled by the Republic of Korea Army 6th Engineer Brigade as part of a four-day, combined arms river crossing exercise. (Photo by Sgt. Christopher Dennis, U.S. Army)

North Korea Policy Changed Regime

Col. James M. Minnich, U.S. Army

The denuclearization of North Korea has been a failed policy objective of the United States and South Korea for twenty-five years. Missteps, hubris, and sophistry clutter past approaches to forestall a nuclear-armed North Korea, but they need not portend today's policy path. Lost opportunities abound, but it is not too late to peacefully

eliminate Pyongyang's burgeoning nuclear arsenal. North Korea's denuclearization will be a byproduct of a successful engagement policy, not its singular objective. The North Korea solution that is needed is a policy of *changed regime*, not regime change. A changed-regime policy will transform North Korea from within by resolute engagements from without

and will require an all-weather security guarantee of the entire Korean peninsula, both North and South Korea. An effective changed-regime policy will embrace parallel pursuits that include security, relations normalization, cooperative prosperity, and alternative energy substitutions, while delimiting ardent ambitions to heal all ills at once.

Changed-Regime Policy

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Washington, Pyongyang, and Seoul are the only three relevant parties to a future agreement. Beijing, Tokyo, Moscow, and other aspirants will be beneficiaries, and may be benefactors, of a future agreement, but they will detract and dilute prospective processes with parochial positions. The objective of a changed-regime policy is the establishment of conditions that successfully encourage Seoul and Pyongyang to pursue an agreement that permits both to coexist peaceably. Pyongyang's pursuit of national security is not unique. Security is the leading priority of all countries, and every other interest ranks a distant second in importance. Dr. Joseph Nye evoked perhaps the quintessential analogy when he wrote, "Security is like oxygen—you tend not to notice it

until you begin to lose it, but once that occurs there is nothing else that you will think about."¹

Security. National security fears stoke enmity between Washington, Seoul, and Pyongyang, and spoil prospects for productive negotiations. To begin a sustainable, far-reaching negotiation process, Pyongyang must agree to a provisional suspension of its programs for nuclear weapons and long-range missiles; Washington and Seoul must concurrently agree to a provisional suspension or scope (size, duration, purpose) of their semiannual combined military exercises—Key Resolve and Foal Eagle in the spring, and Ulchi Freedom Guardian in the fall. These initial steps should persuade relevant parties to return to the negotiation table. North Korea has three times reliably frozen its nuclear activities and missile launches. With genuine security inducements, a commitment to do so again is probable. Pyongyang equates a proven nuclear weapons arsenal with its national security and regime survival. Therefore, it is fanciful to believe that North Korea could be compelled to eliminate and irrevocably abandon its strategic armaments, absent a consistently stable security environment where it amicably coexists with the United States and South Korea. This endeavor is not only possible, it has been Pyongyang's pursuit and the basis of all four denuclearization agreements that have been penned. Like Seoul before it, Pyongyang can be persuaded to abandon its nuclear weapons program, but not while it perceives an existential threat.

Relations normalization. Normalizing political and economic relations has been centric, as it has been elusive, to previous agreements with North Korea. North Korea has long been rebuffed in attempts to normalize relations with South Korea, Japan, and the United States. Normalization begins with an immediate exchange of capital liaison offices to implement agreement protocols and cascades with a thickening of relations by lifting sanctions, extending trade, reuniting families, repatriating remains, opening tourism, and exchanging culture, education, and sports. If, however, Pyongyang is continually curbed from relations with the broader community of nations, extraordinary will be the task to effect North Korea's positive transformation.

Cooperative prosperity. Developing cooperative prosperity with North Korea gives meaning to an establishment of economic relations. Furthermore, it accentuates principled commerce and prosperity by enlarging

trade opportunities beyond China while providing Pyongyang with substantive alternatives to its exports of weapons, counterfeit merchandise, illicit activities, and nuclear and missile technology and expertise. Seoul and Pyongyang could cooperatively reopen the Kaesong Industrial Complex, an inter-Korean economic zone that hosted 125 South Korean companies that employed fifty-three thousand North Korean workers. They could then expand the complex to its earlier envisioned size of

agreement failed from attempts to right all wrongs. Future agreements must delimit competing interests that prioritize policies addressing human right abuses, asymmetric military capabilities, conventional force structures, terrorism, illicit activities, abductions, etc. Most of these will self-correct over time through a policy of changed regime. Endeavoring to hold Pyongyang accountable for its former wrongdoings is a path that forfeits an opportunity to effectuate a changed future.



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1,500 companies and 350,000 North Korean employees.² North Korea's economic zones offer broader opportunities to expand international commerce, as does its abundant mining industry. As North Korea guarantees the security of visitors, Seoul and Washington could lift restrictions on its citizens visiting the popular Mount Kumgang resort area, with the probability of also opening other areas for tourism.

Alternative energy substitutions. Pyongyang's proven ability to manufacture fissile material from nuclear reactors and uranium enrichment facilities will drive an agreement that seeks to proscribe Pyongyang's peaceful use of nuclear energy. North Korea, however, is unlikely to permanently forswear nuclear energy, and attempts to mandate a permanent energy substitution will be strongly rebuked on the principle of sovereignty. Washington does not need Pyongyang's permanent disavowal, but it will require a resolute suspension of nuclear energy until trust is generated to a degree that allows Pyongyang to possess nuclear reactors and uranium enrichment and fuel fabrication facilities without concerns of diversion to a nuclear weapons program. Pyongyang will have to be weaned from nuclear energy with generous offers to repair its electrical grids and improve its production of coal and hydropower electricity. Partnering in alternative energy sources will offer significant collaborative opportunities with North Korea, opportunities that should be embraced.

Delimiting competing interests. North Korea is replete with ills, and every earlier denuclearization

Washington and Seoul will need to disassociate Pyongyang's satellite program from its long-range missile program and explicitly address Pyongyang's sovereign and legitimate pursuit of a satellite space program in a future agreement. No other country is sanctioned for launching satellites into orbit to include India, Iran, and Israel; Pyongyang will not accept that it is the global exception. Pyongyang has repeatedly agreed to forego launching its own satellites in favor of a proxy undertaking this task. This offer, or some other acceptable measure, should be seriously pursued.

Nuclear Weapons and Missiles

In September 2016, North Korea conducted its fifth successful underground nuclear weapons test. Today, Pyongyang has upward of thirty nuclear warheads, but its capacity to manufacture uranium-235 increases its warhead stocks at a rate of two per annum. This rate of growth increases, as does its robust ballistic missile arsenal. The North Korean People's Army (KPA) has approximately six hundred short-range ballistic missiles that are road-mobile and can range throughout South Korea. It has three liquid fuel variants: Hwasong (HS)-5/SCUD-B, HS-6/SCUD-C, and HS-7/SCUD-D and SCUD-ER; and one solid fuel variant: Toksa/KN-02. Its arsenal includes about two hundred medium-range ballistic missiles of two road-mobile variants that can target Japan: Nodong is liquid fueled, and Pukuksong-2/KN-15 is solid fueled. The KPA has two road-mobile

variants of approximately fifty intermediate-range ballistic missiles (IRBM) that can range Guam: Musudan is liquid fueled, and HS-12/KN-17 is solid fueled. It has road-mobile, liquid fueled intercontinental ballistic missiles (ICBMs) that can range Chicago (HS-14/KN-20 and HS-13/KN-08), but neither variant has been operationally deployed.

In 2016, the KPA successfully tested the Pukuksong-1/KN-11, a submarine-launched ballistic missile (SLBM) with an estimated range of two thousand kilometers; however, this system has yet to be operationalized. Eighteen months ago, the KPA's ballistic missile program had only proven its short-range ballistic missiles and Nodongs. It has since successfully tested SLBMs, IRBMs, and ICBMs. The KPA's SLBM test on 24 August 2016 and its medium-range ballistic missile/KN-15 tests on 12 February and 21 May 2017 successfully demonstrated the KPA's solid fuel engines and a burgeoning second-strike nuclear arsenal of sea-based and mobile land-based platforms. Successful launches of two Musudan IRBMs on 22 June 2016 for the first time placed Guam in reach, and the successful launches of ICBMs on 4 July and 28 July 2017 placed much of the U.S. mainland within striking range. These advancements in ballistic missile technology are by far more worrisome than North Korea's anticipated sixth test of a nuclear weapon.³

Risks Ahead

Disquietingly, much is at stake because of Pyongyang's pursuit of nuclear weapons. At the forefront of risks are nuclear strikes, preventive wars, conflict escalation, worsened relations, unabated humanitarian crisis, proliferation of nuclear weapons and technology, and a weakened Treaty on the Non-Proliferation of Nuclear Weapons (NPT).⁴ While North Korea is not seeking a first-strike capability, it is difficult to imagine that Pyongyang would refrain from employing nuclear weapons in the face of externally provoked instability that presents an existential threat to its national security or regime survival. Disturbingly, existential threats could be concluded by Pyongyang from ill-informed perceptions of pending attacks, which raises caution regarding hyperbolic wars of words.

Prevention and preemption are not synonymous. The rationale of a preventive war is grounded on a

premise of striking first in anticipation of an adversary initiating a future conflict. However, there is no legal or moral legitimacy in a preventive war. This is evidenced post-World War II by the U.S.-led effort that tried and condemned Nazi Germany and Imperial Japan for their preventive attacks upon their neighbors. American writer Philip K. Dick broached the principle of pre-crime in his 1956 story "The Minority Report," where law enforcement agents eliminated persons who would commit crimes in the future.⁵

The invasion of Iraq in March 2003 is a modern example of a preventive war. Advocates wrongly conflated United Nations Security Council Resolution (UNSCR) 1441, which warned Iraq of "serious consequences," with a United Nations (UN) Charter, chapter VII authorization to "use force."⁶ In a BBC World Services interview on 14 September 2004, then-UN Secretary General Kofi Annan decried the U.S.-led invasion of Iraq as illegal and in contravention of the UN Charter.⁷ Aspirants of prevention advocate that preventive strikes can curb an adversary from taking military action. The opposite is also true.

Preventive strikes can provoke an adversary's use of military force, and in the case of North Korea, there is no upside to inciting a North Korean attack upon the region. This type of conflict escalation is preventable and should be avoided. At the July 2017 Aspen Security Forum, U.S. Chairman of the Joint Chiefs of Staff Gen. Joseph Dunford remarked that a military option with North Korea would be horrific on a scale not seen since World War II.⁸ That gives reason for pause, considering the devastation of the 1950s Korean War with as many as four million casualties.⁹

Relations in the region are worsening under the weight of the North Korean nuclear crisis. U.S. relations with China steadily deteriorate from the prospect of war with North Korea, the forward deployment of the antiballistic missile defense system known as Terminal High Altitude Area Defense (THAAD), secondary sanctions against China, and pressure on China to curb Pyongyang's actions. This weight is similarly deleterious on relations between the United States and South Korea, and between South Korea and China. Trust was an early casualty of the failed agreements between Pyongyang, Seoul, and Washington. As inconsequential as that may seem, trust is essential in international dealings and will be central to a future agreement with Pyongyang.



So, care must be taken not to unnecessarily complicate future relations with Pyongyang.

Human suffering in North Korea extends beyond injustices, extrajudicial executions, and prison camps. Pernicious and pervasive are food insecurity for three-quarters of the population, malnutrition among one-third of children, and clean water scarcity in one-quarter of all homes. Infectious diseases like tuberculosis, malaria, and hepatitis B are endemic. The human condition in North Korea is a casualty of Pyongyang's excision within northeast Asia.

Absent meaningful trade options, Pyongyang may resort to expanding its export of military arms as it proliferates its mounting nuclear and ballistic missiles programs, stockpiles, and know-how. This is a serious and increasing risk, following the 5 August 2017 enactment of UNSCR 2371, which bans Pyongyang's legitimate exports of coal, iron/iron ore, lead/lead ore, and seafood; prohibits all new joint ventures or cooperative commercial entities; and proscribes countries

Siegfried Hecker, a Stanford University physicist, examines metal lathes that were used for machining uranium metal fuel rods in the fuel fabrication facility 13 February 2008 at the Yongbyon Nuclear Scientific Research Center in Yongbyon, North Korea. (Photo by W. Keith Luse)

from hiring North Korean laborers.¹⁰ Criminal proliferation of nuclear weapons and related technologies is not the only concern, as evinced by South Korea's national debate on developing its own nuclear weapons and broader international discussions that portend a nuclear-armed Japan and South Korea. For Tokyo and Seoul to legally pursue a nuclear weapons path, both would have to follow Pyongyang's lead by first withdrawing from the NPT; according to former U.S. Defense Secretary William Perry, the 1993 announcement to withdraw from the treaty by Kim Il-sung was so upsetting that the United States considered a preventive military strike against North Korea's Yongbyon nuclear research facilities.¹¹ Entered into force in 1970,

the NPT is an international treaty to prevent the proliferation of nuclear weapons and weapons technology as it promotes the cooperative and peaceful use of nuclear energy. Only five NPT signatories, the permanent members of the United Nations Security Council (UNSC), are permitted to possess nuclear weapons: the United States, Russia, the United Kingdom, France, and China. All other 191 NPT signatories are prohibited. Four non-NPT signatories also possess nuclear weapons: Israel, India, Pakistan, and North Korea. The NPT has flaws, but proliferation's path is deleterious to global security.

broadcast on 8 November 1991, established national policy by declaring South Korea a nuclear-weapons-free state and offered to validate its status through international inspection protocols. Roh then called upon North Korea to undertake corresponding measures. Seventeen days later, the North Korean foreign ministry affirmatively responded with a willingness to accept International Atomic Energy Agency (IAEA) Safeguard Agreements upon its 5-megawatt electrical (5 MWe), gas-cooled nuclear reactor, which had been operational since December 1985.

This agreement, however, was conditional on the concurrent removal of U.S. nuclear weapons from

“Today’s policy path toward the next negotiation to denuclearize North Korea is found by first understanding and then not repeating previous failures.”

Twenty-Five Years of Failed Denuclearization Policy Efforts

Policy approaches to denuclearize North Korea began in earnest in 1991, but success has proven elusive. Despite four separate denuclearization agreements by the fifteen heads of state who have led or now lead the United States, South Korea, and North Korea, Pyongyang has developed nuclear weapons that can now target the U.S. mainland. It is the threat of a nuclear strike upon the United States and its forward-deployed forces that drives that country to eliminate North Korea’s nuclear weapons capability. It is North Korea’s fear of a U.S. strike upon it that drives Pyongyang to possess a credible nuclear arsenal. Today’s policy path toward the next negotiation to denuclearize North Korea is found by first understanding and then not repeating previous failures.

Inter-Korean Joint Denuclearization Declaration, January 1992. With the disintegration of the Eastern Bloc and the Kremlin’s struggle to retain positive control of its nuclear weapons, President George H. W. Bush ended the foreign deployment of U.S. nuclear weapons by signing the Presidential Nuclear Initiatives on 27 September 1991.¹² With an aspirational aspect, this unilateral initiative successfully induced the Kremlin to do likewise. Seizing the international moment, South Korean President Roh Tae-woo, in a nationwide televised

the peninsula, and a U.S. security guarantee against targeting North Korea with nuclear weapons. On 11 December 1991, Seoul swept away a second of Pyongyang’s deep-seated security anxieties by announcing its willingness to suspend Team Spirit 1992 in exchange for the North’s assent to nuclear inspections at Yongbyon. Team Spirit, initiated sixteen years earlier, was an annual theater-level military exercise that flowed tens of thousands of U.S. forces to Korea for a ten-day, force-on-force major military exercise of two hundred thousand combatants. On 13 December 1991, inter-Korean prime-minister-level talks, which had convened several times since September 1990, achieved the first ever South-North agreement.

The Agreement on Reconciliation, Non-aggression and Exchanges and Cooperation between the South and the North, also known as the Basic Agreement, was an equal agreement that pursued reconciliation, nonaggression, exchanges, and cooperation.¹³ Its companion agreement, the Joint Declaration on the Denuclearization of the Korean Peninsula (JDD), was accepted by both prime ministers on the last day of December 1991 and then signed on 20 January 1992.¹⁴ Unlike other aspirational agreements, the JDD was a comprehensive declaration that prescribed nuclear energy solely for peaceful purposes, and proscribed all forms of nuclear weapons and nuclear weapons programs, stating that the parties

shall neither test, manufacture, produce, receive, possess, store, deploy, or use nuclear weapons, nor possess nuclear reprocessing and uranium enrichment facilities. On 30 January 1992, Pyongyang signed the IAEA Safeguard Agreement; three months later, it submitted a detailed inventory of its nuclear facilities to the IAEA and then immediately received the agency's director on a site visit followed by ad hoc inspections.

As an implementing mechanism to negotiate and employ a reciprocal inspection regime, the two Koreas agreed in late February to form the Joint Nuclear Control Commission (JNCC). The first meeting of the JNCC was held four weeks later, and it eventually convened thirteen times in ten months before mutual suspicions stymied progress. On 25 January 1993, frustrated at the perpetual grind and slog of the JNCC, South Korea announced before the 13th JNCC its planned resumption of Team Spirit 1993 on 9 March. Pyongyang immediately reeled. The day before Team Spirit commenced, Kim Jong-il, then-supreme commander of the KPA (and future president), ordered the nation to a state of semi-war readiness, the first instance since 1983. As pressure mounted, Pyongyang invoked Article X of the NPT and submitted a qualified ninety-day notice of treaty withdrawal on 12 March 1993.

The ensuing three months were tense. By mid-May, the United States and North Korea had convened mid-level talks, which were upgraded to high-level talks in early June. Finally, on 11 June 1993, only one day before the effectuation of North Korea's NPT withdrawal, Washington and Pyongyang signed their first ever Joint Statement, wherein the two parties offered the other security assurances against the threat and use of force, and agreed to advance peace and security on a nuclear-free Korean peninsula, respect each other's sovereignty, non-interfere in each other's internal affairs, and support peaceful reunification of Korea.¹⁵ Concurrent with the signing of this Joint Statement, Pyongyang suspended its NPT withdrawal, just one day before effectuating treaty abdication.

Eight months later, IAEA inspectors regained access to the Yongbyon nuclear facilities for its first inspections since early 1993. The IAEA was soon at loggerheads with North Korean officials for denying a request to analyze spent fuel rods. Relations further digressed as the IAEA refused to observe refueling operations

without authorization to analyze fuel samples, and then Yongbyon technicians refueled the 5 MWe reactor without IAEA oversight. On 10 June 1994, the IAEA suspended its oversight mission at Yongbyon, the UNSC pressed for sanctions against North Korea, and the United States planned a missile strike against North Korea's Yongbyon nuclear reactor and related facilities.

In final action to avert conflict, President Bill Clinton dispatched former President Jimmy Carter to Pyongyang on 16 June to meet with President Kim Il-sung in what quickly became a successful attempt to gain Pyongyang's consent to freeze its nuclear program and resume high-level dialogue with the United States. Had either side delayed the meeting, the de-escalation of this crisis may have ended quite differently, as the eighty-two-year-old Kim died only days later on 8 July. As expected, his son, Kim Jong-il ascended to power and assented to the previously arranged denuclearization negotiations with Washington. Over the intervening months, senior-level negotiators from the United States and North Korea met in Geneva to hammer out the Geneva Agreed Framework, or more commonly referred, the Agreed Framework, which was signed on 21 October 1994.¹⁶

U.S.-North Korea Agreed Framework, October 1994 to October 2002. The Agreed Framework was straightforward with only four articles. First, Pyongyang would freeze and later dismantle its 5 MWe, gas-cooled nuclear reactor and its plutonium reprocessing facility in exchange for two one-gigawatt light water reactors (LWR) by 2003, and an interim provision of five hundred thousand tons of heavy fuel oil (HFO) annually until completion of the LWRs. Second, Washington and Pyongyang would normalize political and economic relations. Third, both parties would work together for peace and security on the Korean peninsula. And, fourth, they would strengthen the NPT. Implementation began well, as Pyongyang froze its reactor and reprocessing facility, which was verified by an on-site IAEA inspection team within the first five weeks of the agreement, but challenges and suspicions quickly followed. U.S. deliveries of HFO to North Korea were irregular, unpredictable, and late; the multinational consortium Korean Peninsula Energy Development Organization took years to contract the LWR construction; and the U.S. legislature excoriated the agreement. As these and other detractors persisted, pundits and politicians routinely portended Pyongyang's

imminent implosion as they recommended slow-rolling the deal in the prospect of not having to make good on the agreement. Consequently, capital city liaison offices were not exchanged, relations were not normalized, and trade and investment never materialized.

In April 1996, Washington engaged Pyongyang in dialogue to end its sales of ballistic missile systems, components, and technology, a security concern that was outside the scope of the Agreed Framework. Pyongyang sought economic remuneration for compliance, but Washington balked and instead offered to ease economic sanctions, a condition that already applied to the Agreed Framework, but which had been withheld. Washington quickly acted, sanctioning Pyongyang in May 1996 for missile-technology-related transfers to Iran, in August 1997 for unspecified missile proliferation activities, and in April 1998 for the transfer of missile technology to Pakistan. In June 1998, Pyongyang again offered to end its missile sales if financially compensated; Washington responded by labeling North Korea a rogue state.¹⁷

Four years on with little to show but halting HFO deliveries and cajoling to end its ballistic missile sales, North Korea conducted its first launch of a three-stage Paektusan-1 (Taepodong-1) rocket in a failed attempt to place the Kwangmyongsong (KMS or Brightstar)-1 satellite into orbit, on 31 August 1998.¹⁸ This launch raised tensions in the region out of concerns of ICBM advancements and growing vulnerabilities to a North Korean nuclear strike. On 12 September 1999, North Korea responded to the U.S. request by self-imposing a moratorium on long-range missile tests for the duration of talks with the United States, and Washington agreed to a partial lifting of economic sanctions.

Three days later, Washington advanced a “new, comprehensive and integrated approach” to its North Korea policy.¹⁹ This comprehensive approach unilaterally attached several new conditions upon North Korea, including verifiable elimination of Pyongyang’s nuclear weapons program before normalization of political and economic relations, cessation of the North’s missile sales program, and termination of its medium-range and long-range missile production programs. Pyongyang detected Washington’s alteration of the Agreed Framework. Finally, on 15 December 1999, five years after signing the Agreed Framework, a construction firm was contracted to build the LWRs (it was August 2002 before site

preparations were completed and concrete poured, and then two months later the Agreed Framework was dead).

Suddenly, in the last months of Clinton’s presidency, U.S.-North Korean relations dramatically shifted, owing to an unanticipated inter-Korean summit in Pyongyang in mid-June 2000. In late June, the United States eased sanctions on North Korea; in early July the United States offered to move toward economic normalization; in mid-July North Korea offered to end its missile development program in exchange for an agreement that would launch its satellites; in mid-July Secretary of State Madeleine Albright met with Foreign Minister Paek Nam-sun; in mid-October Kim Jong-il’s special envoy, Vice Marshal Jo Myong-rok, met with Clinton in the White House; and then, in late October, Albright met with Kim Jong-il in Pyongyang to assess the possibility of a U.S.-North Korean summit before Clinton left office in January. Within two weeks of Albright’s return from Pyongyang, rapprochement faced its end in the wake of the 7 November U.S. presidential election. President George W. Bush assumed office certain that the United States had negotiated a bad nuclear deal with a rogue regime that was cheating on the agreement.

On 7 March 2001, following a summit with South Korean President Kim Dae-jung, Bush voiced harsh criticism of North Korean leader Kim Jong-il, expressed distrust in the North as a partner in denuclearization, and presaged the end of the Agreed Framework. Immediately, the Bush administration undertook a North Korea policy review that unilaterally altered the Agreed Framework to include “improved implementation [measures]; verifiable constraints on North Korea’s missile programs and a ban on its missile exports; and a less threatening conventional military posture.”²⁰ Pyongyang was again subject to Washington’s alteration of the agreement. In 2002, Washington sounded the death knell of the Agreed Framework, bookmarked in January by the U.S. president’s categorization of North Korea, Iran, and Iraq as “an axis of evil, arming to threaten the peace of the world,” and in October by an embellished U.S. accusation that allegedly induced a North Korean admission of its undisclosed highly-enriched uranium program.²¹ The effects of this accusation/admission ended Clinton’s Agreed Framework, including shuttering the Korean Peninsula Energy Development Organization’s shipment of HFO



in November 2002 and its construction of LWRs in December 2003, and squashing the effects of two historic summits—one between North Korea and South Korea in June 2000 and the other between North Korea and Japan in September 2002.

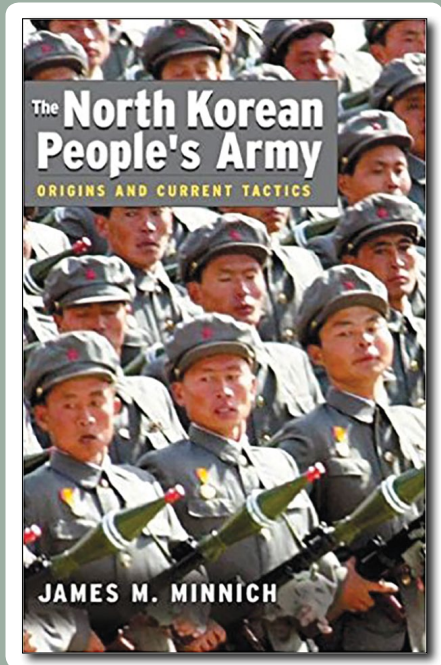
North Korea reeled. In December 2002, Pyongyang (a) alerted the IAEA of its intent to restart its nuclear reactor and reopen its facilities frozen by the Agreed Framework, (b) removed all IAEA seals and observation devices from its nuclear facilities and materials, and (c) ejected the IAEA inspection team from its nuclear facilities in Yongbyon. Then, on 10 January 2003, Pyongyang lifted its NPT withdrawal suspension, becoming the only nation to withdraw from this treaty. In the wake of the U.S. invasion of Iraq on 20 March 2003, North Korea announced its intent to harvest weapons-grade plutonium from eight thousand spent fuel rods that had been in storage and under IAEA observation since 1994. In an April 2003 meeting between U.S. and North Korean diplomats at the UN, the Americans were reportedly told that North Korea had decided to manufacture nuclear weapons by reprocessing the spent fuel rods as a deterrent

U.S. Army Col. James M. Minnich (second from right), secretary of United Nations Command Military Armistice Commission, speaks to North Korean People's Army Senior Col. Pak Ki-yong (left) during Secretary Talks of the Military Armistice Commission 11 September 2013 at the Korean Demilitarized Zone. (Photo courtesy of author)

against the United States executing an Iraq-like invasion of North Korea.²²

Framed by a doctrine of preemptive strike and democratic regime change in the 2002 *National Security Strategy* and victorious from its preventive war with Iraq in early 2003, U.S. representative James Kelly announced Washington's policy position in a trilateral meeting with China and North Korea on 23 April 2003: Pyongyang must accede to a "complete, verifiable, irreversible, dismantlement" (CVID) of all nuclear activities—peaceful use and weapons. Pyongyang agreed, but on condition that the U.S. would provide the North with a security guarantee, normalization of relations, and economic aid. The U.S. position was clear: a nuclear CVID before any discussion of U.S. concessions.²³ Just three days preceding this meeting, the *New York Times* broke a story

WE RECOMMEND



The North Korean People's Army Origins and Current Tactics

James M. Minnich

Though first published in 2005, this book remains an extremely useful, extensively researched, and very detailed primer on the North Korean army. The actual text—minus the introduction, forward, and appendices—is around one hundred pages and is a quick read. However, for an individual attempting to quickly familiarize him- or herself with the origin, military ideology, strategy, combat formations, and tactics of the North Korean military, the appendices, bibliography, and glossary of key terms are as valuable as the text itself.

The author, Col. James Minnich, is an expert on North Korea. He has more than two decades of experience in the area, having served as a U.S. Army Foreign Area Officer in U.S. Forces Korea (USFK). In addition to an MA in East Asian studies from Harvard University and a Masters in Military Arts and Science from the U.S. Army Command and General Staff College, he is also an alumnus of the Republic of Korea Army College and Sogang University's Center for Korean Studies.

If you are a student of Korean history, or a serving member of the military preparing to deploy to Korea, this book is a "must read, must keep close at hand."

on a leaked memo that was purportedly approved by Defense Secretary Donald Rumsfeld and circulated to key members of the administration urging the United States to work with China to topple North Korean leader Kim Jong-il.²⁴ Three weeks later, the newly elected South Korean President Roh Moo-hyun met in summit with President Bush and stressed his objections to military conflict with North Korea, as he accentuated in his newly crafted *Peace and Prosperity Policy*, Roh's version of his predecessor's *Sunshine Policy*.²⁵

Six Party Talks, August 2003 to December 2008.

The United States refused Pyongyang's repeated requests for bilateral dialogue, but agreed to meet in Six Party Talks with China, Japan, Russia, South Korea, and North Korea. These talks began in late August 2003 and convened over a five-year period in seven protracted rounds. No progress was made throughout the first two years of talks, as Pyongyang sought from Washington normalization of relations and a nonaggression pact, and Washington demanded denuclearization without conditions. In early 2005, Condoleezza Rice, in her confirmation hearing, labeled North Korea an "outpost of tyranny" that must be dealt with, as the South Korean government made public its opposition to a U.S. contingency plan for its forces to advance into North Korea in the event of internal instability.²⁶ On 10 February 2005, Pyongyang's state news agency, the Korean Central News Agency, carried a North Korean foreign minister statement that announced Pyongyang's possession of nuclear weapons for self-defense.

Progress in the Six Party Talks remained elusive for the first two years of these multilateral negotiations, but during the fourth round of talks, the United States reversed its prohibition from directly negotiating with Pyongyang and relented from its demand that North Korea renounce peaceful-use nuclear technology. The Joint Statement of 19 September 2005 was not significantly different from the 1994 Agreed Framework. North Korea agreed to eliminate its nuclear weapons program, recommit to the NPT, and submit to IAEA inspections. In exchange, Washington (and other parties) agreed to normalize diplomatic and economic relations with Pyongyang, promote economic cooperation, provide energy assistance (to include LWR), and negotiate a permanent peace regime in Korea.²⁷

Exiting the negotiation room, Christopher Hill addressed the press with a statement of qualification

on the U.S. position regarding the Joint Statement, declaring that North Korea also needed to resolve its “human rights [abuses], biological and chemical weapons programs, ballistic missile programs and proliferation, terrorism, and illicit activities.”²⁸ He further stated that the United States would take concrete actions to protect itself from any of North Korea’s illicit and proliferation activities. This statement directly referred to a U.S. Treasury Department action that had just been undertaken to designate Banco Delta Asia, a small bank in Macau, as a money-laundering concern for conducting financial services with North Korea.²⁹ The U.S. action to freeze \$25 million of North Korean funds stalled the Six Party Talks until Washington released the funds twenty-one months later. During this interregnum, Pyongyang ended the missile test moratorium with its first (failed) launch of an ICBM on 5 July 2006, and its first nuclear weapons test on 9 October 2006.

Washington’s hardline approach toward Pyongyang not only ended the Agreed Framework, it precipitated Pyongyang’s eviction of IAEA inspectors, abrogation of the NPT, reoperation of its nuclear reactor, weaponization of spent fuel, termination of an eight-year self-imposed missile moratorium, launch of an ICBM, and test of a nuclear weapon. Incensed by North Korea’s first nuclear test, the UNSC unanimously passed Resolution 1718 on 14 October 2006 as the United States sought greater resolve from Seoul and Tokyo.³⁰ Washington progressively realized that a solution to end North Korea’s nuclear pursuit would eventually require honest negotiations with Pyongyang.

On 13 February 2007, the six nations agreed to phase one of a plan to implement the September 2005 Joint Statement.³¹ Per the implementation plan, Pyongyang would disable the Yongbyon nuclear facilities and receive IAEA inspectors. In exchange, the United States would release the \$25 million, engage in talks to normalize relations, excise North Korea from its list of State Sponsors of Terrorism (SST), remove sanctions imposed under the Trading with the Enemy Act (TWEA), and work to provide HFO. While it took Washington four more months to release the funds, it took Pyongyang only one day from receipt of the funds on 25 June 2007 to welcome a small team of IAEA inspectors back to Pyongyang. Those inspectors witnessed and verified the shutdown of the Yongbyon nuclear reactor on 18 July 2007.³²

Less than three months later, the six parties signed phase two of a plan to implement the September 2005 Joint Statement, which committed Pyongyang to submit a written declaration of its nuclear weapons program; it did so on 26 June 2008.³³ In exchange, Washington agreed to relax economic sanctions under TWEA, remove Pyongyang from its SST list, and (with the other parties) provide one million tons of HFO. While Washington did immediately relax TWEA sanctions, it withheld delisting North Korea as a SST until completion of accelerated verifications.³⁴ North Korea balked at this unilateral condition and threatened to restart its nuclear reactor, and it barred IAEA inspectors from its nuclear facilities on 9 October 2008.³⁵ Two days later, Washington delisted Pyongyang as a SST, and then the same day Pyongyang readmitted IAEA inspectors to Yongbyon.

The seventh round of Six Party Talks was held 8–11 December 2008. Between the sixth and seventh rounds of talks, South Korea, Japan, and the United States each elected new heads of state. Japanese Prime Minister Aso Taro and South Korean President Lee Myong-bak were hardliners who had assumed office earlier in 2008, and U.S. President Barack Obama was within six weeks of inauguration. In the seventh round, under a threat to discontinue energy aid to North Korea, the United States, South Korea, and Japan pressed Pyongyang to accept a written verification protocol that would allow inspectors to take and test nuclear material from Yongbyon. Pyongyang refused to yield, prompting Washington, Seoul, and Tokyo to immediately end all HFO deliveries. Pyongyang recoiled. Three months into Obama’s presidency, North Korea launched a three-stage Unha-2/Taepodong-2 rocket in a failed attempt to place in orbit the KMS-2 telecommunication satellite.

On 13 April 2009, the UNSC issued a presidential statement of condemnation against the launch, which provoked Pyongyang’s withdrawal from the Six Party Talks on 14 April in a statement that charged the UN for infringing on its sovereignty in contravention to the Outer Space Treaty of 1967.³⁶ With the end of meaningful dialogue, Pyongyang evicted IAEA inspectors, harvested weapons-grade plutonium from all eight thousand spent fuel rods, began construction of a 25-30 MWe LWR, developed its uranium-enrichment program, and conducted a second nuclear test on 26 May 2009. In response, Seoul immediately joined the



A North Korean Unha-3 rocket ready to launch 8 April 2012 at Tangachai-ri Space Center, North Korea. (Photo courtesy of Wikimedia Commons)

of Musudan road-mobile IRBMs in October 2010, and a two-thousand-centrifuge uranium-enrichment facility in November 2010. As inter-Korean relations worsened and Pyongyang refused to even meet with South Korea's President Lee Myong-bak, the Obama administration reached out to Pyongyang in July 2011 with an offer of humanitarian nutritional subsistence. As the two sides prepared for a third round of talks on this issue, North Korean leader Kim Jong-il died from heart failure on 17 December 2011 and was succeeded in office by his third son, Kim Jong-un, on 31 December.

On 29 February 2012, the United States and North Korea met and reached an agreement that included Pyongyang's pledge to again accept IAEA inspectors, and to implement a moratorium on long-range missile launches, nuclear tests, and nuclear activities at

U.S.-led Proliferation Security Initiative, and the international community passed UNSCR 1874 on 12 June 2009.³⁷ Coercion again failed, the chasm of mistrust widened, and Pyongyang advanced its nuclear weapons and ballistic missile capabilities.

U.S.-North Korea Bilateral Talks (Leap Day Deal), February 2012. During a thirty-one-month hiatus from talks, North Korea continued developing its nuclear weapons program, with a public display

Yongbyon to include uranium-enrichment activities. In exchange, Washington reaffirmed its commitment to the 19 September 2005 Joint Statement, its absence of hostile intent toward North Korea, and agreed to provide Pyongyang with 240,000 tons of nutritional assistance. The Leap Day Deal (as it has been coined) was tragically silent on satellite launches, an issue that Pyongyang views as inherently sovereign and consistent with its 2009 accession to the Outer Space Treaty of 1967.

Consequently, the deal died after Pyongyang's third attempt to place a weather satellite into orbit on 13 April 2012 with its launch of an Unha-3 rocket. Pyongyang persisted and finally succeeded in placing a functioning satellite into orbit with the launch of an Unha-3 rocket on 12 December 2012. Six weeks later, the UNSC strengthened international sanctions with the passage of Resolution 2087 on 22 January 2013.³⁸ In the face of toughening sanctions, North Korea conducted its third underground nuclear test on 12 February 2013, just two weeks before South Korea's first female president, Park Geun-hye, assumed office from Lee Myong-bak. During Presidents Obama's and Park's remaining years in office, both pursued policies of pressure without negotiation against North Korea.

In his 2015 New Year's address, Kim Jong-un sought talks with South Korea. On 10 January, Kim further proposed a return to six-party talks by offering a temporary moratorium on nuclear weapons testing in exchange for a temporary suspension of U.S.-South Korea combined military exercises.³⁹ Pyongyang then reached further by offering to suspend launches of its missiles and satellites, and production of its fissile material; in exchange, it sought only a temporary reduction in the scale of combined military exercises. Pyongyang pressed more with a request to focus first on establishing a peace regime to improve security on the peninsula, which in its estimate would negate a need for nuclear weapons and missiles.⁴⁰ U.S. State Department spokesman John Kirby responded that "denuclearization had to be part of any such discussion."⁴¹

The UNSC tightened sanctions with Resolution 2094 in response to Pyongyang's third nuclear test; Resolution 2270 in response to its fourth nuclear test on 6 January 2016; UNSC Presidential Statement in response to its second successful satellite launch on 7 February 2016; and Resolution 2321 in response to its fifth nuclear test on 9 September 2016.⁴² Seoul walked away from all inter-Korean contact after the fourth nuclear test and second successful satellite launch with the closure of the Kaesong Industrial Complex. Washington enacted the North Korea Sanctions and Policy Enhancement Act of 2016, mandating sanctions against entities contributing to North Korea's weapons programs, arms trade, human rights abuses, and illegal activities.⁴³ Absent a constructive dialogue mechanism or reciprocal agreement, Pyongyang

advanced its strategic weapons program with successful testing of Pukuksong-1/KN-11 SLBMs on 23 April and 24 August 2016; Musudan IRBMs on 22 June; Pukuksong-2/KN-15 IRBMs on 12 February, 5 April, and 12 May 2017; HS-12 IRBM on 14 May; and HS-14 ICBMs on 4 July and 28 July 2017. The second ICBM launch had an estimated range of 10,400 km, which could target Chicago.

In early 2017, the United States and South Korea both inaugurated new presidents. U.S. President Donald Trump entered office on 20 January, declaring that all options were on the table concerning North Korea, and President Moon Jae-in entered office on 10 May with a mandate to peacefully resolve the North Korea crisis through inter-Korean engagements.

Going Forward

Shakespeare's locution of "what is past is prologue" articulates the difficult position of Washington and Seoul to now advance the denuclearization of North Korea after twenty-five years of mutual disingenuousness, which has created a milieu wherein Pyongyang possesses nuclear weapons and ICBM capabilities.⁴⁴ What is certain is that Pyongyang will not voluntarily disarm with doubts of national security and regime survival. Consequently, North Korea cannot be induced to denuclearize by offers of aid, trade, and engagement.

Pyongyang views denuclearization as capitulation, not normalization. Pyongyang does, however, long to be accepted as a normal state that enjoys good relations and trade with its neighbors. Such a prospect has been shunned over the years in favor of policies of coercion, of which there are many. Strategic patience is a policy of pressure without negotiations. The imposition of sanctions is a policy of public privation that actually buttresses the despot. Regime change topples a dictator in a hope that someone better will emerge. Preemption and prevention policies suffer from dubious legality with elusive effects. Containment is a policy that acquiesces on acquired ability, prohibits proliferation, and seeks stasis. Outsourced diplomacy is another policy option, but this suggests a paucity of policy and a shifting of responsibility to a proxy with differing motives. There is another policy option.

A policy of changed regime advances the shared aspiration of peace on the Korean peninsula. Such a policy will transform North Korea through

consistent engagement, which may take decades to realize. At only thirty-three, Kim Jong-un's young age advantages stability in pursuing a changed-regime policy. Moreover, Kim has offered the hand of negotiation several times. South Korean President Moon Jae-in will govern until 2022, and he is receptive to broad engagements with North Korea to peaceably end enmity on the peninsula. Washington can view this crisis through the mistakes of earlier agreements and interlocutors, and choose a policy path that leads Pyongyang along a course that obviates the need for nuclear weapons as a guarantor of security and survival.

Albright's October 2000 visit with Kim Jong-il elucidated possibilities when Kim stated that Pyongyang would refocus resources from the military to "economic development, with the right security assurances," and that he had come to view U.S. forces in Korea as stabilizing to the region.⁴⁵ In August 2009, former President Clinton visited Pyongyang, where Kim Jong-il opined of a time where the United States might find in North Korea a "new friend in Northeast Asia in a complex world."⁴⁶ That time is now, as the intensity of today's crisis pulls policy makers to define a policy that will achieve the denuclearization of North Korea. That solution is a policy of changed regime. ■

Notes

1. Joseph S. Nye Jr., "East Asian Security: The Case for Deep Engagement," *Foreign Affairs* (July/August 1995), accessed 27 August 2017, <https://www.foreignaffairs.com/articles/asia/1995-07-01/east-asian-security-case-deep-engagement>.

2. Mark E. Manyin and Dick K. Nanto, "The Kaesong North-South Korean Industrial Complex," Congressional Research Service website, 18 April 2011, accessed 25 August 2017, <https://fas.org/sgp/crs/row/RL34093.pdf>.

3. Missile Defense Advocacy Alliance, "North Korea," accessed 25 August 2017, <http://missiledefenseadvocacy.org/missile-threat-and-proliferation/todays-missile-threat/north-korea/>.

4. United Nations Office for Disarmament Affairs, "Treaty on the Non-Proliferation of Nuclear Weapons (NPT)," United Nations (UN) website, accessed 21 August 2017, <https://www.un.org/disarmament/wmd/nuclear/npt/>.

5. Philip K. Dick, "The Minority Report," *Fantastic Universe* 6, no. 1 (January 1956).

6. UN Security Council (UNSC), "Security Council Holds Iraq in 'Material Breach' of Disarmament Obligations, Offers Final Chance to Comply, Unanimously Adopting Resolution 1441 (2002)," press release, 8 November 2002, accessed 21 August 2017, <https://www.un.org/press/en/2002/SC7564.doc.htm>; "Chapter IV: Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression," *United Nations Charter*, UN website, accessed 21 August 2017, <https://www.un.org/en/sections/un-charter/chapter-vii/>.

7. "Iraq War Illegal, Says Annan," BBC News, last modified 16 September 2004, accessed 22 August 2017, <http://news.bbc.co.uk/1/hi/3661134.stm>.

8. Jim Garamone, "U.S. Doesn't Have Luxury of Choosing Challenges, Dunford Tells Aspen Crowd," Department of Defense News, 23 July 2017, accessed 21 August 2017, <http://www.jcs.mil/Media/News/News-Display/Article/1255656/us-doesnt-have-luxury-of-choosing-challenges-dunford-tells-aspen-crowd/>.

9. Richard W. Stewart, ed., "The Korean War, 1950-1953," chap. 8 in *American Military History Volume II: The United States Army in a Global Era, 1917-2003* (Washington, DC: Center for Military History, 2005), 246.

10. UNSC, "Resolution 2371," UN website, 5 August 2017, accessed 22 August 2017, http://www.un.org/ga/search/view_doc.asp?symbol=S/RES/2371%282017%29.

11. Jamie McIntyre, "Washington Was on Brink of War with North Korea 5 Years Ago: Pentagon had Predicted up to 1 Million Deaths," CNN website, 4 October 1999, accessed 25 August 2017, <http://www.cnn.com/US/9910/04/korea.brink/>.

12. Susan J. Koch, *The Presidential Nuclear Initiatives of 1991-1992*, Center for the Study of Weapons of Mass Destruction Case Study 5 (Washington, DC: National Defense University Press, September 2012), 11, accessed 22 August 2017, http://ndupress.ndu.edu/Portals/68/Documents/casestudies/CSWMD_CaseStudy-5.pdf.

13. U.S. Department of State, "Agreement on Reconciliation, Non-aggression and Exchanges and Cooperation between the South and the North," Nautilus Institute for Security and Sustainability website, 13 December 1991, accessed 21 August 2017, <http://nautilus.org/wp-content/uploads/2011/12/CanKor-VTK-1991-12-13-agreement-on-reconciliation-non-aggression-exchanges.pdf>.

14. "Joint Declaration on the Denuclearization of the Korean Peninsula," UN website, 20 January 1992, accessed 22 August 2017, <http://peacemaker.un.org/korea-denuclearization92>.

15. Embassy of Korea in the United States, "Joint Statement of the Democratic People's Republic of Korea [DPRK] and the United States of America," Nautilus Institute for Security and Sustainability website, 11 June 1993, accessed 21 August 2017, http://nautilus.org/wp-content/uploads/2011/12/CanKor_VTK_1993_06_11_joint_statement_dprk_usa.pdf.

16. "US-DPRK Agreed Framework/Six-Party Talks," Nuclear Threat Initiative (NTI) website, 21 October 1994, accessed 21 August 2017, <http://www.nti.org/media/pdfs/aptagframe.pdf>.

17. Kelsey Davenport, "Chronology of U.S.-North Korean Nuclear and Missile Diplomacy," Arms Control Association website, updated August 2017, accessed 22 August 2017, <https://www.armscontrol.org/factsheets/dprkchron>.

18. "North Korea Missile Chronology," NTI website, updated January 2012, accessed 22 August 2017, http://www.nti.org/media/pdfs/north_korea_missile_2.pdf?_id=1327534760.

19. Robert Carlin and John W. Lewis, Appendix B: Texts of Major Documents, "Document 5: Review of United States Policy Toward

North Korea: Findings and Recommendations; Unclassified Report by Dr. William J. Perry," in *Negotiating with North Korea: 1992–2007* (Stanford, CA: Center for International Security and Cooperation, January 2008), 37, accessed 22 August 2017, http://cisac.fsi.stanford.edu/sites/default/files/Negotiating_with_North_Korea_1992-2007.pdf.

20. George W. Bush, "Statement on Completion of the North Korea Policy Review," The American Presidency Project website, 6 June 2001, accessed 22 August 2017, <http://www.presidency.ucsb.edu/ws/?pid=45819>.

21. George W. Bush, "President Delivers State of the Union Address," The White House website, 29 January 2002, accessed 22 August 2017, <https://georgewbush-whitehouse.archives.gov/news/releases/2002/01/20020129-11.html>; Selig S. Harrison, "Did North Korea Cheat?," *Foreign Affairs* (January/February 2005), accessed 22 August 2017, <https://www.foreignaffairs.com/articles/asia/2005-01-01/did-north-korea-cheat>.

22. Mike Chinoy, *Meltdown: The Inside Story of the North Korean Nuclear Crisis* (New York: St. Martin's Press, 2008), 166.

23. The White House, *The National Security Strategy of the United States of America* (Washington, DC: The White House, September 2002), accessed 22 August 2017, <https://www.state.gov/documents/organization/63562.pdf>; Yoichi Funabashi, *The Peninsula Question: A Chronicle of the Second Korean Nuclear Crisis* (Washington, DC: Brookings Institute Press, 2007), 152.

24. David E. Salinger, "Administration Divided over North Korea," *New York Times* online, 21 April 2003, accessed 22 August 2017, <http://www.nytimes.com/2003/04/21/international/asia/administration-divided-over-north-korea.html>.

25. George W. Bush and Roh Moo-hyun, "Joint Statement between the United States and the Republic of Korea," The White House website, 14 May 2003, accessed 22 August 2017, <https://georgewbush-whitehouse.archives.gov/news/releases/2003/05/20030514-17.html>.

26. "Rice Targets 6 'Outposts of Tyranny,'" *Washington Times* online, 19 January 2005, accessed 22 August 2017, <http://www.washingtontimes.com/news/2005/jan/19/20050119-120236-9054r/>.

27. "Joint Statement of the Fourth Round of the Six-Party Talks," U.S. Department of State website, 19 September 2005, accessed 22 August 2017, <https://www.state.gov/p/eap/regional/c15455.htm>.

28. Mike Chinoy, "Six Party Talks: The Least Bad Alternative," 38 North website, 10 February 2011, accessed 22 August 2017, <http://www.38north.org/2011/02/six-party-talks/>.

29. "Treasury Designates Banco Delta Asia as Primary Money Laundering Concern under USA PATRIOT Act," U.S. Department of Treasury website, 15 September 2005, accessed 22 August 2017, <https://www.treasury.gov/press-center/press-releases/Pages/js2720.aspx>.

30. UNSC, "Resolution 1718 (2006)," UN website, 14 October 2006, accessed 22 August 2017, [http://www.un.org/ga/search/view_doc.asp?symbol=S/RES/1718\(2006\)](http://www.un.org/ga/search/view_doc.asp?symbol=S/RES/1718(2006)).

31. "Fact Sheet: Initial Actions to Implement Six-Party Joint Statement," U.S. Department of State website, 13 February 2007, accessed 22 August 2017, <https://2001-2009.state.gov/r/pa/prs/ps/2007/february/80508.htm>.

32. "Foreign Ministry Spokesman on Solution to Issue of Frozen Funds," Korean Central News Agency (KCNA) website, 25 June 2007, accessed 7 August 2017, www.kcna.co.jp/item/2007/200706/news06/26.htm; "IAEA and DPRK: Chronology of Key Events," International Atomic Energy Agency (IAEA) website, accessed on 22 August 2017, <https://www.iaea.org/newscenter/focus/dprk/chronology-of-key-events>.

33. "Media Note: Six-Party Talks—Second-Phase Actions for the Implementation of the September 2005 Joint Statement," U.S. Department of State website, 3 October 2007, accessed 22 August 2017, <https://2001-2009.state.gov/r/pa/prs/ps/2007/oct/93217.htm>.

34. "Fact Sheet: North Korea: Presidential Action on State Sponsor of Terrorism (SST) and the Trading with the Enemy Act (TWEA)," U.S. Department of State website, 26 June 2008, accessed 22 August 2017, <https://2001-2009.state.gov/r/pa/prs/ps/2008/jun/106281.htm>.

35. "IAEA Inspectors No Longer Permitted Access to Yongbyon," IAEA website, 9 October 2008, accessed 22 August 2017, <https://www.iaea.org/newscenter/pressreleases/iaea-inspectors-no-longer-permitted-access-yongbyon>.

36. "DPRK Foreign Ministry Vehemently Refutes UNSC's 'Presidential Statement,'" KCNA website, 14 April 2009, accessed 7 August 2017, www.kcna.co.jp/item/2009/200904/news14/20090414-23ee.html.

37. "Proliferation Security Initiative," U.S. Department of State website, accessed 22 August 2017, <https://www.state.gov/t/isn/c10390.htm>; UNSC, "Security Council, Acting Unanimously, Condemns in Strongest Terms Democratic People's Republic of Korea Nuclear Test, Toughens Sanctions," press release, 12 June 2009, accessed 22 August 2017, <https://www.un.org/press/en/2009/sc9679.doc.htm>.

38. UNSC, "Security Council Condemns Use of Ballistic Missile Technology in Launch by Democratic People's Republic of Korea, in Resolution 2087 (2013)," press release, 22 January 2013, accessed 22 August 2017, <https://www.un.org/press/en/2013/sc10891.doc.htm>.

39. "KCNA Report," KCNA website, 10 January 2015, accessed 8 August 2017, www.kcna.co.jp/item/2015/201501/news10/20150110-12ee.html.

40. Leon V. Sigal, "Getting What We Need with North Korea," Arms Control Association website, April 2016, accessed 22 August 2017, <https://www.armscontrol.org/print/7384#note06>.

41. Ibid.

42. UNSC, "Security Council Strengthens Sanctions on Democratic People's Republic of Korea, in Response to 12 February Nuclear Test," press release, 7 March 2013, accessed 22 August 2017, <https://www.un.org/press/en/2013/sc10934.doc.htm>; UNSC, "Security Council Imposes Fresh Sanctions on Democratic People's Republic of Korea, Unanimously Adopting Resolution 2270 (2016)," press release, 2 March 2016, accessed 22 August 2017, <https://www.un.org/press/en/2016/sc12267.doc.htm>; "Condemning DPR Korea's Missile Launch, Security Council to Pursue 'Significant Measures' in Response," UN News Centre website, 7 February 2016, accessed 22 August 2017, <https://www.un.org/apps/news/story.asp?NewsID=53178&WZxmR-WepjAU>; UNSC, "Security Council Strengthens Sanctions on Democratic Republic of Korea, Unanimously Adopting Resolution 2321 (2016)," press release, 30 November 2016, accessed 22 August 2017, <https://www.un.org/press/en/2016/sc12603.doc.htm>.

43. North Korea Sanctions and Policy Enhancement Act of 2016, Pub. L. No. 114-122, 130 Stat. 93 (2016), accessed 22 August 2017, <https://www.congress.gov/114/plaws/publ122/PLAW-114publ122.pdf>.

44. Shakespeare, *The Tempest*, act II, scene I.

45. Charles L. Pritchard, "A Guarantee to Bring Kim into Line," *The Financial Times*, 10 October 2003; Mike Chinoy, *Meltdown: The Inside Story of the North Korean Nuclear Crisis* (New York: St. Martin's Press, 2008), 31.

46. Jesse Johnson, "Hacked Memo Reveals Details of Bill Clinton's 2009 Meeting with North Korea's Kim Jong-il," *The Japan Times*, 30 October 2016, accessed 22 August 2017, <http://www.japantimes.co.jp/news/2016/10/30/world/politics-diplomacy-world/hacked-memo-reveals-details-bill-clintons-2009-meeting-north-koreas-kim-jong-il/>.

Assessing the Value of Serving in an Army Service Component Command as a Broadening Assignment

Maj. Ren Angeles, U.S. Army



Broadening (Institutional/Enterprise) – [infantry] officers experience diverse areas of responsibility. These are the assignments where the Army gains from the officer's experiences and returns him to the Institutional force to help build and train the next generation of leaders or sends him to lead a staff section in a Joint or ASCC HQs.

—Lt. Col. Patrick Harkins

Broadening assignments provide key developmental experiences to officers as they continue to serve in our Army in different levels of responsibilities. The “muddy boots culture” of purely tactical experiences for career advancement has been recognized as wholly inadequate in providing sufficient broadening experience to deal with the complexities of an ever-changing operational environment.¹ A better mixture of broadening assignments is needed to help prepare officers for the different types of roles and responsibilities characteristic of the more complex security challenges they will face.

As I write this, I am reminded of the words expressed by Dr. Tim Hentschel during my time at the Command and General Staff College about whom gets assigned to a broadening assignment with an Army service component command (ASCC). Like most infantryman, there was a certain degree of self-denial that it would not be me, some other poor infantryman would get this assignment. Even though the research shows the need for broadening experiences, the embedded on-the-ground culture of infantrymen and other branches still fosters some reticence toward broadening experiences that take time away from service with field units.² Having said that about my initial reaction, my experience as a staff officer with an ASCC has not been what I had imagined it to be. There is more to this assignment than I expected that indeed is broadening in terms of insight and practical experience.

Putting careful effort into determining the types of broadening assignments that provide officers with opportunities to learn and grow as professionals means focusing on what will best prepare them for future assignments along their career paths. There is no “one size fits all” to



Previous page: Secretary of Defense Ashton Carter (*center*) departs the Baghdad International Airport 18 April 2016. Carter announced the next phase of the fight against the Islamic State during a troop talk in Baghdad that included addressing the requirement for detailed land-component participation in training and support to Iraqi ground forces. (Photo by Sr. Master Sgt. Adrian Cadiz, U.S. Air Force)

the developmental methodology. As a result, it is important to gauge the effects of different broadening assignments to determine their value in providing officers with the right developmental experiences. To that end, the intended purpose of this article is to provide an overview of the experiences and impact of an ASCC assignment on career development so that readers may develop a better sense of both its utility as a broadening experience and as an opportunity to learn how to better manage staff resources at the ASCC level.

What Is an ASCC?

What an ASCC is most widely known for is that it works to provide access to the region or operational environment, to acquire basing privileges, and to obtain overflight authorizations to allow U.S. forces to execute their missions in theater. However, it does significantly more than that. Prior to my assignment to an ASCC, previous assignments and participation in exercises gave me limited insight on what an ASCC did but not enough to fully understand the whole gamut of its responsibilities.

The breadth and depth of the roles and responsibilities of an ASCC are remarkable. Army Regulation 10-87, *Army Commands, Army Service Component Commands, and Direct Reporting Units*, defines ASCCs as operational-level organizations that serve as the primary Army components for combatant commanders throughout the different geographical commands.³ In practice, an ASCC is primarily responsible to the secretary of the Army for the administration and support of Army forces assigned or attached to combatant commands. However, depending on its designation, an ASCC has the flexibility to perform myriad tasks that support the combatant commander to set conditions throughout an area of operations. As such, an ASCC can provide an array of options for the combatant commander to achieve desired end states.⁴ For example, the ASCC supporting U.S. Central Command retains operational control of Army forces via the delegation of Central Command

leadership. In this capacity, it performs Army support to other services as well as Department of Defense-specified executive agencies.⁵ In addition, an ASCC can be designated by the combatant commander to perform duties as a joint forces land component command or joint task force as contingencies arise.⁶

To provide a broader framework, I will use U.S. Army Central (USARCENT) as an example of a geographic ASCC to give a clearer picture of the depth and complexity of these types of organizations and the kinds of support they offer to combatant commanders. To understand the totality of what an ASCC does, the best place to start is by looking at the mission statement of an ASCC. A good mission statement will provide an accurate description of what an organization does. At present, USARCENT's mission statement reads, "USARCENT shapes the environment to improve access and interoperability, sets the theater to deter adversaries, and is prepared to transition to Phase I of contingency operations."⁷ The mission statement is expansive because it reflects the span and complexities of tasks that an ASCC is directed to perform in its designated area of operations. The USARCENT mission statement has evolved over time and continues to evolve as the operational environment and the strategic focus of the combatant commander change. As such, ARCENT has adapted and adjusted its role in the performance of numerous operational and strategic tasks. For example, it has performed duties as both theater army and combined joint task force, and it continues in both those roles. Currently, USARCENT supports three main lines of effort: set the theater, shape the environment, and unified land operations. Prior to that, it served as a combined joint task force, Operation Iraqi Resolve, from October 2014 to September 2015.⁸

Understanding Staff Work

The idea of being a staff officer is not very enticing. It feels extraneous to me as an infantry officer. But the level of satisfaction one gets from accomplishing a challenging task may well provide the same feeling of satisfaction one gets from service on the line. Though it was truly hard for me to feel and express pride in working as a staff officer, it does have its merit and value. Like any other significant work, meaning is found on the quality of the work done and on its impact on others. It took a shift in mindset on my part to appreciate the value of good staff work.



Most of my time during my tour of service as a staff officer with USARCENT was spent as a planner. I participated in three-star level exercises, multiple planning efforts, and working groups. My experience might be unique to my job description, but the work I have done is like that of most staff officers who work at USARCENT. As a planner, I routinely attended different meetings throughout the week. Most of my time was spent listening to briefings, providing staff input to planning efforts, participating in working groups, interacting with people, and sometimes previewing soon-to-be published new Army doctrine.

At first glance, this type of daily existence seems mundane. It even sounds morbid as I read back over this paragraph. This type of existence at face value would put off a lot of people—nobody that I know signed up to join the Army to do staff work. However, whether we like it or not, staff work is a part of what we do daily in the Army. As officers, a great deal of our time is spent doing the unenviable task of leading and participating in planning efforts. It took me some time to acquiesce to this inglorious task.

Being a planner requires knowing what information is critical to a planning effort or working group. This is

U.S. military logistics leaders and experts from across the Department of Defense discuss long-term logistics planning 6 April 2017 during the Joint Logistics Coordination Board at the U.S. Central Command forward headquarters at Al Udeid Air Base, Qatar. The board was part of a week of planning conferences that included two separate sessions aimed at ensuring the joint logistics enterprise aligns efforts across the CENTCOM area of responsibility to maintain an effective readiness for both current and future operations. (Photo by Staff Sgt. R. Alex Durbin, U.S. Air Force)

not very easy, because sometimes you go into a planning effort blind or at least unaware of the requirements. Most often, operational planning teams and working groups do not provide an overview before starting. Not all working groups are created equal. Effective working groups and planning efforts are well led and organized. As a planner, you must

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understand the requirements one needs to provide that are relevant to the effort and others might not know in a planning effort. You must be knowledgeable of important data that are relevant to the operational planning team.

It is a common mistake to commence planning efforts or working groups without setting the right conditions. Plunging headlong into a task without sufficiently preparing participants with the appropriate base knowledge creates frustrations. It is a mistake in my mind to expect individuals to know something without providing the right references. Those who are new to the unit cannot be expected to know everything they need to know. New members of working groups must be provided an overview to help them understand key information. Teaching them where to access and acquire more information should enable them to catch up.

The demands of being a planner are various and difficult at times. What one does is time consuming and constantly changing. Work is never done. At times it feels like a thankless job, especially when one is caught unaware and not particularly prepared for what is asked in a meeting. Staff work is wrought with challenges, and one must be always be in the know of the new developments, which is not an easy chore. Sometimes people take one's work for granted, especially when things are going well. One gets little credit for the things that go well and a lot of anguish when things do not go well. It is almost Sisyphean at times.

What Could Be Done Better?

To make the assignment in an ASCC a true broadening experience, there are ways to enhance these assignments. Officers would be more well-rounded if they rotated to different positions every year throughout their time. I think that this is doable with some innovation and willingness. It will benefit the Army a great deal by having officers who have well-rounded skills and experiences from working in an ASCC.

Maneuver company-grade officers who have not spent time in command should not be assigned to an ASCC. Their time to learn and master the basics is limited. Without company-grade field experience, they will have a knowledge gap that might be hard to overcome later on. Where staff experience is necessary, maneuver company-grade officers will be better served spending critical developmental time at echelons of command at the brigade level and below.

Where staff service with an ASCC is deemed appropriate, leadership development programs should focus on bridging the knowledge gap required for such service and enhancing regional expertise. This will allow officers in ASCC broadening assignments to gain deeper understanding of the different countries in the region. Acquiring knowledge in these areas has multiple benefits. We are fortunate in USARCENT to have a dynamic leadership development program that enhances regional knowledge.

Time in theater will also provide valuable experience for officers. Working with partner nations through exercises and partnership programs benefits everyone. However, with constrained resources, such direct partnership opportunities might not be feasible on a large scale but are worth considering for their potential to enhance the broadening experience. Furthermore, immersion and real-world interaction with officers of partner nations would aid in developing personal relationships that could potentially deescalate future tensions arising among nations by leveraging personal connections with senior military officers of different nations that were formed while serving with U.S. officers in combined activities during their development years as relatively junior officers.

Balancing the requirements with risk when it comes to personnel must be done correctly. Sending the right individuals to broadening assignments and providing them with a range of experiences will enhance their professional growth, but filling the ranks of a unit with less than adequate personnel dooms the organization to mediocrity. It also causes frustration when individuals with the wrong background and experience struggle to perform a job. The two-levels-up-and-one-down methodology may not work well in an ASCC. The experience-level requirement cannot be filled by randomly assigning mere bodies.

Reflection on the Overall Value of the ASCC Assignment

The breadth and depth of the responsibilities of an ASCC provides opportunities to expand one's knowledge of many different problem sets and potential solutions. Those aspiring to higher levels of responsibility will benefit from learning about the operational and strategic tasks an ASCC performs. Additionally, having proximity to general officers and seeing how they formulate visions and intent as well as make decisions offers lessons

in leadership that are hard to quantify. Seeing the challenges and requirements that a senior leader must contend with enables future senior leaders to prepare for those future demands. Therefore, the experience in an ASCC assignment forges a path toward greater depth of knowledge and skills that future senior leaders can use to create success.

It is very easy to lose sight of what is important. Sometimes we need a little reminder that we all have roles to play in the grand scheme of things. We cannot all be commanders; all of us must do staff work to enable commanders to make the best military decisions and provide the best military advice to strategic leaders. Getting it right has enormous consequences, as the recent experiences in Iraq, Syria, and Afghanistan demonstrate. The human and economic toll is very significant.

Doing your best everyday may not get its due reward, but the satisfaction of doing one's best and contributing to an important effort that makes a difference is reward enough, as it helps one achieve self-fulfillment. Self-satisfaction comes to the person in the arena who toils day in and day out to fulfill his or her obligation to a calling or job he or she feels is worthy of doing.⁹

In his book *Team of Teams*, Gen. Stanley McChrystal states that the role of senior leaders is no longer that of a heroic leader but rather that of an emphatic crafter of culture; a gardener.¹⁰ If the role of future senior leaders is to be good crafters of cultures, then perhaps an assignment in an ASCC is worth it because it is a good training ground for developing the skills needed to become an effective gardener of organizational culture. ■

Notes

Epigraph. Patrick Harkins, "Infantry Branch Chief 346 Remarks," *Infantry Branch Newsletter*, 3rd Quarter, 2016, 4.

1. Thomas D. Boccardi, *Polyester Culture: The U.S. Army's Aversion to Broadening Assignments*, U.S. Army War College Civilian Research Project (Carlisle Barracks, PA: U.S. Army War College, 2012), 2.

2. See, for example, Charles D. Costanza, *Broadening Leaders? Culture Change as the Cure*, U.S. Army War College Civilian Research Project (Carlisle Barracks, PA: U.S. Army War College, 2012), 4.

3. U.S. Army Regulation 10-87, *Army Commands, Army Service Component Commands, and Direct Reporting Units* (Washington, DC: U.S. Government Publishing Office, 4 September 2007), 5.

4. "Command Brief," U.S. Army Central portal, https://portal.arcent.swa.army.mil/SitePages/USARCENT_Command%20Brief_ACB.aspx (CAC required).

5. Ibid.

6. Ibid.

7. Ibid.

8. Ibid.

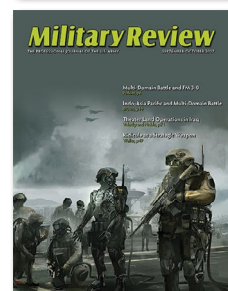
9. Theodore Roosevelt, "Citizenship in A Republic" (speech, Sorbonne, Paris, 23 April 1910, accessed 28 July 2017, <http://www.theodore-roosevelt.com/trsorbonne-speech.html>).

10. Stanley McChrystal et al., *Team of Teams: New Rules of Engagement for a Complex World* (New York: Portfolio Penguin, 2015), 221.

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Sgt. 1st Class Nicholas Bisnett, assigned to Reconnaissance Platoon, Headquarters and Headquarters Company, 3rd Battalion, 41st Infantry Regiment, 1st Brigade Combat Team, 1st Armored Division, returns from a round of shooting 16 March 2017 during the unit's annual Table IV gunnery at Doña Ana Range Complex, New Mexico. (Photo by Winifred Brown, Fort Bliss Public Affairs Office)

Strykers on the Mechanized Battlefield

Capt. Stephen Petraeus, U.S. Army

Capt. Daniel Reynolds, U.S. Army

On a dusty morning in July 2015, a combined Stryker-Abrams battalion task force surged across the high desert of the National Training Center (NTC) at Fort Irwin, California, toward two mountain passes. The Strykers fell behind the tracked

Abrams tanks as they drove off-road in the rolling terrain but caught up just in time to pass through the narrow cuts between the mountains and onto the plains below. As the Strykers drove into the open terrain, they were quickly cut down by an enemy armored force. Their

light armor was no match for the main gun rounds from enemy tanks combined with the cannon fire from enemy infantry fighting vehicles. Few Strykers survived the engagement in the open ground against the heavier enemy force, and that engagement blunted the spearhead of the brigade's attack. In the aftermath of this defeat, it is likely that many of those involved were asking themselves: Is there a better way to employ the Stryker? That question was not new, of course. In the early days of the Stryker, critics observed that "it does not provide the firepower or the protection to transform army light infantry units into a 'medium weight force.'"¹ Given the Stryker's inherent limitations, how should it be employed against a mechanized opponent? And, fifteen years after the introduction of the Stryker brigade combat team (BCT), has the Army determined its role on the battlefield?

We will attempt to answer the thorny question of how Strykers might best be utilized on the battlefield. First, we will look back at the origin of the Stryker BCT and how it was initially envisioned. Then, we will provide a brief recap of the Stryker's use in Iraq and Afghanistan, looking at the role it assumed during missions in the respective counterinsurgency (COIN) campaigns. Next, we will discuss the Army's overall shift from a focus on COIN operations to the core competencies of high-intensity warfare. Finally, we will take a look at several examples of the Stryker being used in this new role at the NTC and examine what operational approaches best capitalize on the inherent strengths of the Stryker platform. We will close with a discussion of the way ahead for training and employment of the Stryker in the future.

Fielding and Validation of the Stryker

When Gen. Eric Shinseki became the Army chief of staff in June 1999, he had a clear vision for changing the structure and strategic responsiveness of the Army.² Central to this vision was the creation of a new interim BCT at Fort Lewis, Washington—one that would be a model for future brigades to be fielded or transformed. These new brigades would employ a "medium-weight" armored vehicle—light enough to be transportable by C-130 cargo aircraft but heavy enough to provide basic protection and firepower to infantry squads. This idea of a "medium" unit to bridge the gap between light and heavy forces has deep roots in the Army, perhaps described most succinctly in "Three Kinds of Infantry" by then Col. Huba Wass de Czege. The vulnerability of light

units initially sent to Operation Desert Shield in 1990 highlighted the need for this type of unit.³

In November 2000, the Army announced that it had selected a wheeled vehicle known as the LAV III (third-generation light armored vehicle), which would be developed into several variants for reconnaissance, mortar, command, and infantry-carrying roles. Delivery of the vehicles began in spring 2002, when Company A, 5th Battalion, 20th Infantry (known as 5-20 Infantry), received the first fourteen Strykers (as the vehicle had been newly named) and began training with them. The first major test of the newly formed Stryker brigade took place during Millennium Challenge 2002, a major joint exercise that included transportation of Strykers by C-130 aircraft from Fort Lewis to Fort Irwin, California, and return movement by high-speed sealift catamaran. Brigade-level training exercises at the NTC and also at the Joint Readiness Training Center (JRTC) in Louisiana served as the final validation of the fully-equipped Stryker brigade, now organized as the 3rd Brigade of the 2nd Infantry Division.⁴

These exercises showcased both the shortcomings and strengths of the Stryker. In vehicular combat against a mechanized opponent at the NTC, Strykers were quickly "destroyed," but they excelled in restricted terrain and infantry ambushes against their armored foes.⁵ The JRTC exercise better highlighted the new possibilities enabled by the operational mobility of a Stryker

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brigade. Col. (retired) Charles Hodges, a battalion operations officer at the time, recalled the brigade attacking the infamous Shughart-Gordon urban warfare training facility twelve hours earlier than a typical light infantry unit, catching the enemy off balance and winning the battle decisively as a result.⁶ Though the Stryker brigade was still regarded with some skepticism, it was certified to deploy by the U.S. Army Forces Command after completion of its brigade-level training exercises.

Stryker Employment in Operation Iraqi Freedom

3rd Stryker BCT arrived in Iraq in December 2003, the first of many Stryker deployments that would follow over the next eight years. This deployment served as the first showcase of the Stryker vehicle and the associated reorganized brigade.⁷ Two of the most unique aspects of the Stryker brigade proved to be its operational mobility and its advanced command-and-control network compared to the mechanized and light units already operating in Iraq. Without the logistical support requirements of a heavy mechanized force, Strykers could pivot much more quickly from operating in one region to another across hundreds of miles. Hodges recalled the flexibility of the Stryker brigade during Operation Black Typhoon in Iraq:

All three Stryker maneuver battalions were involved ... one night where we were truly

spread all over Nineveh Province, from Mosul all the way out to the Syrian border. 5-20 Infantry was doing raids on the Syrian border, we were doing a major operation in Mosul and down in [Qayyarah West Airfield], all at the same time ... it showed the depth and breadth we could operate in.⁸

In addition, the Stryker platform itself proved to be very effective in urban combat. Lt. Col. Theodore Kleisner, who served in 3rd Brigade on later Iraq deployments as a company commander, offered some thoughts:

The Stryker ferried more people and more stuff. A HMMWV had five people, two stayed with it, so maybe three dismounted; [Strykers] dismounted nine. As far as the uniqueness of the Stryker goes, we used it to [enable our infantrymen to] get over walls, to get into second floors. We did rolling dismounts, dismounts at the "X." ... We used Strykers to maneuver around and to stop bullets. We stayed in them until we thought we were at a point where we needed to establish dominance of terrain.⁹

During the "Surge" in Iraq in 2007 and 2008, Stryker elements were moved rapidly and repeatedly. A notable example is the experience of 5-20 Infantry, which was shifted from Mosul to Baghdad to Baqubah over the course of 2007.¹⁰ By the time U.S. involvement in



Iraq began winding down in 2010, there were eight Stryker BCTs, nearly a quarter of the active force. However, Strykers began to see heavier employment in Afghanistan, with 3rd, 5th, and 4th Brigades of the 2nd Infantry Division deploying in subsequent years.¹¹

Transition to Decisive Action

As American involvement in Iraq and Afghanistan drew down, the Army began looking for a new focus after a decade of COIN-oriented training and combat. Col. Ross Coffman, the commander of the Operations Group at the NTC, described it: “As we move from the majority of our forces being deployed in support [of] OIF/OEF to what we have today, the decision was made at the Army level to move toward decisive action operations at our training centers. ... If you can do decisive action, you can do anything.”¹² *Decisive action* is the term used by the Army to describe a combination of wide area security and combined arms maneuver operations, but informally the term is used to describe the shift from COIN-focused operations toward more traditional conventional warfare against opponents with near-peer technology and force structures. Coffman elaborated: “The [decisive action training environment] scenario is a prescriptive enemy set ... based on evolution of enemy forces, we introduce additional capabilities ... we are replicating a near-peer threat depending on the level of training [at which]

Strykers from Company C, 5th Battalion, 20th Infantry Regiment conduct a short halt 20 May 2016 during training at the National Training Center, Fort Irwin, California. (Photo by Spc. Lawrence Wong, U.S. Army)

the rotational unit arrives.”¹³ As a result of the Army’s change in focus, its training centers took up the challenge of developing training scenarios to rebuild traditional maneuver competency on a high-intensity battlefield. The Operations Group at the NTC helped drive this shift, providing new training options to Army division commanders, who used the rotation to ensure unit readiness for the most likely deployments. Coffman explained, “The numbers of forces, type of terrain and environment can all be changed We develop scenarios that play to the strengths of that organization while also improving their weaknesses by forcing commanders to make decisions in a time-constrained environment.”¹⁴

By late 2011, the Army also began holding field tests of the new near-peer enemy force at training centers with rotations at the Joint Multinational Readiness Center in Hohenfels, Germany. The 2nd Stryker Cavalry Regiment and the 173rd Airborne Brigade each conducted a month-long exercise against a near-peer enemy set, providing a valuable baseline for further development of the decisive action training environment.

As the Army was shifting focus from COIN to decisive action, changes were also taking place at Joint Base Lewis-McChord, home of the original interim BCT. In 2012, there were three independent Stryker brigades stationed on the post, all falling under the direct control of I Corps. The brigades had been on a near-continuous deployment cycle since their conversion to Stryker formations in the early 2000s. The repeated deployments had reduced their equipment and personnel readiness to relatively low levels. At this point the 7th Infantry Division was reactivated to serve as a headquarters for these three brigades and to transition them from their deployment-focused training cycle to a steadier state of deployment readiness.

Lt. Gen. Stephen Lanza, the I Corps commanding general, served as the initial commander of the 7th Infantry Division. He recalls: “The first direction was ‘build back the readiness of the Stryker formation’ When we took over the division, the Strykers were in a tremendous amount of disrepair, to the point where we had to stand down the brigades to build Stryker readiness, because they were just not ready.”¹⁵ He further elaborated: “When we stood up the division, we had a 26 percent nondeployable rate, we had OR [operational readiness] rates that were [low]—we could not fight decisive action because we were stuck in ARFORGEN [Army Force Generation].”¹⁶ A focus for the newly established 7th Infantry Division was training Stryker formations for combat against a near-peer threat. Lanza said, “There’s a lot of things that had to change in terms of our approach to Stryker training at home station, because we were focused on COIN ... and we had a big discussion about the platform itself, because we did not want to employ it as a Bradley.”¹⁷

The deficit in experience commanding Strykers in maneuver against a near-peer threat led 7th Infantry Division to work with the NTC to develop the first full decisive action rotation for a Stryker brigade. Lanza recalls the process of creating this rotation:

A lot of our initial discussion was designing a CTC [combat training center] rotation ... with the requisite kind of force ratios and requisite kind of OPFOR [opposing force], in terms of what a Stryker would do in combat We did not want to have a *mano a mano* rotation where Strykers would be fighting other kinds of armored vehicles The focal point was always

delivering infantry into the fight So we had to build a COFOR, correlation of forces model, to make sure we had the right force ratios for what a Stryker would do in combat.”¹⁸

This planning and development culminated in January 2014, when 3rd Brigade, 2nd Infantry Division deployed to the NTC for the first of this new type of training exercise. Both of the authors of this paper were present at the rotation—one as an assistant operations officer within 5-20 Infantry and the other as a liaison officer from the elements of the 75th Ranger Regiment participating in the exercise. The rotation was different from a typical mission rehearsal exercise conducted before a deployment from the start. The brigade deployed into a tactical assembly area with no pre-positioned buildings or logistical support, and then further broke down into battalion-level assembly areas from there. This was no small feat, considering the level of reliance Stryker formations had on fixed forward operating bases for logistical support in Iraq and Afghanistan. From these tactical assembly areas, the battalion launched separate attacks. 5-20 Infantry initially attacked through the “central corridor” of the NTC to seize several pieces of prominent terrain prior to conducting a seizure of Ujen, one of the larger mock cities. The battalion, generally operating unilaterally, suffered heavy casualties in the process. As Lanza observed, “Strykers in the attack, against a prepared position with enemy armor, [do not succeed] without the other enablers that he [Stryker commander] needs and the other support that he needs.”¹⁹

This attack was followed by a defense, which better highlighted the strengths of the Stryker formation. The battalion was able to utilize dismounted javelins in restrictive terrain to great effect, although it did not have the capability to truly block an armored enemy force. Lanza again shared his thoughts: “When you take Strykers in the defense, and you dismount javelins, and you put them in [restricted] terrain, that was the biggest fight that Col. Bair [the Stryker BCT commander] won, was in the defense.”²⁰ The defense was followed by a counterattack and a breach, both of which saw the Stryker battalions overmatched by enemy armor. As this was the first training exercise of this type at the NTC, significant shortcomings still existed in the design and execution of the Stryker-specific scenario.

Upon returning from the NTC, 3rd Brigade immediately began a new training cycle to correct



shortcomings identified from the January 2014 rotation. A premium was placed on training of the mounted crews and the Stryker platform. Col. David Foley, who took command of 3rd Brigade near the end of this rotation, recalls the training progression: “What we inherited was a more platform-based formation We’re going to man, field, become very lethal in our two- to three-man crew and then enhance that with the infantry squad and that absolutely countered everything I saw in the JRTC and initial fielding.”²¹ This could be seen in the company live-fire exercise conducted just prior to the NTC rotation, which included several mounted engagements for the Strykers in open terrain.

3rd Brigade again deployed to the NTC for Rotation 15-08.5 in July 2015. Two companies of Abrams tanks were attached to the brigade; 5-20 Infantry essentially became a Stryker-Abrams combined arms battalion. This configuration would prove to be less than ideal, as there was less synergy between the Stryker and the Abrams than between the Bradley Infantry Fighting Vehicle and the Abrams. Lt. Col. Edward Ballanco, the battalion commander of 5-20 Infantry, described one shortcoming: “The main difference between a Stryker and a Bradley is

U.S. Army Lt. Col. Edward J. Ballanco, Commander of the 5th Battalion, 20th Infantry Regiment, 1st Brigade Combat Team, 2nd Infantry Division, briefs his subordinate commanders 9 May 2016 during Decisive Action Rotation 16-06 at the National Training Center in Fort Irwin, California. (Photo by Sgt. Stephen J. Schmitz, U.S. Army)

that a Bradley is far more maneuverable than a Stryker.”²² On roads, Strykers and Abrams tanks could move at about the same speed, but maneuvering off-road in rolling desert terrain, the wheeled Strykers were far slower than the tracked tanks. This made it difficult to maintain a consistent tempo while maneuvering in the open, and it also deprived the tanks of the shock and speed with which they can normally attack. When the tanks did maneuver independently, they found themselves without infantry support to clear restricted terrain, and they were quickly destroyed by enemy antitank weapons.

Ultimately, the Stryker lacked the protection, firepower, and maneuverability to truly conduct a movement to contact across open terrain. Ballanco elaborated: “The Stryker ... didn’t have as good a weapon, didn’t have a mounted TOW, didn’t have a 25 mm [cannon].”²³ As

with the previous rotation, the brigade saw its greatest success in the defense, while suffering heavy casualties during movement-to-contact missions and deliberate attacks. A further shortcoming was seen during obstacle-breaching operations—the Stryker Engineer Support Vehicle was unable to proof a lane wide enough for a tank after conducting a breach through an obstacle. So, even with Abrams tanks to provide the assault force for a breach, the Stryker vehicles were unable to create a path for them through an obstacle. Foley and his battalion commanders returned from this rotation with several lessons learned, and a new focus as they trained for the next rotation, only eight months in the future.

in the field utilizing the full spectrum of communications systems. When the eight-month lull between the two NTC rotations was complete, 5-20 Infantry had conducted dozens of company-level force-on-force exercises and monthly war-gaming exercises.

NTC Rotation 16-06 was different from previous rotations in several respects. Maj. Gen. Thomas James, the commander of 7th Infantry Division and the senior trainer for Rotation 16-06, stated, “One of the things I took away from the rotation with [2nd Brigade] and with [3rd Brigade] is that because of the uniqueness of the Stryker formation, we have to pay even more attention to ... how we shape conditions to enable a

“ ... because of the uniqueness of the Stryker formation, we have to pay even more attention to ... how we shape conditions to enable a Stryker formation to get a position of advantage.”

A Shift in Training Focus

Following NTC Rotation 15-08.5, 3rd Brigade, now reflagged as 1st Brigade, 2nd Infantry Division, received orders to return to the NTC for another rotation earlier than expected, in the early summer of 2016. Thus, a compressed training plan was developed to prepare and certify the brigade. 5-20 Infantry modified its training plan in several key ways to incorporate the lessons learned from NTC Rotation 15-08.5. Ballanco described his method of employing the Stryker during these exercises: “We’d take advantage of the restrictive terrain all the time, try to use [the Stryker] as a support-by-fire platform wherever we could, but of course the main weapon being the javelin ... so we need to be experts with that weapon system.”²⁴ To reinforce his style of maneuver, he devised several changes to the battalion training plan. First, the battalion conducted several additional company-level force-on-force mock battles, allowing commanders and leaders to experience fighting against a thinking opponent rather than the more constrained maneuver of a live-fire exercise against wooden targets. Second, integration of Stryker infantry carrier vehicles and dismounted infantry was heavily stressed both in field exercises and in tabletop war-gaming exercises held for the battalion’s officers. Finally, a full battalion-level field exercise tested the ability of the battalion staff to control several companies maneuvering

Stryker formation to get to a position of advantage.”²⁵ The dialogue between James and the NTC resulted in a rotation that was much more fluid and realistic for a Stryker formation than previous rotations.

1st Brigade, 2nd Infantry Division, as 3rd Brigade was now renamed, began an early summer training rotation in May 2016. (The authors of this paper commanded Company A and Company C of 5-20 Infantry during this training.) 5-20 Infantry departed the bivouac area for the training area on 4 May and immediately established a desert laager, postured for immediate movement to an assault position. The next evening, the entire battalion departed its laager site for an attack on several pieces of restricted terrain. Company A led the battalion’s attack, moving sixteen kilometers through a mobility corridor known as Whale Gap to a dismount point 2.5 kilometers from their final objective. This dismount point was selected deliberately to protect the vehicles from enemy antitank weapon systems. From that point, the entire company dismounted into the restrictive terrain and cleared enemy forces from a prominent ridgeline, utilizing company mortars for fire support. The company rested the following day and prepared for the next mission, and then moved another fourteen kilometers the following night to another objective.

This first battle period highlighted two strengths of the Stryker formation in combined arms maneuver. The Stryker has excellent operational mobility, and can move along roads to quickly deliver a large body of dismounted infantry to an objective while preserving combat power. The missions conducted by Company A would have taken considerably longer if conducted by a light infantry force without vehicular support. Second, the Stryker formation can much more quickly refit, conduct troop leading procedures, and prepare for the next mission than an armored force. Fewer refueling assets are required, indirect fire support is integral to the company team, and digital systems inside the vehicle allow mission orders to be quickly disseminated by higher headquarters. Additionally, the use of the “Arms Room” concept allowed Company A to effectively resupply additional ammunition and water, and replace AT-4 antitank weapons after consolidating on the objective.²⁶ Therefore, Company A could conduct an ambitious follow-on mission less than twenty-four hours after seizing their initial objective.

The next phase of the training exercise saw Company C tasked to conduct a bold flanking maneuver to the far eastern boundary of the NTC. This order was issued to Company C at 0600 hours, with a tentative start time of 1800 hours. The battalion was widely dispersed at this point, with Company C fifteen kilometers to the east of the rest of the battalion task force, twenty kilometers from the battalion operations center, and separated by several major terrain features. Company C used the twelve hours allocated to refuel, rearm, resolve several vehicle maintenance issues, and issue a mission order. Upon departing the assembly area, Company C moved across severely restricted terrain that had previously not been used as a route. This route brought Company C into an assault position northeast of a mock city, which the company attacked shortly after dusk. The route followed by Company C bypassed a massive obstacle belt south of the city and allowed the lead elements of the company to seize a foothold in the city before being detected by the enemy. By the time direct-fire contact was established with the enemy, two buildings in the city had been secured, and all of the company’s Strykers were established in a supporting position north of the city where they could employ their heavy machine guns and grenade launchers to isolate the enemy. The city was seized entirely under cover of darkness, and the company

repositioned shortly after dawn to a blocking position to stop an enemy force spotted by friendly forces.

This operation highlighted the strengths of the Stryker formation in a slightly different way. During the attack on the city, Company C used its Strykers not only as a method of transportation but also as a support platform for infantry maneuver. The heavy machine guns mounted on the Strykers with thermal cameras served both to spot and eliminate enemy forces as they moved in and out of the city. As with Company A’s operation, the agility of the Stryker was highlighted as a tremendous asset. Within two hours of seizing a city and establishing a hasty defense, the entire company packed up and repositioned to a follow-on blocking position with their antitank weapon systems to help stop an enemy armored force. Finally, the mobility of the Stryker platform and the light logistical support requirements allowed the battalion to operate across a wide geographical area and enabled C Company to conduct its flanking movement to the east across restrictive terrain.

The bold movement also illustrated the impressive digital systems employed by Stryker formations. At the battalion level, the commander was capable of providing effective mission command for three Stryker companies conducting missions simultaneously across twenty kilometers, from Company C at the city to Companies A and B on hilltops 760 and 780, respectively.

The final task for 5-20 Infantry in Rotation 16-06 saw the entire task force conduct a seventy-kilometer movement across the entire breadth of the training area at the NTC to attack the enemy’s rear area. During this movement, the battalion seized two villages, conducted breaching operations on five separate mine obstacles, and forced the enemy to reallocate a significant portion of its forces to rear-area security instead of its main defensive positions. Once again, the operational mobility of the Stryker force allowed it to move long distances and put a large infantry force into a position of advantage against the enemy.

Strengths and Weaknesses of the Stryker Formation

Over the course of three decisive action rotations at the NTC for 3rd Brigade (now 1st Brigade), several trends are clear. The first is that the Stryker formation cannot be used in the same way as a combined arms battalion of Bradley infantry fighting vehicles and

Abrams tanks. Alone, for example, the Stryker cannot engage an enemy mechanized force in open terrain. As Coffman put it, “There are limitations with the Stryker, mainly on firepower and its standoff with our enemy, as well as protection to those individuals riding in the back, as it only defeats smaller caliber weapons.”²⁷ Its weapon systems are overmatched in range and destructive power, and its armor does not protect it from an enemy infantry fighting vehicle such as a BMP with a 30 mm cannon. This is not to say that a Stryker cannot integrate with tanks or a heavy formation in a different way—it just cannot take the exact role used by a Bradley. Maneuvers across open terrain against mechanized enemy forces are not situations in which Strykers excel, whether augmented with tanks or not.

However, Strykers can be effective and lethal when used in ways that emphasize their natural strengths. NTC Rotation 16-06 offered several examples of these types of missions. Stryker units excel when the vehicles themselves are not needlessly exposed to enemy antitank fire, the infantry are brought to fight in restricted terrain where they can negate the advantage of enemy mechanized forces, and a high tempo is maintained. In every instance cited from that training exercise, care was taken to dismount infantry before the Stryker vehicles were in range of enemy antitank weapon systems. This prevented the vehicle, which holds a squad and a heavy machine gun, from being destroyed at long range. Once the infantry is in restricted terrain, Strykers can be moved forward to help suppress enemy positions with their heavy machine guns. This symbiotic relationship between the dismounted infantry and the Stryker characterizes all the success seen in training and in the use of the Stryker in offensive operations in Iraq and Afghanistan.

The high tempo that a Stryker unit can maintain is also an advantage. Less refit is needed between operations compared to a heavy unit, and the infantry can rapidly be moved after a mission is received, as compared to light infantry. This high tempo allows Strykers to quickly exploit enemy weaknesses as they are encountered.

Finally, to see how the Stryker can fit into the Army at the strategic level, one need only look at its inception and the reason the system was created. The Stryker can effectively move a large body of infantry across a long distance, especially on road networks that would be damaged by armored forces. Strykers are also much more rapidly deployable than heavy brigades,

allowing them to quickly respond to a crisis for which light infantry would be ill-suited. Had Strykers existed in Desert Shield in 1990, they would have been able to rapidly reposition around Saudi Arabia as needed. A light infantry unit simply does not have the transportation assets to do the same thing. As Coffman observed, “The biggest benefit that I see is the intratheater mobility; so quickly moving inside of the theater to reposition [units] of infantryman at the decisive point as required.”²⁸ As seen in Iraq and at the NTC, a Stryker unit can quickly pack up and move across a wide geographical area with little to no logistical support. This enables it to bring infantry where they are needed or, as Coffman put it, “deliver fresh legs to the objective.”²⁹ This is in contrast to a light infantry unit that requires significant external logistical support to move. And, even when augmented with cargo trucks, a light infantry unit still is not as capable as a Stryker unit. The Stryker provides protection against small arms fire and a robust communications suite, allowing soldiers to arrive at their objective safe and situationally aware. Alternatively, a heavy brigade can bring substantially more combat power to an objective as compared to a Stryker brigade, but this comes with the cost of a significantly larger maintenance and sustainment footprint. The fuel requirements of a heavy brigade dwarf those of a Stryker brigade. This can become even more pronounced if a unit is rapidly deployed, in which case a heavy brigade will be hamstrung while waiting on sustainment assets. A Stryker unit can far more quickly be repositioned both inter- and intratheater. Thus, the Stryker, when utilized properly, can fill a unique niche that places it between the traditional roles of the light infantry and the heavy armored force.

Conclusion

Going forward, it will be useful to see how Strykers operate as part of a true combined force. The Army has yet to conduct a full-scale division-sized training exercise pairing an Armored BCT with a Stryker BCT to test how both organizations can best use their strengths. Lanza noted that the idea has been surfaced at the highest levels: “One of the things we were discussing is: should we have a hybrid rotation?”³⁰ An exercise of this type would allow the Army to test theories about interoperability between the different types of brigades that have yet

to be seen outside of war games and command post exercises. It might also finally resolve the role of the Stryker in combined arms maneuver, which has been, to this point, an open question.

There have been several debates in the military of late about whether the Stryker should be augmented with 30 mm cannon to be more like a Bradley fighting vehicle, or even if it should be scrapped entirely. Ultimately, though, if we were to deploy Stryker formations tomorrow for a major land conflict, it would be as they are currently equipped, and not as we might desire. The Stryker is a major part of the Army's infantry force, and as such, it is imperative

that we as an Army know how to utilize it if we are called upon to do so.

This article has investigated the best ways in which to utilize the Stryker at the operational and tactical levels by looking at its original purpose and the way in which it has been utilized in recent training exercises. It is our conclusion that the Stryker can be an effective part of a fight against a near-peer adversary, but only if it is used in a way that plays to its strengths and avoids its weaknesses. The lessons learned from training exercises over the past three years offer a blueprint for updated Stryker doctrine to solidify the role of the Stryker on the mechanized battlefield. ■

Notes

1. Douglas A. Macgregor, *Transformation under Fire: Revolutionizing how America Fights* (Westport, CT: Praeger, 2003), 18–19.
2. Mark J. Reardon and Jeffery Charlston, *From Transformation to Combat: The First Stryker Brigade at War* (Washington, DC: U.S. Army Center of Military History, 2007), 3.
3. Alan Vick, *The Stryker Brigade Combat Team: Rethinking Strategic Responsiveness and Assessing Deployment Options* (Santa Monica, CA: RAND Corporation, 2003), 7.
4. H. Charles Hodges Jr. (retired U.S. Army colonel, former battalion operations officer, 3rd Stryker Brigade Combat Team [BCT]), interview by authors, 11 October 2016.
5. Reardon and Charlston, *From Transformation to Combat*, 15.
6. Hodges, interview.
7. Reardon and Charlston, *From Transformation to Combat*, 69.
8. Hodges, interview.
9. Theodore W. Kleisner (U.S. Army lieutenant colonel, former company commander, 3rd Stryker BCT), interview by authors, 20 July 2016.
10. Kimberly Kagan, *The Surge: A Military History* (New York: Encounter Books, 2009), 81–97. The "Surge" refers to the shift in strategy in Iraq in early 2007 that resulted in twenty thousand additional U.S. military personnel being deployed to the country along with a renewed focus on counterinsurgency operations. Kagan's book is the source for information on the movement of 5-20 Infantry during their 2007 deployment.
11. The number of Stryker brigade combat teams is based on the Quadrennial Defense Review Report (Washington, DC: Department of Defense, February 2010), accessed 30 August 2017, https://www.defense.gov/Portals/1/features/defenseReviews/QDR/QDR_as_of_29JAN10_1600.pdf.
12. Richard R. Coffman (U.S. Army colonel, commander, Operations Group, National Training Center), interview by authors, 26 August 2016.
13. Ibid.
14. Ibid.
15. Stephen R. Lanza (U.S. Army lieutenant general, former commander, 7th Infantry Division), interview by authors, 16 November 2016.
16. Ibid. ARFORGEN—Army Force Generation—was the method used by the U.S. Army to generate trained and ready forces for deployment on a sustainable, rotational basis.
17. Lanza, interview.
18. Ibid.
19. Ibid.
20. Ibid.
21. David C. Foley (U.S. Army colonel, commander, 1st Stryker BCT), interview by authors, 16 December 2016.
22. Edward J. Ballanco (U.S. Army lieutenant colonel, commander, 5th Battalion, 20th Infantry Regiment, 1st Stryker BCT), interview by authors, 21 October 2016.
23. Ibid.
24. Ibid.
25. Thomas S. James Jr. (U.S. Army major general, commander, 7th Infantry Division), interview by authors, 2 December 2016.
26. The "Arms Room" concept is a key principle that guides employment of Stryker formations. Essentially, it allows a commander to tailor a soldier's individual load to include only equipment needed for the current operation while storing the remainder of their supplies in the Stryker vehicle. In this manner, commanders can keep their soldiers' loads light while maintaining the ability to rapidly reequip and resupply their units for a follow-on mission as needed.
27. Coffman, interview.
28. Ibid.
29. Ibid.
30. Lanza, interview.



U.S. Army paratroopers assigned to the 54th Brigade Engineer Battalion, 173rd Airborne Brigade, and Italian army soldiers from the 8 Reggimento Genio Guastatori Brigata Paracadutisti Folgore assemble a medium girder bridge 13 February 2017 near Rovigo, Italy. The 173rd Airborne Brigade, based in Vicenza, Italy, is the U.S. Army contingency response force in Europe, capable of projecting forces to conduct the full range of military operations across the United States European, Central, and Africa Commands' areas of responsibility. (Photo by Graigg Faggionato, Training Support Activity Europe)

Enabling Brigade Combat Team Success in Europe

Lessons Learned

Lt. Col. Benjamin A. Bennett, PhD, U.S. Army

Russia's 2014 illegal occupation of Crimea, its invasion of eastern Ukraine, and its persistent provocations of its neighboring states suggest that it intends to permanently redefine national boundaries within Europe.¹ In response to

this growing threat, the U.S. Army has dramatically increased its presence throughout the region.

As part of that increase, in the past two years, U.S. Army Europe has engaged in an aggressive exercise program designed to demonstrate American

capability and deter further aggression, has established an enduring rotation of an armor brigade within Europe, and has permanently enhanced its presence in the Baltics and Poland.² These initiatives have significantly increased the likelihood that units not permanently assigned to Europe will gain exposure to the European operating environment.

Units generally deploy to Europe as part of a brigade combat team (BCT), and the engineer, intelligence, and signal capabilities of the brigade engineer battalion (BEB) are the backbone of a BCT's expeditionary capability. These assets provide the brigade the ability to locate and anticipate threat activity, increase survivability, provide mobility, and fix adversaries. They give the commander the ability to synchronize the effects on the battlefield and are critical to the success of any BCT operation. The lessons hereafter discussed are distilled from twenty-four months of repeated deployments across the European theater by the 54th BEB of the 173rd Infantry Brigade Combat Team (Airborne), or IBCT (A). These ten lessons are offered as suggestions designed to increase the success of other BCTs operating within the region:

- Arrive with a plan to build readiness.
- Become a student of the Russian way of war.
- Prepare for decentralized operations.
- Develop an interoperability framework.
- Integrate strategic messaging into all activities.
- Be prepared to provide mission command for maneuver elements.
- Invest in route reconnaissance.
- Employ the unmanned aerial vehicle (UAV) to build counter-UAV tactics, techniques, and procedures.
- Develop beyond-line-of-sight mission command expertise.
- Change the UAV paradigm.

Arrive with a Plan to Build Readiness

Europe provides unparalleled opportunities to build readiness and train leaders. During its two years of deployment experience, the 54th BEB engaged in live-fire exercises in Ukraine, Poland, Germany, Latvia, Lithuania, Estonia, Turkey, Italy, Slovenia, and France. As part of these exercises, the battalion conducted live airfield repair operations in France and Germany, detonated ordnance to create complex abatis countermobility obstacles using live

trees in a forested environment, constructed fuel-oil demolition charges, employed antipersonnel obstacle breaching systems, and developed techniques for the Shadow UAV to observe and adjust fire from 105 mm and 155 mm howitzers. The battalion flew UAVs in the Baltics, Germany, Poland, and along Europe's southern flank. The 54th BEB also supported three *decisive action training environment* (DATE) rotations serving under various multinational headquarters, and it participated in an organic 173rd IBCT (A) DATE rotation at the Joint Multinational Readiness Center (JMRC) in Hohenfels, Germany.

Many of the countries hosting training events with U.S. forces are aggressive in capitalizing on the opportunity and optimizing their time in this unique training environment. Additionally, many countries are unencumbered by the regulatory restrictions present in other training locations. Most partners will invest significant energy and the necessary resources to maximize training opportunities.

Arriving with a predetermined set of key training objectives and ensuring these objectives are integrated into the design of exercises during initial and mid-planning conferences will significantly increase the effectiveness of any training event. Importantly, units should leverage the subject-matter expertise located within 7th Army Training Command and JMRC during such planning. They are tremendous resources able to assist units in locating ranges and other training venues, provide external evaluation, assist in target development, and mitigate risk.

Lastly, there are twenty-four NATO centers

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of excellence located across Europe. These centers are nationally funded and accredited institutions that “train leaders, assist in doctrine development, identify lessons learned, improve interoperability, develop capabilities, and test and validate concepts through experimentation.”³ These centers vary in focus and include counter-improvised explosive devices in Spain, military engineering in Germany, command and control in the Netherlands, human intelligence in Romania, strategic communications in Latvia, cooperative cyber defense in Estonia, and the joint chemical, biological, radiological, and nuclear defense located in the Czech Republic.⁴ The opportunities to train leaders and build readiness in Europe are unparalleled and are often only limited by the creativity of those participating and a unit’s tolerance for risk.

Become a Student of the Russian Way of War

The Asymmetric Warfare Group (AWG) notes that “Russia has observed the American lessons learned in Iraq and Afghanistan, as well as their own from the 2008 invasion of Georgia, and applied these to the development of their own forces.”⁵ As a result, the Russian military has invested heavily in modernizing the technical capabilities of their force and the professionalism of their formation. According to the AWG, “This new [Russian] military barely resembles its former Soviet self and presents a near peer threat unlike any the U.S. military has faced in a generation.”⁶

It is important to ensure leaders at all levels understand the implications of these investments. Notable advancements in Russian capabilities include their ability to employ a “sophisticated blend of unmanned aircraft systems, electronic warfare jamming equipment, and long range rocket artillery.”⁷ For example, as witnessed in eastern Ukraine, Russian forces have become adept at linking their UAV systems and indirect-fire capabilities. They developed and integrated over fifteen separate UAV designs and have demonstrated the ability to link UAV sensor information to multiple indirect-fire systems. As Phillip Karbler has observed, Russian forces “are able to identify a target complex, net multiple sensor inputs, and produce a mass strike with high-lethality area fires.”⁸ In many cases, this transmission from UAV sensor to firing element took place in as little as fifteen minutes and achieved devastating effects.

Dispersion, concealment, the ability to rapidly displace, and redundant mission-command systems are critical to survival in this environment. Any rotation to JMRC will replicate this environment and will afford units multiple opportunities to develop this expertise. Focusing leader professional development activities on Russian capabilities, tactics, techniques, and procedures will assist in ensuring leaders at all levels understand the implications of Russian advancements. *The Russian New Generation Warfare Handbook* produced by the AWG (available from the Center of Army Lessons Learned) and Karbler’s “Lessons Learned from the Russo-Ukrainian War” are good primers and are recommended as required reading prior to operating in this environment.⁹

Prepare for Decentralized Operations

No other battalion within the BCT will experience the same level of decentralized operations as the BEB. Wherever the BCT is employed, it is likely that elements within the BEB are present to provide support. On several occasions, the 54th BEB has deployed elements to seven different countries simultaneously. To effectively mitigate risk, a clear understanding of approved activities must be established at each echelon of command. Leaders at all levels must clearly understand what risks can be underwritten at what levels and who is responsible for approving specific activities. Clear reporting expectations and command-and-support relationships established prior to any training event, with a deliberate confirmation mechanism at each echelon of command, will significantly mitigate confusion.

Notable examples where misunderstanding can cause delay and potential conflict are with the execution of UAV and demolition operations. Both of these activities have risk mitigation elements that may not be readily identifiable by those not routinely responsible for their employment. A technique worthy of consideration is to route deliberate risk assessment worksheets through the supporting unit for acknowledgment prior to sending to the supported unit for final approval. This approach serves to ensure that those headquarters ultimately responsible for executing certain high-risk training events are able to capitalize on the resident subject-matter expertise within the supporting unit and ensure the activity is being conducted within acceptable margins of safety. This helps ensure that both the supporting elements and



the supported maneuver units have a clear understanding of expectations so that misunderstandings are minimized and risk ownership is clearly defined.

Develop an Interoperability Framework

The vast majority of U.S. training conducted in Europe will involve the participation of at least one NATO ally, and often several. A key objective of any multinational training event is to increase interoperability among elements. Increased interoperability between allies and partners helps to assure access to contested environments, to deter conflicts, and to assist in maintaining security and stability; and it is a critical component of our national strategy.¹⁰ Critical to this endeavor is developing a deliberate framework for identifying interoperability opportunities and achieving interoperability objectives. A deliberate approach provides intellectual focus, minimizes the likelihood of missed opportunities, and increases the probability of achieving tangible and measurable interoperability gains. This framework should leverage the expertise of allies and focus within a doctrinal construct.

NATO defines interoperability as having three dimensions: the procedural dimension, the human

U.S. paratroopers assigned to the Company D, 54th Brigade Engineer Battalion, 173rd Airborne Brigade, conduct preflight checks on an RQ7B Shadow tactical unmanned aircraft system (UAV) 20 October 2015 at Aeroclub Postonja in Slovenia during Exercise Rock Proof V. The author contends that the strict requirements for setting up this UAV before use make it especially vulnerable to indirect fire attack in the modern operational environment. (Photo by Paolo Bovo)

dimension, and the technical dimension. These apply to the strategic through tactical levels of warfare and describe three categories of interoperability challenges. The procedural dimension focuses on doctrine and procedures with the goal of standardizing execution between formations. The human dimension describes education, training, and cultural influences; and the technical dimension focuses on the interoperability of equipment.¹¹

Units should capitalize on opportunities to build interoperability by learning from the other nations in Europe. There is a tremendous amount of resident expertise within NATO. For example, the French 11th Airborne Regiment conducted a real-world contested rapid runway repair operation in Mali in 2014, a skill of critical importance to U.S. airborne engineers. In another example, the Lithuanian army is extremely



proficient at building countermobility obstacles utilizing timber materials prevalent throughout the Baltics (knowledge that will be critical in any defense of the Baltics scenario). Additionally, the Latvians possess significant expertise using high frequency (HF) communication systems, which are generally less susceptible to jamming. Identifying these areas of expertise and establishing training opportunities to absorb the knowledge of partner formations increases interoperability while also increasing the readiness and effectiveness of U.S. formations.

Integrate Strategic Messaging into All Activities

Strategic messaging is not the sole responsibility of a brigade public affairs office. It is the responsibility of leaders at every level and should be integrated into the organizational culture. As Gen. Philip Breedlove, former commander of U.S. European Command noted,

Strategic communication is the most powerful tool European Command has to challenge Russian disinformation and propaganda. Russia overwhelms the information space with a barrage of lies that must be addressed

Engineers from 3rd Platoon, Bastion Company, 54th Brigade Engineer Battalion, 173rd Airborne Brigade, and 1 Troop, 1 Field Squadron, 1 Canadian Combat Engineer Regiment, pose between abatis and crater obstacles they created with demolitions in Pabrade, Lithuania, during Exercise Iron Sword 2016. Eleven NATO countries participated in the exercise, held 20 November to 2 December 2016 in Rukla and Pabrade, Lithuania. Iron Sword exercises validate mission command systems and tactical capabilities at the battalion level through offensive and defensive operations. (Photo by 1st Lt. Sarah Melville, U.S. Army)

by the United States aggressively in both public and private sectors to expose the false narratives pushed by Russian-owned media outlets and their proxies.¹²

Leaders should endeavor to incorporate strategic messaging into all activities, integrating relevant themes and messages of higher headquarters, and establishing systems to seize opportunities to highlight activities and capabilities.

Placing command emphasis on strategic messaging encourages leaders to become invested in this task. Leaders quickly realize that producing a two-page article on key training events and submitting it to the public affairs officer for clearance and dissemination is

not an overly burdensome task. To expedite strategic messaging, one successful technique is to prepare the shell of an article prior to each key training event. Most elements of a training event can be prepared before the actual event including known elements, locations, and training focus. As the event unfolds relevant details, quotes, and pictures may be collected and integrated into the article with limited additional effort.

During its twenty-four months of deployment experience, the 54th BEB used this technique to provide over forty internally prepared strategic messaging articles and videos to the 173rd IBCT (A)'s public affairs team for dissemination. This technique assists in meeting timeliness and relevance requirements established by most publication venues.

Strategic messaging became an adjunct activity to development of written communications as a professional skill set for leaders. Written communication is an integral component of the battalion's leader development program. In the 54th BEB, a policy was implemented that each day the battalion staff duty officer would submit a one-page current event paper on the topic of their choosing to discuss with the battalion commander prior to each morning's physical training. Not only did this serve as an informal counseling venue, it also conditioned the officers to practice, improve, and build confidence in their written communication skills. Article publication was also established as a recovery task following key training events.

In our battalion experience, once leaders overcame the intimidation of publishing their first article, they would sustain the initiative with limited prompting from the chain of command. Incorporating strategic messaging became second nature and self-sustaining. These efforts contributed to U.S. Army Europe's initiative to make thirty thousand soldiers look like three hundred thousand.

Be Prepared to Provide Mission Command for Maneuver Elements

Maneuver brigade commanders should expect their engineer battalion leadership to possess the requisite expertise to employ maneuver capabilities. Depending on the BCT's exercise commitments, BEBs may be tasked to provide mission command for maneuver elements. Such opportunities serve as a vehicle to expand the BCT's operational reach and should be embraced by BEB headquarters.

In the last two years, the 173rd IBCT (A) has employed its BEB as a maneuver headquarters on two separate occasions in support of major U.S. European Command and NATO exercise requirements. On both of these occasions, the BEB employed an organic sapper company as a maneuver element and received augmentation from multinational infantry elements. During Immediate Response 15 in Croatia and Slovenia, the battalion employed one rifle company from Croatia and one from Slovenia, and during Trident Juncture 15 in Spain, the battalion employed a reconnaissance troop and two Spanish motorized rifle companies against a British-led multinational armored brigade.

There is no better opportunity to train leaders within an enabler-focused headquarters on the intricacies associated with supporting maneuver than to make them responsible for their employment. Prior to assuming this mission, the BEB staff needs to conduct a detailed mission analysis of the organic capability shortfalls associated with performing this mission and request augmentation from the BCT staff. These shortfalls are primarily located within the fires and mission command warfighting functions.

Invest in Route Reconnaissance

Essential to an early victory against a Russian threat will be the speed at which forces can assemble in their designated defensive positions. Decisive to the speed of assembly is a clear understanding of the trafficability and obstacles along designated routes. One way to obtain this clarity, and to achieve freedom of maneuver, is to have current and accurate route information. Engineers play a critical role in the collection and analysis of route reconnaissance data and this activity should be incorporated into routine travel across Europe.

The Automated Route Reconnaissance Kit (ARRK) is an extremely useful tool and will save time and add precision and accuracy to these endeavors.¹³ The ARRK provides geo-referenced engineer trafficability information that can be integrated with a BCT's mission command systems. Additionally, by using the included camera, video imaging can be taken of bridges and sent to the U.S. Army Corps of Engineers Reachback Operations Center for precise calculation of the military load class, greatly saving the time required to determine this critical route variable.

Although not a modified table of organization and equipment item, ARRK systems can be obtained through the Engineer Research and Development Center of the Corps of Engineers at Vicksburg, Mississippi. At no cost to the unit, the 54th BEB was able to obtain four ARRK systems (one per sapper element) and receive a week-long home station train-the-trainer block of instruction. This system has been employed throughout the Baltics and continues to be integrated into mission planning.

Employ the UAV to Build Counter-UAV Tactics, Techniques, and Procedures

A technique to improve a unit's dispersion, concealment, and other counter-UAV tactics, techniques, and procedures (TTPs) is to employ the Shadow UAV in a manner that allows friendly units to see themselves. Opportunity for friendly forces to observe how their forces appear through the lens of a UAV provides an excellent opportunity for organic and multinational partners to experiment, refine, and ultimately perfect their counter-UAV tactics. This approach also provides UAV operators and intelligence personnel opportunities to seek out targets while building flight currency, which ultimately improves detection capabilities.

Slovenia, Poland, Germany, and the Baltic states each provide UAV flight locations within range of established maneuver training areas. Synchronizing UAV operations with concurrent maneuver training, ensuring that footage is available to ground units for viewing, and including counter-UAV TTPs as a deliberate part of the after action review process will significantly improve a formation's counter-UAV effectiveness.

Develop Beyond-Line-of-Sight Mission Command Expertise

In his remarks during the 2016 Association of the United States Army Convention, Chief of Staff of the Army Gen. Mark Milley described an environment where Army units may be forced to operate in noncontiguous battle space and face adversaries with significant cyber and communication denial capabilities.¹⁴ In such an environment, units must have redundant mission command systems and develop communication protocols that reduce the effectiveness of threat interference as "Russia has invested heavily in electronic warfare systems which

are capable of shutting down communications and signals across a broad spectrum."¹⁵

Employment of HF radio technology at the brigade level is one way to help mitigate this threat and increase effectiveness across extended areas of operation. HF systems offer a redundancy to satellite communication (SATCOM) systems, are more difficult to jam, and increase interoperability among several NATO allies.

Unfortunately, there are a finite amount of SATCOM networks available to support all of the Department of Defense. As the number of units increases, so does the demand for this limited resource. It is easy to envision a scenario where the demand for SATCOM reaches a threshold where a BCT is only allocated one or two SATCOM networks. If units are dispersed beyond the operating range of retransmission frequency modulation (FM) systems, and opposing threat cyber capabilities successfully disrupt warfighter information network-tactical systems, units will be severely limited in their ability to communicate. Developing a robust HF capability within a BCT can help mitigate this likelihood.

In anticipation of these communications limitations and threats, the 173rd is aggressively developing a communication model that emphasizes FM for company-to-battalion communications and HF for battalion-to-BCT communication. This approach increases redundancy of beyond-line-of-site systems, decreases demand on SATCOM, and reduces the combat power required to secure valuable FM retransmission sites. Additionally, the ability to communicate with NATO allies (which may be operating as adjacent or integrated units) is increased as many allies are proficient in HF communication.

Change the UAV Paradigm

The advancements in Russian indirect-fire capabilities render the TTPs used for Shadow UAV operations in Iraq and Afghanistan ineffective. Establishing the entire Shadow launch and recovery system on a developed airfield and leaving it in place for the duration of an entire multi-hour Shadow mission will ensure its detection and destruction by reconnaissance and indirect-fire systems. To increase survivability in this environment, UAV platoons must adopt an artillery mentality of "fire and rapidly displace" focused on minimizing exposure, particularly during the launch and recovery phase of a UAV mission. This requires organizations to understand the difference between risk mitigation during peacetime and during

combat, how to identify minimum equipment requirements, and how to develop surrogate equipment sets to train displacement techniques.

Currently, Army regulation requires that the full launch and recovery systems be in place during flight operations so if an aircraft develops an in-flight emergency it can immediately recover to an established landing site.¹⁶ This requirement reduces the possibility that an operator will have to activate the recovery parachute (which causes extensive airframe damage) to recover the aircraft during an emergency.

While such measures reduce the risk to equipment in a permissive environment, this regulation does not adequately address risk against a near-peer threat in a combat environment. The conservative approach employed in a permissive environment that is engrained into UAV operators at present does not adequately account for the commander's role in the risk mitigation process necessary for a nonpermissive environment. Commanders are responsible for weighing risk and should have the authority in combat to evaluate the risk of damaging an airframe due to an in-flight emergency weighed against minimizing the likelihood of the entire equipment set and UAV platoon being detected and annihilated by enemy artillery. To minimize this combat risk, a commander should have the prerogative of electing to minimize the platoon's

time exposed and signature by not having the landing site established during a multi-hour flight.

To train this technique, leaders need to have a thorough understanding of what is required for peacetime operations and the minimum equipment necessary to physically launch, sustain the flight of, and recover the Shadow. Separating a Shadow flight into these three distinct phases and identifying minimum equipment packages necessary to engage in these activities will allow formations to develop methods to reduce signature during each phase.

Conclusion

The U.S. Army is heavily invested in maintaining stability within Europe through the permanent presence of rotational forces and an extremely aggressive exercise program. These initiatives will assist in deterring aggression through the demonstration of the extreme lethality of U.S. Army BCTs. The unique capabilities located within the BEB are a decisive component of this lethality. The increased opportunities to capitalize on training in Europe—tailored to the European operating environment—will ensure that Army BCTs continue their demonstrated ability to impose their will on adversaries, provide options for decision makers, and, alongside NATO, contribute to the defense of Europe. ■

Notes

1. "U.S. European Command Posture Statement 2016: Posture Statement of General Philip Breedlove Commander, U.S. European Command," U.S. European Command website, 25 February 2016, accessed 2 August 2017, <http://www.eucom.mil/media-library/article/35164>.

2. "Remarks by General Scaparrotti at Deterrence Symposium," 27 July 2016, accessed 7 August 2017, <http://www.eucom.mil/media-library/transcript/35413/remarks-by-general-scaparrotti-at-deterrence-symposium>.

3. "NATO Centres of Excellence: Home," NATO Multimedia Library website, last updated 21 July 2017, accessed 2 August 2017, <http://www.natolibguides.info/coe>.

4. Ibid.

5. Asymmetric Warfare Group, *Russian New Generation Warfare Handbook* (Fort Eustis, VA: U.S. Training and Doctrine Command, 2 January 2017), 1.

6. Ibid., iii.

7. Ibid.

8. Phillip A. Karbler, "'Lessons Learned' from the Russo-Ukrainian War: Personal Observations" (Historical Lessons Learned Workshop, Johns Hopkins Applied Physics Laboratory and U.S. Army Capabilities Center, 6 July 2015), 13, accessed 2 August 2017, <https://prodev2go.files.wordpress.com/2015/10/rus-ukr-lessons-draft.pdf>.

9. Ibid.; Asymmetric Warfare Group, *Russian New Generation Warfare Handbook*.

10. U.S. Joint Chiefs of Staff, "National Military Strategy of the United States of America" (Washington, DC: U.S. Joint Chiefs of Staff, June 2015),

accessed 8 August 2017, http://www.jcs.mil/Portals/36/Documents/Publications/2015_National_Military_Strategy.pdf.

11. Center for Army Lessons Learned, *Decisive Action Training Environment at the JMRC, Volume III: Multinational Interoperability*, no. 16-29 (September 2016); Duane A. Gamble, "The Three Dimensions of Interoperability for Multinational Training at the JMRC," Army.mil website, 6 September 2016, accessed 8 August 2017, <https://www.army.mil/article/173432>.

12. "U.S. European Command Posture Statement 2016."

13. Larry N. Lynch et al., *Installation and Operation of the Automated Route Reconnaissance Kit (ARRK)* (Vicksburg, MS: U.S. Army Engineer Research and Development Center, December 2005), accessed 8 September 2017, <http://www.dtic.mil/get-tr-doc/pdf?AD=ADA441367>.

14. Mark A. Milley (speech, Dwight David Eisenhower Luncheon, Association of the United States Army Convention, Washington, DC, 4 October 2016), Defense Video Imagery Distribution System video, accessed 7 August 2017, <https://www.dvidshub.net/video/485996/ausa-2016-dwight-david-eisenhower-luncheon>.

15. "What Russia Wants: From Cold War to Hot War," *The Economist* online, 12 February 2015, accessed 8 August 2017, <https://www.economist.com/news/briefing/21643220-russias-aggression-ukraine-part-broad-er-and-more-dangerous-confrontation>.

16. Army Regulation 95-23, *Unmanned Aircraft Systems Flight Regulations* (Washington, DC: U.S. Government Publishing Office, 7 August 2006).



Iraqi special operations forces move through the Old City section of Mosul, Iraq, June 2017 after intense fighting with entrenched Islamic State fighters. The bloody and costly battle for Mosul highlighted aspects of modern urban warfare that will likely be features of foreseeable future urban operations including jihadist extremists who are willing to act as suicide bombers and the increasing use of drones as tools for terrorism. (Photo by Vera Mironova)

Adaptation and Innovation with an Urban Twist

Changes to Suicide Tactics in the Battle for Mosul

Lt. Col. Craig Whiteside, U.S. Army, Retired
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One of the growing trends cited by a 2017 National Intelligence Council report is the increased urbanization of the global population.¹ In an attempt to prepare the force for this future operating environment, the U.S. Army leadership is shifting its focus to improving capabilities to operate in urban settings. With one eye on the future, it would be smart to keep the other on the recent coalition-backed effort to liberate Mosul, Iraq's second largest city, which serves as a valuable window into the strategic, operational, and tactical aspects of modern urban warfare. While the Islamic State (IS) may not be the prototypical foe Army leaders expect to fight in the future, this jihadist group's dogged defense of the city features many tactics that may be copied well into the future by other adversaries.

Of the many innovations observed during the Mosul campaign, an important one to highlight is IS's industrial production and utilization of suicide bombers. For context, in 2016, the group employed over one thousand bombers in three countries.² Through experience in Afghanistan and Iraq, U.S. Army soldiers and leaders have become quite familiar with the dangers of suicide bombing and have developed effective techniques to defend against this tactic over time. Yet, like most tactics, adversary use of suicide bombings has continued to evolve rapidly in the battlefield proving grounds of Syria and Iraq.

With the convergence of global urbanization trends and outbreaks of urban conflict, the increased use of suicide bombers in largely conventional fights to liberate Iraqi and Syrian cities provides a valuable case study for examining the basic evolution of whom executes IS suicide bombings, IS targeting methodology, and the diverse supply chain that sustains such a prolific bombing campaign.

Past as Prologue

IS's use of suicide bombers dates back to its very first campaign in the summer of 2003, when it was known as Abu Musab al-Zarqawi's group, or Tawhid wal-Jihad.³ One operation featured Zarqawi's own father-in-law, Yassin Jarad, who detonated a truck full of explosives in a crowd near the Imam Ali Mosque in Najaf, Iraq, killing Ayatollah Muhammad Bakr al-Hakim, the leader of the largest Shiite political party, along with scores of others.⁴ Jarad was a foreign national from Jordan who had been with Zarqawi since Afghanistan. Like Jarad,

many of the early suicide bombers of the IS movement (known as al-Qaida in Iraq [AQI] after 2004, and the Islamic State of Iraq after 2006) were also foreign to Iraq; however, most had not been with the group very long. Researchers from the Combating Terrorism Center at West Point used captured personnel records of the movement from 2006 to show that the majority (56 percent) of foreign fighters entering Iraq volunteered to conduct suicide operations, compared to those who chose instead to be traditional fighters.⁵

Foreigners were not the only ones executing suicide operations in Iraq from 2003 to 2006. But, since the majority of the attackers were unnamed, it is difficult to determine the actual breakdown by nationality.⁶ According to a 2005 *Time* magazine interview of a prospective bomber from Fallujah, Iraqi suicide bombers were coming into their own that year, so much so that Zarqawi created a new AQI brigade to manage these volunteers.⁷ The group recruited heavily among Iraqis during this period and eventually became dominated by former members of ideologically similar Iraqi insurgent groups.⁸

Research into the types of targets indicates that AQI (and its later designations) consistently targeted Iraqi security forces and civilians over coalition units and bases.⁹ While individual foreign fighters and even local Iraqis volunteered to strike out at the occupation, Zarqawi and his successors carefully re-vectored these "smart bombs" toward more strategically impactful targets—namely, the Iraqi security forces who would be in place after coalition forces eventually left.¹⁰ The movement used truck bombs 70 percent of the time in an effort to maximize casualties and damage, particularly against hardened targets, and most of the attacks (52 percent through 2006) occurred in Baghdad.¹¹ The strategic logic of weakening

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indigenous forces first worked very well for the group, until the coalition and its new Sunni tribal partners (formerly anticoalition insurgents themselves) defeated the Islamic State of Iraq in 2007–2008.¹²

The initial military defeat influenced IS to make several adjustments to its tactic of suicide bombing. Without a sympathetic population to safely harbor the foreign fighters who made up the majority of the early suicide bomber candidates, the IS movement struggled to sustain a consistent campaign. One thirty-eight page after-action review written by a jihadist commander points out the difficulties of operating in Anbar Province after 2007, especially with foreigners subject to easy identification by hostile local citizens.¹³ This realization has been a major impetus for IS to control and administer territory as a de facto government, which allows it to secure both the important aspects of its state-building project and control the immigrants and locals who are actively involved in expanding the influence of its ideology.

In the interim period between the comprehensive defeat of IS in 2008 and its return to significance in 2013, the group heavily relied on suicide bombing as a tactic to prove its relevance to supporters and prospective recruits alike. Eschewing foreign fighters, the group relied on locals to perform a less frequent, but still significant, campaign of suicide bombings against important Sunni tribal leaders allied with the government as well as against key government ministries in the capital.¹⁴

The added focus on Sunni targets, in addition to Iraqi security forces and Shia pilgrims, should come as no surprise for a group whose long-term strategy is probably best described by the aptly titled *The Management of Savagery: The Most Critical Stage Through Which the Umma Will Pass*, which was written by a non-group member yet acknowledged by the group as largely accurate.¹⁵ Since the summer of 2003, insurgents targeted Iraqis with suicide bombings almost 83 percent of the time, and these attacks caused 19 percent of all Iraqi civilian casualties by 2010.¹⁶ In 2010 there were more than seventy-five suicide bombings in Iraq; while down from 353 in 2007, only Afghanistan had more that year.¹⁷

A Modern Caliphate of Questionable Methodology

There are many factors that facilitated the return of IS. However, among such factors, the disintegration of Syria has been an especially significant

one. Foreign fighters, inspired by the increasingly sectarian tones of the Syrian civil war and fueled by the perception of massive Sunni persecution by the Assad regime, began to arrive again in Syria in large numbers, facilitated once again by the creation of a hospitable location to shelter fighters. Although suicide bombings began to increase dramatically in both Syria and Iraq again, there were indications that by 2014 the majority of foreign fighters intended to work or live in the caliphate, or even fight on the front lines, and were not interested in conducting suicide operations. A 2016 analysis of IS captured records found that in contrast with the 2006 time period, only 11 percent of immigrants volunteered for suicide operations of any kind.¹⁸

This dynamic, whatever the cause, is reflected in who volunteers for suicide bombings and how IS directs them in its operational planning. Researcher Charlie Winter analyzed one year's worth (late 2015 to late 2016) of suicide bombings (923) and concluded that these attacks were "primarily perpetrated by *local* operatives against *military* targets ... a tactical shift with strategic implications that will change the insurgent and terrorist landscape for years to come."¹⁹

According to the analysis, 76 percent of all suicide operations took place in Iraq as part of a coordinated counterattack against the effort to liberate major cities, with a surge capability of fifty-eight suicide bombings in one week alone during the Mosul campaign.²⁰ In contrast, this corresponds closely to the highest *monthly* total (in early 2007) during the coalition surge campaign.²¹ Examining the entire population of IS suicide bombings, 70 percent were truck or up-armored vehicle bombs, and foreigners perpetrated just 20 percent of all attacks.²² Military targets were hit 84 percent of the time, and these were often part of a larger series, or were a wave of bombings in limited offensive operations (Ramadi, 2015) or counterattacks in urban areas (Mosul, 2016–2017).²³

Therefore, the analysis indicated a significant change in the tactics and operational execution of suicide operations from previous practices. The key factor resulting in the change was a new emphasis on IS seeking to control territory for significant periods of time.

To peel back further some of the factors behind this evolution, we looked deeper into human aspects of recruiting and managing suicide bombers, as well



as the logistics of sustaining this industrial capacity of launching human bombs.

The Harvesting of Human Bombs

As of 2016, IS draws from two categories of suicide operators: volunteers and impressed fighters, and civilians. The majority are volunteers and feature prominently in most propaganda videos—delivering farewell speeches and then driving off in their up-armored vehicle fitted out with a large improvised explosive device. Later in these videos, an explosion is shown, accompanied with promises of future victory due to the operators' sacrifice. In the early days of the IS movement, volunteers were strictly segregated from the regular fighters, and their interaction limited to serving as a logistical supply item—often matched with the vehicle carrying the improvised explosive device minutes before their final act. In contrast, today's volunteers are often experienced fighters familiar with the organizational values of IS and are willing to sacrifice for its collective goals.²⁴

While IS has thoughtfully avoided using experienced fighters in the past, the establishment of the caliphate and the intervention of countries such as France and the United States are part of a high-risk

Islamic State (IS) militants used drones, such as the one shown in this IS-released photo, with limited success, to attack civilians in Mosul during the battle for that city in 2017. An 18 February 2017 drone attack on the popular market Hay al-Intsar killed three and wounded ten civilians. The authors of this article suggest that drones may gradually replace suicide bombers as weapons of terror as global jihadist forces gain experience and increase their sophistication in drone use. (Photo courtesy of Iraqi News)

strategy that now requires maximum sacrifice. As such, the group has invested in building up the skills of its welders and mechanics in order to up-armor civilian vehicles now that its supply of captured military vehicles is low. Originally making vehicles that looked like something out of the *Mad Max* series, IS designers now produce vehicles that are subtly armored or disguised in order to minimize detection between launch and detonation in order to maximize effects on the target.²⁵

The strategic impact of large suicide campaigns has in the past been reliant upon the human element—both operators and leaders—as well as equipment. The correlation of manpower to equipment means that the better equipment used, the less qualified the operator may be and vice versa. On one hand, the group's objective is to increase the



quality of suicide bombers and equipment used for the missions. On the other, since human operators for suicide missions are a finite resource, the group needs to try to increase the use of expendable members for this mission and limit the sacrifice of more valuable members. This leads to the question, how can IS achieve these goals?

A Unique Human Resource Management Problem

A reliance on qualified, dedicated volunteers for such a prolific campaign is going to be a limiting factor in an industrial suicide bombing campaign regardless of the efficacy of any local IS recruiting efforts. This problem has been compounded by the coalition's reduction of IS's border access from Turkey, which squeezed the flow of foreign fighters into the so-called caliphate. While the control of territory has been the key driver of IS end strength, IS has been reluctant to tap into the pool of dedicated local fighters because they are needed to fight the multi-front war that IS has instigated against all of its neighbors, as well as against interventionists. IS, therefore, has had

As demonstrated in this December 2016 photo, armor added to a vehicle is camouflaged by painting it the same color as the rest of vehicle. This was the first stage of a three-stage Islamic State process to prepare vehicles for use as suicide vehicle-borne improvised explosive devices against Iraqi forces in Eastern Mosul, Iraq. (Photo by Hugo Kaaman)

a strong motive to modify its suicide-bomber human resourcing policies.

An interview with a former IS fighter established that IS commanders in the Mosul campaign preferred dedicated, but low-ranking, members with no special skills for suicide bomber employment. However, once the tempo and pace of the Mosul battle accelerated, the group began to use more coercive means to produce operators for its suicide machinery. One pool of candidates IS mined was their internally disciplined and subsequently incarcerated fighters. It seems logical that by sending a person who is a liability or continually fails to adhere to in-group values, the group is killing two birds with one stone by utilizing the problem fighters in a suicide mission. Accordingly, when IS fighters were convicted of a serious crime, some were allegedly given two

options: execution or the opportunity to “volunteer” for a suicide mission with the potential for achieving spiritual redemption and possibly even lasting worldly fame in a martyrdom video. According to the defector mentioned above, the majority of people in this position chose the suicide mission, either out of a desire to repent and help the group, or because they saw in such an assignment the slim possibility for escape.²⁶

One theoretical problem with using reluctant suicide bombers is that they would require more supervision and probably be less successful than true volunteers. In this case, this type of shirking would waste valuable organizational resources; this is a particular concern when using local fighters who could easily escape during a mission and then hide amongst families or tribes. More importantly, according to one Iraqi legal authority we spoke to, these fighters realize that if they surrender to Iraqi authorities, according to the law, they can receive shorter prison sentences if they are low-level members or have been forced to join IS. There is also the possibility that due to the extensive corruption within the legal system, they will be able to buy their way out of prison after they are sentenced.²⁷

An example of this dynamic happened in October 2016, when an Iraqi woman working within the IS religious police—the *hisbah*—was involuntarily sent to infiltrate enemy lines near Hawija while wearing an explosive belt. According to Iraqi soldiers who witnessed the incident, the woman threw away her belt prior to reaching her target and tried to blend in with the civilians. As a member of the *hisbah* working among the population of Mosul in a policing role, she was well-known to some of the civilians who then notified the soldiers at the checkpoint, leading to her arrest.²⁸

All of these factors make forced, local suicide bombers much less effective than foreigners. Foreign fighters believe they have no other option than to execute the mission, making them much more effective and trusted bombers. Were these bombers to surrender, they would likely receive capital punishment, and because they would be killed either way, they perceive it as better to execute the mission so their deaths are not in vain. In contrast, “Iraqi militants mostly throw away their explosive belts and try to melt away, but I have never seen a story about foreign fighter doing the same. They usually blow themselves up,” said Mudhhar Hamad, an officer from Hashd al-Ashayari, the Arab Sunni militia in Hawija.²⁹

In addition to normal recruiting from the ranks, IS’s control of territory produced a large pool of local civilians to solicit, or if necessary, coerce into conducting suicide operations. These were people, possibly women and children, who could blend in with refugees and internally displaced persons to get deep inside enemy territory. Although these proved to be very effective bombers in many cases, IS’s utilization of civilians does have some limitations. Though similar to the problem of using forced group members, using coerced civilians leads to a higher risk of mission failure due to a lack of discipline, training, and experience. As locals, they have the opportunity to abandon their missions and run away, with low chances of IS prosecution if caught. So how does IS ensure these suicide candidates complete their missions? They sometimes do so by using unorthodox methods such as drugging the operators, which prevents them from thinking and compels them to lose whatever aversion they might have to executing the mission.

In the fall of 2016, a sixteen-year-old boy was found asleep wearing a suicide belt near Hawija. The boy stated that an IS leader gave him an energy pill to help him resist hunger and thirst on the mission, but instead, it incapacitated him. According to his Iraqi captors, he was discovered and jailed, and then woke up some time later with little knowledge of what happened.³⁰

Equipment

Since the group’s growing manpower issues are a limiting factor on sustaining the intensity of its suicide bombing campaign, IS has sought to compensate by increasing the quality of equipment used to increase chances of mission success. The urban environment in Mosul also required some serious adjustments to earlier IS campaigns post-2014. It was no longer enough to take a civilian sedan, load it with explosives, marry it up with a driver, and then drive it to a target. Several problems emerged with this scenario. IS found that unimproved cars could not reach their intended targets due to bad roads, roadblocks, and targeting by a much more aware Iraqi security force who developed better counters to suicide car and truck bombs. Since such failures are extremely costly for an armed group, the group adapted.

First, they gravitated toward four-wheel-drive cars instead of sedans, as such cars are more likely to navigate the obstacles in the urban combat environment. Second,

they continued their use of improvised armor to keep them from being easily neutralized by a counterterrorism force. Armor was typically added to the front of the car (with a window left to see) in order to deflect incoming direct fire. Metal plates were also typically added to the wheel wells to protect them from incoming rounds. However, in an effort to camouflage the improvements, IS used paint and other visual modifications to make these cars look normal, especially from the air. Third, the group worked on individual modifications for vehicles to enable disabled fighters to operate the vehicles against incoming fire until reaching the designated targets.³¹ In the end, IS control of territory facilitated the development of an in-house capability for these modifications, which were completed close enough to the front lines to allow unfettered employment of these vehicles.

The Future of the Suicide Mission

As is common with extended periods of combat, the speed with which tactics adapt is dependent on the quality of forces, amount of experience, and prevailing culture of innovation that allows the development of effective counters. Regarding the tactic of using suicide bombers in urban combat, IS made an extensive effort to adapt its tactics to achieve some operational results that matched its tremendous investment of human resources and capital. While at first suicide vehicles were effective in both rural and urban settings, the increase in surveillance techniques caused overt suicide vehicles to lose their effectiveness in rural areas due to the greater possibilities of aerial detection. Subsequently, IS was compelled to limit suicide operations to within a very short range due to the high risk of early detection.

Because the main goal was to reduce the number of operator casualties while increasing the success of missions, IS experimented with automation to eventually remove humans from suicide missions. One example of such attempted transformation was the increased use of remotely operated and weaponized drones.

Currently, in those areas remaining under IS control, the use of such drones has not been effective enough to replace the tactic of suicide bombers completely, but the use of remotely piloted drones as bombs could become the dominant reality in a very short period of time. Several problems currently inhibit use of this relatively new weapon. First, there is a current shortage of drones for them to be used in a disposable manner. Drones have been used to drop small amounts of explosives and return to base, but drones are mainly prioritized for intelligence, surveillance, and reconnaissance purposes. Second, the drones do not yet have the capability to carry the same amount of explosives as cars. Once IS or other armed groups are able to overcome these limitations, we could expect to see drones employed as guided missiles that can directly hit an important target, such as a high-ranking commander, with a substantial amount of killing power.

Conclusion

For those charged with thinking about adaptations for future warfare, the battle of Mosul is an excellent opportunity to catch glimpses of the emerging character of future urban combat. A dominant feature of the fight for Mosul was the use of suicide bombers. However, use of suicide bombers has always been an asymmetric response to one side's lack of precision weapons in modern warfare, and once a suitable replacement is developed, we can expect traditional human suicide bombing to recede as an effective tool—despite its serving as a signaling function for the ideology of a cause by demonstrating the determination and sacrifice by select fighters. Instead, the development of large and capable suicidal drones needs to be considered as the next probable successor to suicide bombing and an indication of the increased lethality of the battlefield resulting from applications of new, cheap, and available technologies. ■

Notes

1. National Intelligence Council (NIC), "Global Trends: Paradox of Progress" (Washington, DC: NIC, January 2017), <https://www.dni.gov/files/documents/nic/GT-Full-Report.pdf>.

2. Thomas Joscelyn, "Islamic State Has Claimed More Than 1,000 Suicide Bombers Thus Far in 2016," *Long War Journal*

online, 6 December 2016, accessed 27 July 2017, <http://www.longwarjournal.org/archives/2016/12/islamic-state-has-claimed-more-than-1000-suicide-attacks-thus-far-in-2016.php>.

3. Brian Fishman, *The Master Plan: ISIS, al-Qaeda, and the Jihadi Strategy for Final Victory* (New Haven, CT: Yale University Press, 2016).

4. Bruce Riedel, *The Search for Al Qaeda: Its Leadership, Ideology, and Future* (Washington, DC: Brookings Institution Press, 2010), 99–100; Bobby Ghosh, "Twelve Years On, Remembering the Bomb That Started the Middle East's Sectarian War," Quartz online, 28 August 2015, accessed 27 July 2017, <https://qz.com/476191/remembering-the-bomb-that-started-the-middle-east-sectarian-war/>.
5. Joseph Felter and Brian Fishman, *Al-Qa'ida's Foreign Fighters in Iraq: A First Look at the Sinjar Records, Harmony Project* (West Point, NY: Combating Terrorism Center [CTC], 2 January 2007), 18, <https://ctc.usma.edu/posts/al-qaidas-foreign-fighters-in-iraq-a-first-look-at-the-sinjar-records>.
6. Mohammad Hafez, "Suicide Terrorism in Iraq: A Preliminary Assessment of the Quantitative Data and Documentary Evidence," *Studies in Conflict and Terrorism* 29, no. 6 (2006): 609, <http://dx.doi.org/10.1080/1057610060079087>.
7. Bobby Ghosh, "Inside the Mind of an Iraqi Suicide Bomber," *Time*, 26 June 2005.
8. Craig Whiteside, "New Masters of Revolutionary Warfare: The Islamic State Movement (2002–2016)," *Perspectives on Terrorism* 10, no. 4 (2016): 11–12.
9. Katherine Seifert and Clark McCauley, "Suicide Bombers in Iraq, 2003–2010: Disaggregating Targets Can Reveal Insurgent Motives and Priorities," *Terrorism and Political Violence* 26, no. 5 (2014): 812, <http://dx.doi.org/10.1080/09546553.2013.778198>.
10. Ibid., 810–17.
11. Mohammad Hafez, *Suicide Bombers in Iraq: The Strategy and Ideology of Martyrdom* (Washington, DC: US Institute of Peace Press, 2007), 97.
12. Nicholas Kramer, "Waking up to the Truth about the Sunni Awakening," War on the Rocks website, 23 November 2016, accessed 27 July 2017, <https://warontherocks.com/2016/11/waking-up-to-the-truth-about-the-sunni-awakening/>.
13. Unknown Islamic State Member, "Analysis of the State of the ISI [Islamic State of Iraq]," Harmony Documents (West Point, NY: CTC, 2007), accessed 9 August 2017, <https://ctc.usma.edu/v2/wp-content/uploads/2013/09/Analysis-of-the-State-of-ISI-Translation.pdf>.
14. Seifert and McCauley, "Suicide Bombers in Iraq," 813.
15. "The Revival of Jihad in Bengal with the Spread of the Light of the Khilafah," *Dabiq* 12, Safar 1437 (2015), 39, accessed 7 September 2017, <https://clarionproject.org/docs/islamic-state-isis-il-dabiq-magazine-issue-12-just-terror.pdf>.
16. Seifert and McCauley, "Suicide Bombers in Iraq," 813; Madelyn Hsiao-Rei Hicks et al., "Casualties in Civilians and Coalition Soldiers from Suicide Bombings in Iraq, 2003–2010: A Descriptive Study," *The Lancet* 378, no. 9794 (2011): 906–14.
17. Brian Fishman, "Redefining the Islamic State," New America online, 18 August 2011, accessed 9 August 2017, <https://www.newamerica.org/international-security/policy-papers/redefining-the-islamic-state/>.
18. Brian Dodwell, Daniel Milton, and Don Rassler, "Then and Now: Comparing the Flow of Foreign Fighters to AQI and the Islamic State" (West Point, NY: CTC, 8 December 2016), 21, accessed 9 August 2017, <https://ctc.usma.edu/v2/wp-content/uploads/2016/12/Then-and-Now.pdf>.
19. Charlie Winter, "War by Suicide: A Statistical Analysis of the Islamic State's Martyrdom Industry," ICCT–The Hague, 27 February 2017, 4.
20. Ibid., 11.
21. Seifert and McCauley, "Suicide Bombers in Iraq," 807.
22. Winter, "War by Suicide," 17–23.
23. Ibid., 18–19.
24. Hafez, *Suicide Bombers in Iraq*, 98; John Horgan, Mia Bloom, Chelsea Daymon, and Hicham Tiflati, "A New Age of Terror? Older Fighters in the Caliphate," *CTC Sentinel* 10, no. 5 (May 2017): 13–19, accessed 5 September 2017, https://ctc.usma.edu/v2/wp-content/uploads/2017/05/CTC-Sentinel_Vol10Iss514.pdf.
25. Hugo Kaaman, "The History and Adaptability of the Islamic State Car Bomb," Zaytunarjuwani website, 14 February 2017, accessed 9 August 2017, <https://zaytunarjuwani.wordpress.com/2017/02/14/the-history-and-adaptability-of-the-islamic-state-car-bomb/>.
26. Ex-Islamic State fighter, interview by Mironova, Ukraine, February 2017.
27. Iraqi law expert (anonymity requested), interview by Mironova, Iraq, October 2016 and April 2017; Kenneth Rosen, "Taking ISIS Fighters to Court: Letter from Qaraqosh," *Foreign Affairs* online, 26 June 2017, accessed 5 September 2017, <https://www.foreignaffairs.com/articles/2017-06-26/taking-isis-fighters-court>.
28. Story related to Mironova by members of Iraqi military (unit withheld), phone interview in Hawija, Iraq, November 2016.
29. Mudhhar Hamad, interview by Mironova.
30. Iraqi military, phone interview.
31. Kara O'Neill, "ISIS Strap Explosives to Disabled Fighters in Wheelchairs Tasked with Carrying out Suicide Bomb Attacks," *Mirror* online, 5 January 2017, accessed 5 September 2017, <http://www.mirror.co.uk/news/world-news/isis-strap-explosives-disabled-fighters-9567504>.



Current U.S. standard operating procedures for logistical-support units frequently result in geographic concentrations of command-and-control and support elements, demonstrated in this June 2017 photo from the Joint Multinational Readiness Center (JMRC), Hohenfels, Germany. This TTP (tactics, techniques, and procedures) presents extremely vulnerable targets for enemy artillery using massing and targeting techniques known to be employed by the Russian armed forces. During force-on-force training in which the authors of this article participated at the JMRC, the opposing force routinely gave high priority to targeting logistical support units during the opening stages of each exercise, resulting in a dramatic degradation of the maneuver brigade's operational reach due to a devastating loss of logistical support capability. (Photo courtesy of Vyper Team, Joint Multinational Readiness Center)

Logistical Operations in Highly Lethal Environments

Capt. Jerad Hoffmann, U.S. Army

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A major shock to leaders throughout NATO has been the reemergence of the potential for massed enemy fires not seen since the Eastern Front of World War II, foreshadowing the devastation that could be inflicted on organizations by enemies focused on efficiency of massed fires

in the event of large-scale war. Similarly, strategic threats stemming from the proliferation of new and sophisticated conventional capabilities are emerging around the world that are designed to exploit U.S. Army weaknesses. As a result, the U.S. Army is currently having to reinvent itself to fight near-peer

enemy forces once again, something it has not had to seriously contemplate for several decades.¹ Addressing the emerging security threats, Gen. Mark A. Milley, the chief of staff of the Army, has stated that “a future conflict is going to be highly lethal, very highly lethal. Unlike anything our Army has experienced since WWII.”² In such an environment, leaders must develop their units to be flexible enough to fight a near peer in the offense and in the defense, and then seamlessly shift into stability operations as stated in Army Doctrine Publication 3-0, *Operations*.³

At the Joint Multinational Readiness Center (JMRC), situated in the Oberpfalz region of Bavaria, Germany, the permanently assigned observer coach/trainer (OCT) teams regularly observe brigade support battalions struggle when confronted with Russian techniques, tactics, and procedures (TTPs). This lack of familiarity and detailed knowledge stems from an almost exclusive focus on training for counterinsurgency (COIN) threats over the last fifteen years. It has resulted in the atrophy of conventional combat skills, which were once second nature to U.S. forces assigned to Europe during the Cold War. COIN threats, for the most part, do not involve fighting under contested airspace, struggling for control over theater support areas, vying for domination in the cyber battle against sophisticated enemy electronic capabilities, or dealing with the effects of overwhelming massed fires. Therefore, training priorities did not emphasize cover, concealment, dispersion, and operating without emitting a signal. As a result, proficiency in these and other related conventional warfighting skills were not exercised at the lowest levels and have thus been largely lost.

This loss of conventional skills means that, without a significant reemphasis on survivability training, logistics units risk being destroyed rapidly in the event of a large-scale conventional war. This ultimately results in significant degradation to operational reach and maneuver tempo for the entire force. Therefore, the number one priority for logistics units preparing for a highly lethal conventional-force environment is survival. To achieve that end, the following are recommendations for how to adjust logistical-unit training for expeditionary operations in terms of a mindset reorientation and training adjustment in order to develop new TTPs.

The Russian Fires Threat

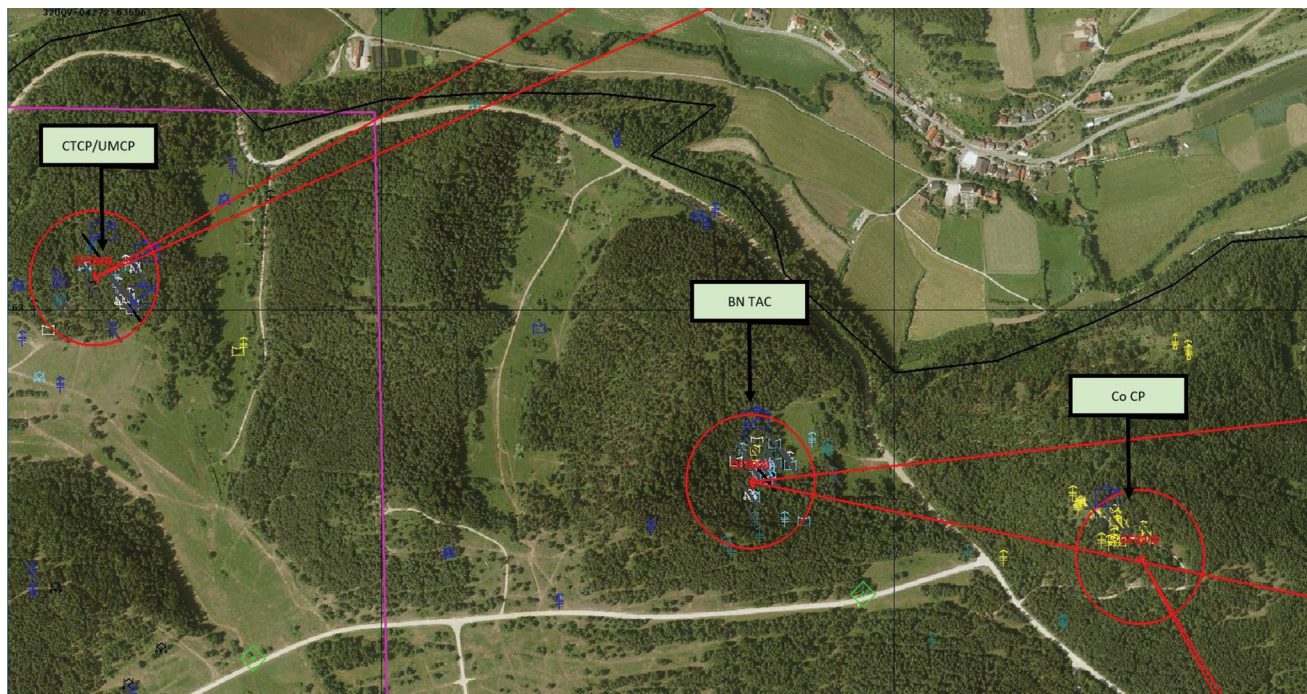
The quality of Russian artillery has been a source of Russian national pride since Peter the Great. One result is that historically, Russia had world-class artillerymen.⁴ Keeping with that legacy, in the current Russian military culture, field artillery is not just the “King of Battle.” It is called *bog voyny*, or “God of War.”⁵

In U.S. doctrine, fires elements support the maneuver elements. In the Russian military, the opposite is true. Russian armored formations seize ground in order for fires to move into effective firing positions and engage with overwhelming fire superiority. To meet the forecast requirements for modern warfare, the Russians have also modernized their artillery platforms to have ranges greater than fifty kilometers. These exceptional

platforms, together with Russian employment strategies, were extremely effective during the Ukrainian conflict. Russian armed forces have proven unflinching, willing, and adept

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at massing their fires to destroy everything inside a one square kilometer. The old Soviet army had five distinct methods of fire, and it is reasonable to assume that the Russian army maintains a doctrine that is very similar:

- During *rapid fire*, each crew begins to fire at their own pace without sacrificing accuracy or exceeding the tube's capability.
- In *systematic fire*, each tube is fired in unison at set intervals to achieve desired effects. This is most often used when coordinating with a forward observer.
- *Counterbattery fire* is the suppression or destruction of enemy batteries. This is considered the most important mission for an artillery unit because this is the preferable way of gaining fire superiority over an enemy.
- *Maneuver by fire* is the use of fires with maneuver elements. This can be used in conjunction with offensive and defensive operations. Within each maneuver operation, there are special artillery tactics as well.
- In the last method, *fire with direct aiming*, an artillery unit acts as both forward observer and firing battery.⁶

As a consequence of the increased range of Russian artillery and Russia's application of well-honed methods of fires delivery, U.S. brigade support battalions are now increasingly susceptible to enemy fires.

During Saber Junction 17, a training exercise conducted at the Joint Multinational Readiness Center (JMRC) in Hohenfels, Germany, a maneuver battalion had three nodes attacked simultaneously: a company command post (Co CP), the battalion tactical command post (BN TAC), and a company trains command post (CTCP) collocated with the unit maintenance control point (UMCP). The red lines depict the flight path of opposing force (OPFOR) tube artillery fire missions. Two OPFOR fire missions were used for each location; the circles show the areas affected. The fire missions brought chaos to the battalion for hours as all three nodes were forced to treat and evacuate casualties and find new locations from which to conduct operations. These missions crippled the supply chain of a maneuver battalion and shifted sustainment priorities for the brigade support battalion. Six accurate fire missions caused ripples throughout the brigade and degraded its operational reach for hours. (Photo courtesy of JMRC)

Unmanned Aerial Vehicles Threat

Additionally, since the 2008 Georgian campaign, Russia has been developing its unmanned aerial system (UAS) program to identify targets. Russia has both military and over-the-counter commercial-grade drones that will layer degrees of coverage over an area of interest and relay target information between drones to a stationary ground force. Ukrainian units reported that once their unit locations were identified, they had five to fifteen minutes before accurate Russian fires hit their positions.⁷ Russian forces now have demonstrated a unique



ability to leverage unmanned aerial vehicles (UAVs) in a way that we have never encountered before in a near-peer adversary. This is potentially devastating to support units, and here is why.

The current prevailing mindset of logistics leaders that rotate into JMRC is to collocate battalion field trains command posts (FTCP) within the brigade support area (BSA). This is done in an effort to gain a more accurate overall brigade logistic common operating picture. However, the concentration of field trains in a confined place creates a large unit footprint that is easily observed by enemy UAVs. This makes such concentrations of units immediately subject to fires before they can react.

As a consequence, the BSA has been identified in every fiscal year 2017 exercise within twenty-four hours from the start of the rotation. Once targeted by the opposing forces, the degradation to the brigade's operation reach is devastating due to all of the FTCPs' proximity to the BSA. The lesson learned is that when an enemy has the demonstrated proclivity and capability to mass effective, long-range artillery against rear areas, logistical units need to spread out and increase their mobility in order to survive. This type of survival requires disciplined companies executing clearly understood standard operating procedures (SOPs) in order

A Russian self-propelled howitzer fires a 152 mm shell toward a Georgian position 9 August 2008 outside the South-Ossetian settlement of Dzhava, Georgia. (Photo by Denis Sinyakov, Reuters)

to be effective. Survivability must be taken into account when developing the brigade's concept of support for an operation when fighting a near peer.

The most essential lesson learned is that establishing the large logistics footprints that U.S. formations are accustomed to is no longer possible in the type of threat environment that is emerging.

The Need for a Dispersion Oriented Mentality

Gen. Mark A. Milley stated, "To avoid being detected and targeted by precision weapons, soldiers must split into small units and keep either on the move or under cover. Static bases will be sitting ducks."⁸ Pursuant to this guidance, the U.S. Army must create a mentality that embraces dispersion. Despite the need to adjust TTPs to be ready for recent innovations in UAS detection capabilities, logistics units have not been exercising or standardizing detection mitigation practices



during JMRC training rotations. One method units can begin to employ is arraying platoon and company locations into base clusters.

Base clusters make it more difficult for enemy UASs and other intelligence, surveillance, and reconnaissance assets to identify unit locations. If a logistical unit is discovered and targeted by enemy fires, cluster formations will mitigate total destruction of personnel and commodities.

After detection, units only have minutes to displace their formations before enemy fires strike. A large concentration of logistical headquarters elements can take hours to move, even if displacement criteria is rehearsed. In contrast, displacing one company is easier than an entire brigade-support network concentration. Also, the chances of enemy positive identification on an entire logistical footprint is reduced.

Base Cluster Preparation and Mission Analysis

It is critical that commanders and staff members execute mission analysis prior to combat operations to

Sgt. 1st. Class Victor Figueroa helps conceal the 13th Expeditionary Sustainment Command's support operations tent 26 October 2016 during a command post exercise forward on North Fort Hood, Texas. Such exercises are intended to train support headquarters elements to deploy to an immature theater in an austere environment during a decisive action scenario. However, the authors of this article assert that the size, weight, complexity, and large electronic "footprint" of such command posts have made them extremely vulnerable to attack because they are too slow to establish, too easy to identify from aerial reconnaissance, and too slow to relocate when threatened. (Photo by Capt. William Brink, U.S. Army)

determine what is realistic in terms of formation size, how to implement dispersed formations, and how to prepare for multiple relocations that may have to be carried out on short notice. The analyses must identify key terrain features, the infrastructure network, and the support requirements (given the limits of article-length analysis, only terrain is covered in-depth in this article). Units that practice base clusters should develop SOPs that are unique to their organization and enable leaders at the lowest level to practice disciplined initiative. They should include SOPs for



preplanned communication windows, isolated personnel procedures, and displacement criteria.

One Key Recurring Planning Deficiency

At JMRC, units are not leveraging terrain to their full advantage. Base clusters require terrain features between each element. For example, the distribution company could be near an intersection while the medical company is separated by a nearby ridge. Logistical units need to strive to stay out of open areas and use cover and concealment as much as possible. Additionally, the maintenance company does not need to be near the distribution company and the intersection. The maintenance company can be completely concealed in a wood line. Such effective use of natural conditions minimizes the resources and the time devoted to camouflage and concealment.⁹

Planning and executing base clusters is difficult, but it is essential to help ensure survival. Therefore, commanders need to prioritize survivability training built around the cluster concept and visualize what requirements will be needed. Experience will come with

The U.S. Army demonstrates a new command post wireless solution that provides Wi-Fi to the command post leveraging Warfighter Information Network-Tactical Increment 1 satellite equipment in May 2015 during Network Integration Evaluation 15.2 on Fort Bliss, Texas. Implementation of Wi-Fi offers the potential of eliminating the need to lay complex wire systems, which would simplify and facilitate speedier displacement of a command post element. (Photo by Amy Walker, Program Executive Office Command, Control and Communications-Tactical)

time. The hardest part will be taking the first step and training this concept at home station.

Training Needs for Survivability TTPs

The Asymmetric Warfare Group recently stated that “all combat support units within range of IDF [indirect fire] systems must practice exceptional survivability TTPs.”¹⁰ JMRC has identified three areas that need to be improved immediately.

The first training priority follows Milley’s vision of a future conflict, “Our units will have to move constantly. ... In the future battlefield, if you stay in

one place longer than two or three hours, you will be dead.”¹¹ This is especially true for battalion and company headquarters.

The recent Russo-Ukrainian conflict appears to validate this observation. Ukrainian battalion executive officers reported that they moved their headquarters constantly and never stayed in one spot more than seventy-two hours to avoid targeting by fires. They may stay in a general area but never in the same spot.¹²

To accomplish this refinement of survivability TTPs, U.S. forces need to focus on setting security, digging fighting positions, covering all vehicles with camouflage, and setting up the new communications network. These tasks are not specific to the company level. Company, battalion, and brigade soldiers must become extremely proficient at breaking down and setting up the command post. In this process, leaders and soldiers must capture and prioritize what needs to be set up first and what is a luxury that can be dispensed with. Also, leaders need to refresh their formations’ understanding of “priorities of work,” ensuring specific subordinates are assigned responsibilities in accordance with those tasks.

The second training priority, also cited as a priority by Milley, is “to employ every known method of concealment.”¹³ Logistics units are no different when stationary; units must be able to conceal their positions. Moreover, the modern battlefield goes beyond simple camouflage requirements such as face paint and foliage on vehicles. Army Techniques Publication (ATP) 3-37.34, *Survivability*, explains that “placing a low priority on camouflage and concealment activities because of time constraints, minimal resources, or convenience could result in the mission failure and unnecessary loss of life.”¹⁴ Units at JMRC have been slow to implement camouflage for platforms that operate in various sections of the electromagnetic spectrum. These platforms include cell phones, heaters, and email enablers. Using a flashlight has the potential to give away a unit’s position and invite enemy fires onto that location. Therefore, as priority targets for enemy fires, sustainment units must take every precaution to reduce risk. This can be achieved through clear orders before an operation or going without digital systems for as long as possible. ATP 3-37.34 is an excellent reference for commanders for camouflage best practices.

The most effective way to employ camouflage and concealment listed in ATP 3-37.34 is light, noise, and movement discipline.¹⁵ Logistics leaders need to reembrace field craft and develop SOPs that can be enforced by noncommissioned officers. To that end, ATP 3-37.34 has an entire appendix on how commanders can develop SOPs for their units.¹⁶

The third training priority is a subtask of concealment. Commanders must train their staffs and units to operate without the digital systems that we have become accustomed to during the last fifteen years of conflict so that the mission can continue if network communications are degraded, destroyed, or themselves become an operational-security liability. This is going to be very difficult at first, as the U.S. Army has become dependent on systems that constantly share data such as Global Combat Support System-Army, Joint Capability Release, Blue Force Tracker, and Command Post of the Future. However, sharing that data comes at an operational-security price. All cloud-based systems continually ping a satellite in orbit to relay communication. This creates a potential fatal vulnerability, since each of these systems can be observed and monitored by someone looking across the electromagnetic spectrum. Consequently, using such systems may perpetually give away the location of the unit to skilled adversaries, putting the unit in danger.

Additionally, generating the bandwidth to support Command Post of the Future, Outlook, and Defense Switched Network phones requires a command-post node or joint-network node. These mission command enablers require an unblocked view to the satellite. This can become difficult in a wooded area and the command-post and joint-network nodes are often placed in an open field where they can be seen with the naked eye and their locations compromised.

The problem is not just limited to digital systems. Frequency modulation and high frequency communication, even if properly encrypted, can be intercepted, triangulated, and give away a unit position. Therefore, commanders would be wise to take TTPs from NATO allies who have not become dependent on digital systems. Among such, communication windows are used where company command posts are only authorized to “blast” short, thirty-second communications, to which the battalion is expected to respond within the next twenty-four hours with guidance in communications



In the debate of efficiency versus survivability, survivability must always win.



bursts of less than thirty seconds. Consequently, a culture shift across the U.S. Army is needed in which commanders must genuinely have trust in their subordinates and allow them to take disciplined initiative. Constant communication will only get soldiers killed.

The Way Forward

The threat of Russian fires against logistical formations is a problem U.S. forces have not encountered for nearly a generation. The days of large forward operating bases such as Bagram or Camp Victory are not realistic in a high intensity, conventional force-on-force environment. The destruction

of a major Ukrainian ammunition depot in March 2017 dramatically reinforces this point.¹⁷

To protect U.S. Army logistical formations against a sophisticated blend of UASs and long-range artillery, units need to disperse while leveraging terrain to their advantage. Leaders should focus on making their units mobile, concealed, and empowered to conduct disciplined initiative. In the debate of efficiency versus survivability, survivability must always win. Soldiers are no good to the Army if they are dead. In the words of Gen. Milley, “for those that wish to do us harm, the U.S. Army will beat you harder than you’ve ever been beaten before.”¹⁸ ■

Notes

1. David A. Shlapak and Michael W. Johnson, *Reinforcing Deterrence on NATO's Eastern Flank: Wargaming the Defense of the Baltics* (Washington, DC: RAND Corporation, 2016), 1, accessed 11 September 2017, http://www.rand.org/content/dam/rand/pubs/research_reports/RR1200/RR1253/RAND_RR1253.pdf.

2. Sydney J. Freedberg Jr., “Miserable, Disobedient & Victorious: Gen. Milley’s Future US Soldier,” *Breaking Defense*, 5 October 2016, accessed 11 September 2017, <http://breakingdefense.com/2016/10/miserable-disobedient-victorious-gen-milleys-future-us-soldier/>.

3. Army Doctrine Publication 3-0, *Operations* (Washington, DC: U.S. Government Publishing Office [GPO], 11 November 2016).

4. Marine Corps Intelligence Activity, *Soviet/Russian Armor and Artillery Design Practices: 1945-1995* (Quantico, VA: Institute for Defense Analyses, 1996), vi-1.

5. *Ibid.*

6. Field Manual 100-2-1, *The Soviet Army Operations and Tactics* (Washington, DC: U.S. GPO, July 1984 [now obsolete]), 9-12.

7. Asymmetric Warfare Group, *Russian New Generation Warfare Handbook* (Fort Eustis, VA: U.S. Training and Doctrine Command, 2 January 2017), 23.

8. Freedberg, “Miserable, Disobedient & Victorious.”

9. Army Techniques Publication 3-37.34, *Survivability Operations* (Washington, DC: U.S. GPO, 28 June 2013), para. 6-70.

10. Asymmetric Warfare Group, *Russian New Generation Warfare Handbook*, 40.

11. Mark A. Milley (speech, Dwight D. Eisenhower Luncheon, Association of the United States Army Luncheon Convention, Washington, DC, 4 October 2016), Defense Video Imagery Distribution System, 59:31, accessed 11 September 2017, <https://www.ausa.org/events/ausa-annual-meeting-exposition/sessions/dwight-david-eisenhower-luncheon>.

12. Joint Multinational Training Group-Ukraine, “ATO and JMTG-U Lessons Learned from the Ukrainian 1st Battalion-24th Mechanized Brigade,” *Center for the Army Lessons Learned Asymmetric Warfare Group* (2016 April), 6.

13. Milley, Dwight D. Eisenhower Luncheon speech, 1:07:41.

14. Army Technique Publication 3-37.34, *Survivability* (Washington, DC: U.S. GPO, June 2013), para. 6-18.

15. *Ibid.*

16. *Ibid.*, Annex E.

17. “Ukraine Munitions Blasts Prompt Mass Evacuations,” BBC News, 23 March 2017, accessed 18 September 2017, <http://www.bbc.com/news/world-europe-39363416>; Kyle Mizokami, “Kaboom! Russian Drone with Thermite Grenade Blows up a Billion Dollars of Ukrainian Ammo,” *Popular Mechanics* website, 27 July 2017, accessed 18 September 2017, <http://www.popularmechanics.com/military/weapons/news/a27511/russia-drone-thermite-grenade-ukraine-ammo/>.

18. Milley, Dwight D. Eisenhower Luncheon speech, 33:58.

Epic Fail

Why Leaders *Must* Fail to Ultimately Succeed



Maj. Timothy Trimailo,
U.S. Air Force



When a reporter asked him how it felt to fail a thousand times, Thomas Edison replied, "I didn't fail 1,000 times. The light bulb was an invention with 1,000 steps."¹ For Edison, failure was not just an option but a requirement for eventual success. Without the many setbacks he faced during the invention process, Edison would not have learned from his mistakes and ultimately bring a commercially viable light bulb to mankind. Unfortunately, modern society tends to downplay failure, deny its occurrence, or experience shame when others recognize it first. In adolescent sports, for example, league organizers hand out participation trophies to all the participants rather than embracing the fact that some people win and others lose. Even some of the most prestigious universities in the United States are reluctant to give underperforming students failing grades.² Upon graduation from

these institutions, these students are unprepared for the cruel, unforgiving realities of the world.

Those in control of these adolescent sports leagues and universities are impeding the development of these young people due to their distortion of the line between success and failure. Simply put, today's society is coddling the Nation's future leaders and setting them up for later, more significant, failure by not letting them experience failure early in life.

The modern trend of failure aversion is also prevalent in the military. Commanders and mentors are not allowing junior leaders to fail early on in their careers. This phenomenon is likely due to several factors. First, the military is a difficult and unforgiving business that involves death and destruction, so an aversion to risk and failure is an expected byproduct. Second, senior leaders experience an enormous amount of scrutiny by the



Department of Defense, Congress, and public opinion, causing them to micromanage junior officers more than ever before to preclude failures that they perceive might reflect badly on them. Additionally, military leaders are often “type A” personalities who demand maximum control over operational variables.

Consequently, some of these senior leaders often punish even minor failures with severity, sometimes degrading the potential for future promotion for otherwise promising young leaders. Much like in the civilian world, this zero-tolerance failure policy is hurting the next generation of leaders in the military by stifling initiative and making them risk averse. They either have not been allowed to fail and recover early on in their careers, or they leave the military based on limited promotion opportunities stemming from a previous failure from which they perceive they cannot recover. Moreover, in a world of increased external scrutiny and access to new micromanagement tools through new technologies, the institutional trend toward failure avoidance and fear of admonishment for failure is only becoming more pronounced.

This is extremely unfortunate, however, because leader development requires some failure. Failure that occurs in the proper context allows individuals to learn from mistakes, promotes resiliency and moral courage, and builds the capacity to balance risk and reward in future decision making under the more serious conditions of actual operations, including combat.

Fail and Learn Early or Fail Big Later

In September 2013, the commandant of the Marine Corps fired two general officers for failure to “exercise the level of judgment expected of commanders of their rank” after fifteen insurgents breached security at a base in Afghanistan and destroyed numerous aircraft.³ The validity of the decision to relieve these commanders and the character and experience of the officers in question is beyond the scope of this essay, but avoiding this type

of failure at senior levels should be a primary goal as the military develops its leaders.

Unfortunately, this example likely will not be the last major failure by a senior American officer. Whether it be a method for interacting with subordinate troops, the selection of an appropriate tactical mission task during operational planning, or the management of a unit training plan, failure as a junior leader in such endeavors provides the necessary experiential forum for trial and error. As leaders rise through the ranks in the military, they build a personalized set of tools to leverage as the problems they encounter become more complex.

Another reason early failure facilitates learning from mistakes can be derived from an analysis of the alternative. In some instances, a record of continual success taken for granted can breed eventual failure since meaningful learning often does not occur under circumstances of persistent success. For example, Italian motorcycle company Ducati began racing bikes on the competitive racing circuit in 2003. After some initial success attained by applying learning from early poor race results, the engineers failed to continue looking at race data to incrementally improve their bike design for future races.⁴ As Francesca Gino and Gary Pisano point out, initial success for Ducati limited the incentive to continue organizational learning, causing the company to later fail due to an accrued culture of complacency.⁵ As applied to military leader development, this vignette illustrates the natural condition of success. Simply put, too much success can lead to overconfidence and lethargy, which in turn hinders continual learning and improvement. In contrast, leaders must embrace the concept that learning from failure is an inevitable necessity for continual improvement and performance optimization.

The final aspect of failure as a catalyst for learning is that it helps leaders identify the indications and warnings of failure before it occurs in the future. Kathy Malloch and Tim Porter-O’Grady assert that highly successful leaders are preoccupied with failure because this preoccupation makes them focus on the minute details and address indicators of failure quickly and decisively.⁶ Failure provides a means of analyzing all aspects of the individual and the organization to help identify the critical factors that lead to failure. By analyzing these indicators after an unsuccessful event, the leader can identify similar indicators in the future to proactively avoid failure. With reference to

Previous page: Sgt. Gregory Padilla (*second from left*) gives a status report to 2nd Lt. Randy Jozwiak (*left*) during a live-fire exercise 20 July 2015 as part of Northern Strike 15 on Camp Grayling Joint Maneuver Training Center, Michigan. Padilla is a team leader and Jozwiak is a platoon leader assigned to the 1st Battalion, 126th Cavalry Regiment. (Photo by Sgt. Seth LaCount, U.S. Army)

the previous example of the two Marine generals in Afghanistan, it is possible that learning from tactical mistakes at the junior level could have helped those individuals pinpoint indicators of a base breach ahead of time to avoid failure on such a large scale.

There is a caveat to the argument that leader development should encourage learning from failure at the junior level. The focus should not be misconstrued as an effort to ensure junior leaders fail but rather on providing them with an environment that tolerates mistakes in a context where those mistakes lead to self-assessment, learning, and correction to avoid future failure. As philosopher George Santayana asserted and Winston Churchill later reiterated, “Those who cannot remember the past are condemned to repeat it.”⁷ While failure is necessary for deep learning to occur, those who do not actively learn from mistakes will be far more likely to repeat them. Consequently, for the military officer, failure in the proper context and environment should be regarded as an opportunity to learn from mistakes, avoid the pitfalls of perpetual success, and identify warning signs of future failure on a larger scale.

Fail, Recover, Repeat

In addition to learning from mistakes, overcoming adversity and bouncing back from failure is an important step in the development of a leader. As two scholars in leadership, Warren Bennis and Robert J. Thomas observe, “the skills required to conquer adversity and emerge stronger and more committed than ever are the same ones that make for extraordinary leaders.”⁸ The way in which a developing leader reacts to difficult situations directly correlates to that individual’s ability to overcome adversity in the future. These experiences provide the leader with a newfound understanding of self and an increased ability to deal with future hardships. However, if growing leaders are not given a chance to bounce back from adversity because they are shielded from failure, they remain untested and are more likely to confront difficult future situations in negative ways. In other words, these leaders are not developing what Bennis and Thomas refer to as “adaptive capacity,” because they do not have the opportunity to do so.⁹ On the other hand, leaders who develop this capacity and build individual resilience are far more likely to

promote that behavior within their subordinates and units as they climb the organizational ladder.

In addition to building individual resilience, failure as a junior leader also helps develop moral courage. A key aspect of moral courage is the ability to admit mistakes without fear of humiliation and shame.¹⁰ The willingness to admit mistakes is an unnatural quality, especially for the stereotypical competitive leaders within the military. That being said, the ability to adapt and overcome failure as a junior officer helps build the confidence needed to be comfortable enough to admit mistakes later in a leader’s career. As Peter Olsthoorn asserts, the unit cohesion that builds physical courage in the military is the same element that makes individuals more likely to blindly conform and, thus, less likely to exude moral courage.¹¹ Moreover, the emphasis of unit success combined with the tendency toward modulating individual failure is hindering the development of moral courage in growing military leaders. While team building and unit cohesion are critical to operational success, senior leaders must also focus on developing individual qualities in subordinates to include moral courage.

Critics of the argument that failure early in one’s career breeds resilience and moral courage might assert that these traits are inherent in, or absent from, every individual and are not qualities that can be developed. Traditional Nicomachean ethical principles, for instance, assert that one can learn most skills but cannot acquire moral virtues above and beyond what is already inherent in the individual.¹² While each human being certainly possesses some level of individual morality and resilience, the trials and tribulations of failure during formative years can assist in building the aptitude for these traits

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and the willingness to employ them in the future. The military needs its leaders to overcome failure early in their careers to develop individual resilience and moral courage. These abilities not only assist leaders in the conduct of future personal behavior but also in encouraging these traits in subordinates, which fosters a culture of practicing moral courage.

The Thin Gray Line between Success and Failure

Learning from failure and developing resilience and moral courage in the face of adversity are extremely important in leadership development, but military leaders must ultimately take risks with nearly every decision they make as senior leaders. Army doctrine states that accepting prudent risk assists commanders in seizing an opportunity to gain and maintain the initiative on the battlefield.¹³ In other words, the Army embraces the fact that military operations involve risk and leaders must take acceptable amounts of risk to facilitate success in conflict. The ability to identify prudent risk, however, is a skill developed as a junior officer. Aside from thorough analysis, the most effective way to truly understand what risk is prudent and acceptable is to cross the line into unacceptable risk at some point. When a leader takes an unacceptable risk, failure is far more likely to occur. This experience further reinforces the leader's ability to discern prudent risk from unacceptable gambling and employ informed judgment to make critical decisions on the battlefield.

The goal of accepting prudent risk is to increase the probability of harnessing great reward. Risk is often viewed as negative and something people should avoid, but thoughtful, habitual risk-taking is actually a requirement for high-level success.¹⁴ Tim Kane refers to this quality in leaders as the "bias for action" that entrepreneurs possess, or a desire to proactively and carefully take risk to maximize returns.¹⁵ The only way to garner maximum reward in any business is to take a risk. In the military context, leaders who take prudent risk on the battlefield are the ones who enjoy the greatest successes in conflict as well. As Gen. David Perkins asserted at a 2013 Army Mission Command Symposium, retaining a position of advantage on the battlefield is difficult since that advantage is always relative to the enemy and is always temporary, since the enemy is constantly adapting to the evolving operational environment.¹⁶ In other

words, prudent risk-taking is a requirement for waging warfare in the modern era. However, if military leaders do not take risk, experience failure, and learn from mistakes early on in their careers, then they will not fully understand the characteristics of prudent risk-taking and will never fully harness the vast rewards available through taking risks. Put another way, risk-taking and failure can buy down future risk. Military leaders earn their paychecks by effectively managing risk and maximizing the chances of success.

An alternative point-of-view on risk and failure is that the violent nature of military operations requires leaders to minimize risk at all costs to avoid failure and subsequent loss of life. The media and the American public criticized American military leaders after the intervention in Iraq in 2003 for deploying too few personnel and for not having a reasonable plan for the post-war stability effort.¹⁷ According to the critics, these leaders had miscalculated the risk involved in this type of military effort. However, this example does not validate the assertion that risk should be avoided at all costs. On the contrary, it proves that misunderstood risk is dangerous, but prudent risk-taking can garner high payoffs. While the merits of the campaign in Iraq are not the subject of this essay, the argument is that leaders must take a risk in the face of less than perfect information, and that miscalculations of risk early in their careers can inform the balance of risk and reward to enhance judgment later as a senior leader. If this balance is learned through failure at earlier stages, senior leaders can avoid loss of life to gain and maintain a position of relative advantage in military operations through informed decision making and the management of prudent risk.

Conclusion

Leader development requires some level of failure. It allows leaders to learn from past mistakes, it builds individual resiliency and moral courage, and it develops the capacity to balance risk and reward in decision making to promote future success. Learning from mistakes is a human requirement, but it is necessary for leader development as well. It facilitates personal growth and helps leaders understand and visualize success and the warning signs of failure, but it also reduces the complacency promoted by a perception of inevitable perpetual success. Failure can also breed resiliency and moral courage, because it teaches the leader to

overcome adversity, acknowledge mistakes, and come out the other side of difficulty with new self-actualization, confidence, and toughness. While these qualities are inherent in each person from birth, they are also taught through trials and tribulations. Finally, the military profession requires leaders who can accurately balance risk and reward. Without risk-taking, there is no return on investment, and military leaders must embody that entrepreneurial spirit in order to seize an opportunity and maintain the ever-changing position of relative advantage over the enemy. On the other hand, the key to effective risk-taking is analysis and prudence. All three of these points illustrate why military leaders must fail early in their careers to be effective organizational leaders at higher echelons.

Today's operational environment is complex, dangerous, and unforgiving. Joint doctrine asserts that "the commander is the central figure in operational

art, due not only to education and experience but also because the commander's judgment and decisions are required to guide the staff through the process."¹⁸ Today's military leader requires education, experience, and judgment that feeds reasonable decision making. Unfortunately, today's leaders are not allowing their junior officers to take prudent risk and learn from failure at lower echelons. While this practice might improve chances for successful operations today, it hinders the growth of the junior leaders who will be charged with defending the Nation in the future. Those officers must experience and learn from failure today to become more resilient, more confident in their moral courage, and more adept at balancing risk and reward in future operations. Just as Edison responded to a reporter about his failures on the path to inventing the light bulb, the military leader is also an invention with a thousand steps. ■

Notes

1. Pauline Estrem, "Why Failure is Good for Success," *Success* magazine, 25 August 2016, accessed 30 August 2017, <http://www.success.com/article/why-failure-is-good-for-success>.

2. Michael Zuckerman, "Failing to Fail?," *Harvard Magazine* online, 23 December 2013, accessed 23 August 2017, <http://harvardmagazine.com/2013/12/failing-to-fail>.

3. Rajiv Chandrasekaran, "Two Marine Generals Fired for Security Lapses in Afghanistan," *Washington Post* online, 30 September 2013, accessed 23 August 2017, https://www.washingtonpost.com/world/national-security/two-marine-generals-fired-for-security-lapses-in-afghanistan/2013/09/30/b2ccb8a6-29fe-11e3-b139-029811dbb57f_story.html?utm_term=.3534743a944e.

4. Francesca Gino and Gary Pisano, "Why Leaders Don't Learn from Success," *Harvard Business Review*, April 2011, accessed 23 August 2017, <https://hbr.org/2011/04/why-leaders-dont-learn-from-success>.

5. Ibid.

6. Kathy Malloch and Tim Porter-O'Grady, *The Quantum Leader: Applications for the New World of Work* (Burlington, MA: Jones and Bartlett Publishers, 2005).

7. George Santayana, *The Life of Reason; Or The Phases of Human Progress* (New York: Charles Scribner's Sons, 1920).

8. Warren G. Bennis and Robert J. Thomas, "Crucibles of Leadership," *Harvard Business Review* (September 2002), 39–40.

9. Ibid.

10. William Ian Miller, "Moral Courage and Civility," chap. 16 in *The Mystery of Courage* (Cambridge, MA: Harvard University Press, 2000).

11. Peter Olsthoorn, "Courage in the Military: Physical and Moral," *Journal of Military Ethics* 6, no. 4 (2007): 270–79.

12. Ernst M. Conradie, *Morality as a Way of Life: A First Introduction to Ethical Theory* (Cape Town, South Africa: Sun Press, 2006).

13. Army Doctrine Reference Publication 6-0, *Mission Command* (Washington, DC: U.S. Government Publishing Office [GPO], 2014 [Change 2]), 1–4.

14. Anne Kreamer, *Risk/Reward: Why Intelligent Leaps and Daring Choice Are the Best Career Moves You Can Make* (New York: Random House, 2015).

15. Tim Kane, *Bleeding Talent: How the U.S. Military Mismanages Great Leaders and Why it's Time for a Revolution* (New York: Palgrave Macmillan, 2012).

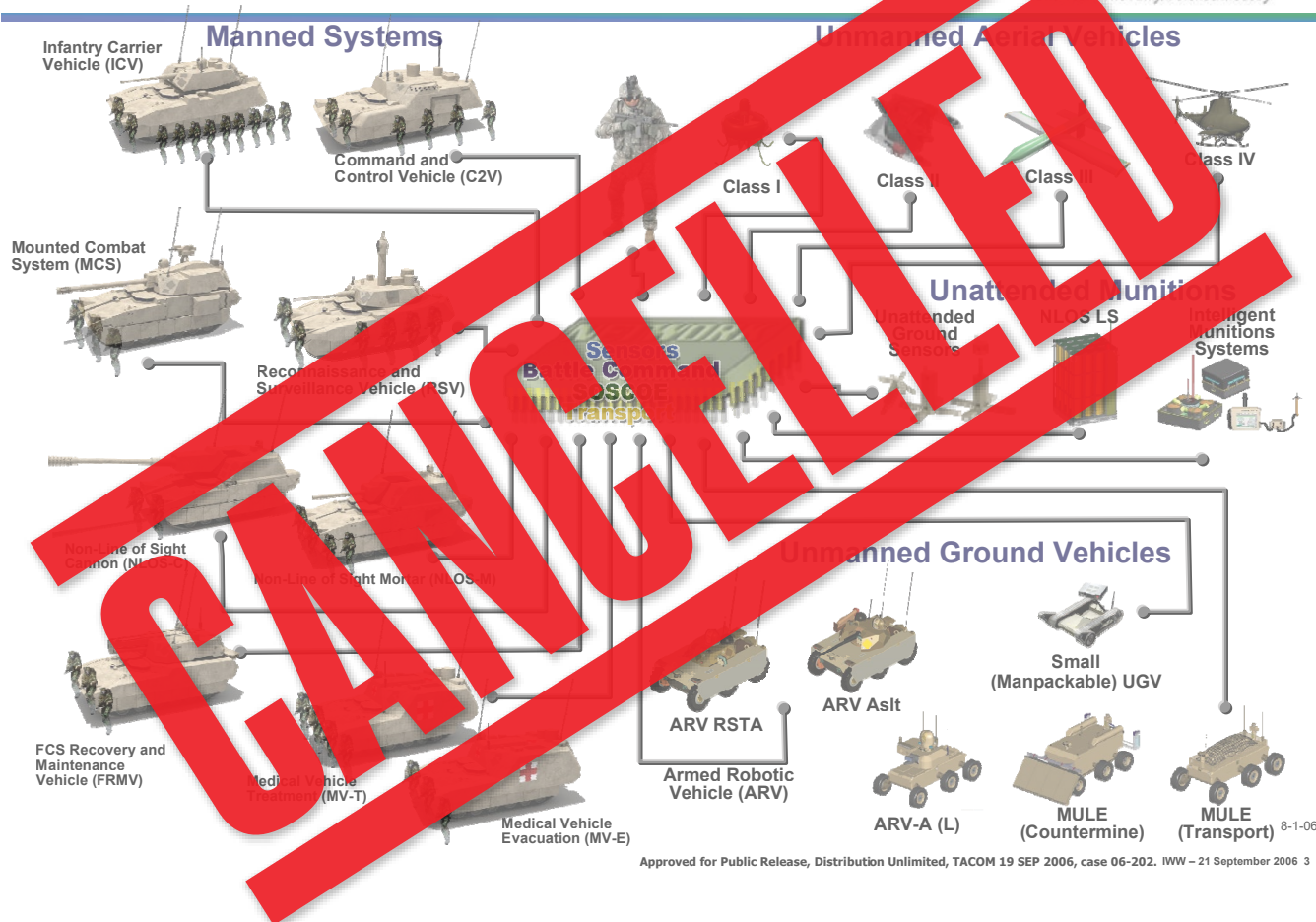
16. David G. Perkins, "Understanding Mission Command," YouTube video, from the 2013 Association of the United States Army symposium, posted by "USArmyCAC Fort Leavenworth," 29 October 2013, accessed 23 August 2017, <https://www.youtube.com/watch?v=Rw6lcaqA5MM>.

17. Paul Yingling, "A Failure in Generalship," *Armed Forces Journal* (1 May 2007), accessed 23 August 2017, <http://armed-forcesjournal.com/a-failure-in-generalship/>.

18. Joint Publication 5-0, *Joint Operation Planning* (Washington, DC: U.S. GPO, 11 August 2011), XIX.

FCS System-of-Systems (SoS)

FUTURE COMBAT SYSTEMS
FCS
Connecting The Army/Defense/Industry



The cancelled Future Combat System (FCS) acquisition program was the most financially ambitious procurement program ever attempted to date by the U.S. Army. It involved an effort to develop a range of complementary systems simultaneously, many of which could use interchangeable parts and software. After massive cost overruns and numerous failures to meet development timelines and capabilities, the FCS was cancelled in June 2009. Shortcomings with requirements are cited by the author as central to the program's failure. (Graphic adapted by Arin Burgess, *Military Review*)

How the Army Ought to Write Requirements



Lt. Col. Thomas "Bull" Holland, PhD, U.S. Army

The U.S. Army's recent history is replete with spectacular acquisition program failures. An incalculable number of meetings, symposia, working groups, and studies have been dedicated to "righting the wrongs" in Army acquisition. As the failure of Defense Innovation Unit Experimental 1.0 proved, mimicking the behavior of innovators is not the same as adopting a culture of innovation.¹ The "fail fast" mentality of successful innovators is predicated on collecting and analyzing evidence about customer needs (i.e., requirements). The Army's lack of an evidence-based requirements system is a consistent cause of failure in Army acquisition programs. The Army should adopt a consistently proven industry method for writing the best requirements.

Failure

In his 2015 testimony to the Senate, Secretary of the Army John McHugh stated, "The Army's track record on acquisition programs is too often a tale of failure."² There is rarely a single, identifiable root cause for the failure of any acquisition program. Many of the problems with an acquisition program can be overcome after the program is initiated and the error is detected. Decision makers may end a program because the cost of correcting management errors or funding errors is too expensive, but the regulatory tools to make those changes are available. The one error no acquisition program can survive is the one the Army makes all too often—the wrong requirement.

The Army's most significant acquisition program failure is the Future Combat System (FCS). With a planned cost of almost \$200 billion, the FCS is still the most financially ambitious program ever attempted by the Army. The FCS failed for many reasons but shortcomings with requirements were cited as central to the program's failure. One of the many requirements failure-related lessons learned from the analysis was that "insufficient analysis and mismanagement of expectations can lead to unrealistically ambitious requirements."³

FCS may have been the largest acquisition failure in the Army's history, but it certainly was not the only significant one in recent history. The Crusader self-propelled artillery and Comanche helicopter programs were both expensive failures, costing the Army \$9 billion.⁴ As was the case with FCS, these two programs were based on unrealistic requirements, which no amount of time or money could overcome.

The Army's challenges with acquisition programs has not been limited to developing new-to-the-battlefield technologies. The Army has also recently struggled to procure some of warfare's most mature technologies. Chief of Staff of the Army Gen. Mark Milley asked the following rhetorical questions about the requirements document for the Army's replacement of the 9 mm pistol: "This thing has been out there for nine years, ten years? Requirements? A 367-page requirement document? Why?"⁵ Each of the cases listed have a common thread: opinions were substituted for evidence in the requirements development process.

The Way the Current Process Works

A surface-level understanding of the Army acquisition processes reveals why getting requirements right is critical for any acquisition program. An Army acquisition program must use three systems to produce a result: a funding system, a management system, and a requirements system. The funding system—the Planning, Programming, Budgeting and Execution (PPBE) system—is directed to the Office of the Secretary of Defense (OSD) and by the Office of Management and Budget.⁶ The management system—the Defense Acquisition Management System—is directed by multiple public laws. However, the requirements system—the Joint Capabilities Integration and Development System (JCIDS)—was created by the Department of Defense (DOD) and is still administered by the DOD.⁷ All of the acquisition management decisions and budgeted costs for an Army acquisition program are based on the JCIDS requirements documents; if the requirement is wrong, nothing else can be right.

The OSD and each of the services have been requesting changes to acquisition laws for as long as there have been acquisition laws.⁸ Requests for changes to the Goldwater-Nichols Act have recently given the service chiefs more power

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in the acquisition system.⁹ Also, the Weapons System Acquisition Reform Act is a recent law that changed the standards for acquisition management decisions.¹⁰ Additionally, the Defense Acquisition Workforce Improvement Act changed certification standards across the DOD.¹¹ The Clinger-Cohen Act established the role of a chief information officer in each service, and the recent Federal Information Technology Acquisition Reform Act further empowered these chief information officers to execute acquisition programs.¹² The number of additional requested changes that became neither policy nor law are too numerous to list. Through all of these legal and policy changes, the one system that has remained mostly unchanged is also the one system over which the DOD has almost total change authority—JCIDS. Understanding the requirements development process reveals why the process does not change.

JCIDS sets standards for requirements formatting, staffing, and approval, but this process also relies on the *content* of the requirements to come from the Army and its sister services. The Army's process is very robust and is designed to ensure that every aspect of a JCIDS requirement is derived from a defined capability gap, concept, and Army Warfighting Challenge.¹³ This process also has robust oversight with approvals required from the vice chief of staff of the Army, the Army G-8, the G-8 director of capabilities integration, the director of Army

Sgt. Andrew Finneran, a 101st Airborne Division infantryman, fires a Sig Sauer pistol during partnered weapons training 29 May 2015 at Tactical Base Gamberi in eastern Afghanistan. The Sig Sauer P320 was selected as the replacement for the 9 mm Beretta in 2017. However, many—both in and out of the Army—heavily criticized the acquisition process for the pistol, characterizing it as overly bureaucratic, slow, expensive, and wasteful, and arguing that a much improved capability over the existing standard service pistol already existed “off the shelf” (Photo by Capt. Charlie Emmons, U.S. Army)

Capabilities Integration Center (ARCIC), the ARCIC Concept and Learning Directorate, and the commanding general of the appropriate Army center of excellence.

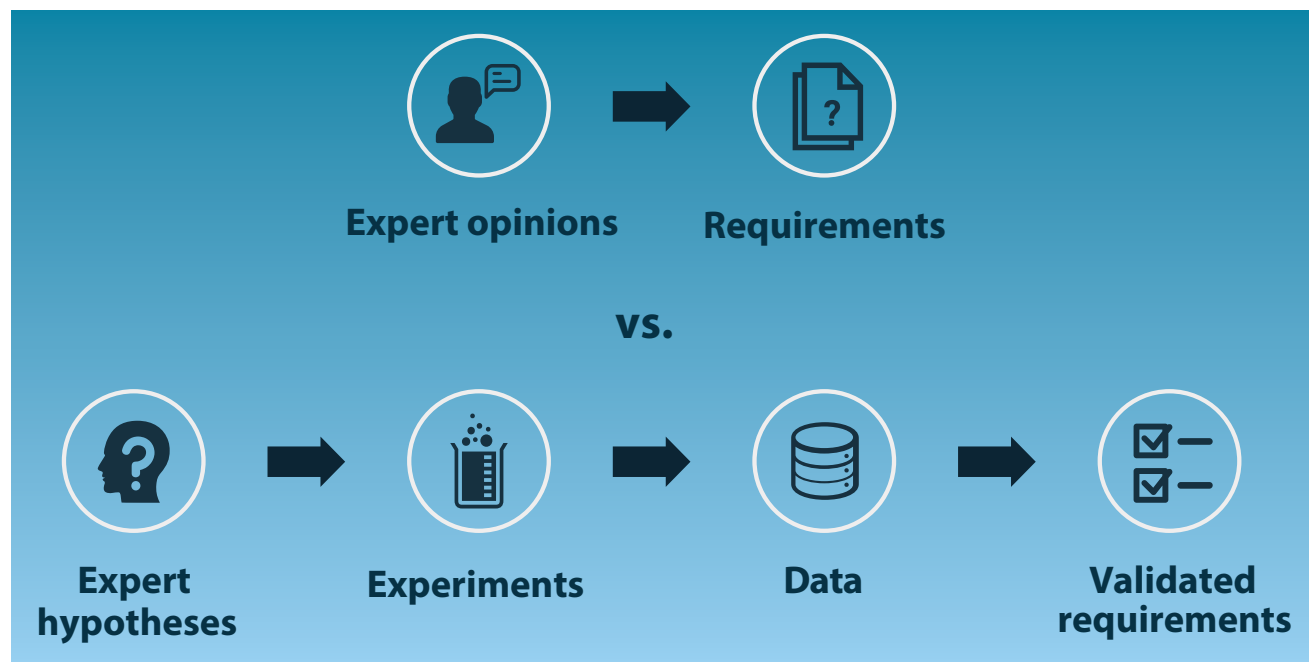
The ARCIC director sought to improve this process for writing the requirement for the Ground Combat Vehicle program by adding experts and senior leaders from the Program Executive Office Ground Combat Systems, the Army Research Laboratory, the Tank and Automotive Research Development and Engineering Center, the Army Materiel Command, and the Army G-3.¹⁴ Where this process succeeds in collaboration it fails completely in evidence-based content. Every person involved in the writing of these documents offers their opinion but no one is required to offer any evidence to support that opinion.

There are no footnotes, endnotes, or references necessary to define a requirement in a JCIDS document.

Neither experimentation nor research is necessary to propose and approve a threshold attribute, key performance parameter, or key supportability attribute in a JCIDS document. This does not mean that decisions in the process are irrational. This also does not mean that there are no interoperability necessities that will dictate space and weight requirements. It does mean that no one is required to justify and then test a hypothesis about any aspect of the requirement. Therefore, the absence of an

that is not designed with the end goal of making a profit and does not rely on competition to make evidence-based decisions about requirements.

In his most recent book, *Competing against Luck*, Dr. Clayton Christensen describes how successful innovators gather evidence about customer requirements to test hypotheses about developing technologies.¹⁶ Christensen provides examples across multiple industries that show how successful innovators are those who use an evi-



evidence-based decision-making system leaves a process where only opinions can be provided and discussed.

To mitigate this problem, there are lessons the Army should learn from successful companies to move to an evidence-based requirements process.

Successful Industry Practices

Business models for developing technologies for a profit are end-to-end solutions that cannot be adopted by the Army acquisition enterprise for several reasons, not the least of which is a lack of competition. Every successful business model relies on market forces and competition to drive innovation, efficiency, and productivity. Consumer choices in a competitive marketplace provide companies with evidence for business decisions. The Army cannot adopt models based on a competitive marketplace because the Army is prohibited by law from competing with industry.¹⁵ Consequently, the Army requires a model for technology development

Deconflicting the opinions of experts is always subjective and often impossible. Successful innovators rely on the evidence gained through experimentation to define product requirements. (Graphic by BMNT Partners)

dence-based approach to correctly define requirements, which he terms “jobs to be done.”¹⁷ Christensen is not the only successful author and entrepreneur who saw the power of favoring evidence over opinion and provided concepts the Army could adopt.

For over a decade, Steve Blank has been teaching students across the globe how to be successful entrepreneurs. His course at Stanford University, “Lean Launchpad,” was adopted by the National Science Foundation to teach scientists how to apply this evidence-based approach in order to find the right customer requirements for their discoveries. The National Science Foundation’s adaptation of Lean Launchpad is called Innovation Corps. Blank

applied the principles he teaches in Lean Launchpad to see that the Army had a need that no current business model, including his own, could address. His partnership with Alexander Osterwalder, best-selling author of *Business Model Generation*, produced a business model targeted at the Army's requirements development shortcomings: the "Mission Model Canvas."¹⁸

Osterwalder's initial concept, The Business Model Canvas, provides a proven methodology that for-profit businesses may use to connect key segments of their businesses. Osterwalder and Blank adapted the Business Model Canvas after considering the viability of the model in organizations that have no profit motive. The result of this collaboration is the Mission Model Canvas.

Blank continued to evolve the concept of focusing on nonprofit businesses by adapting his Lean Launchpad course to a new course focusing specifically on innovation in defense technology development. Where Lean Launchpad used the Business Model Canvas, the Mission Model Canvas is the basis for Stanford's new course, "Hacking for Defense." Hacking for Defense provides a pedagogy that the Army can adopt to move from an opinion-based requirements generation process to an evidence-based requirements generation process.

Hacking for Defense

Hacking for Defense implements an evidence-based requirements system by introducing the concept of a "minimum viable product."¹⁹ The minimum viable product is the most rudimentary prototype that will allow a requirements developer to test a hypothesis. For example, when testing a hypothesis about whether thermal scans of farming fields are useful for farmers or not, a minimum viable product would be a mock spreadsheet of the data produced, not a mock-up of the thermal sensor. The

value in this approach is not only the depth of thinking required to form a good hypothesis, but the speed with which requirements developers can confirm or deny each hypothesis. This is what it means to "fail fast."

This hypothesis testing process is iterative and constantly adds targeted, valuable information to the requirements development process. This is the same way the scientific method works and, more importantly, it is *why* the scientific method works. Expert opinions matter in developing hypotheses, but only the facts produced from experimentation matter in supporting hypotheses.

The methodology behind Hacking for Defense is tested and validated. The concepts in the Lean Launchpad course have been taught at Stanford University for over ten years, because they continue to be validated by students who have become successful entrepreneurs. The Innovation Corps curriculum is taught at over a dozen universities, and hundreds of scientists have completed courses. Hacking for Defense was adapted from the successes and lessons learned in each of these courses, and it is designed to address the Army's most significant requirements development challenge.

The need for changes to prevent further failures in the Army acquisition enterprise is undeniable. The system in this enterprise most in need of change is the requirements process governed by JCIDS. The core problem with how the Army implements JCIDS is the lack of a process and culture that values hypothesis testing and evidence over positional power and experience. The value of an evidence-based requirements process is demonstrated by multiple authors and entrepreneurs. The Hacking for Defense class demonstrates that proven successful business principles can be adapted into a comprehensive system to address the Army's requirements challenges. ■

Notes

1. Ben Fitzgerald, "The DIUx Is Dead. Long Live the DIUx," Defense One online, 12 May 2016, accessed 8 September 2017, http://www.defenseone.com/ideas/2016/05/ash-carter-diux-pentagon-technology-innovation/128254/?oref=search_The%20DIUx%20Is%20Dead.%20Long%20Live%20the%20DIUx.

2. Joe Gould, "McHugh: Army Acquisitions 'Tale of Failure,'" Defense News online, 19 March 2015, accessed 8 September 2017, <https://www.defensenews.com/land/2015/03/19/mchugh-army-acquisitions-tale-of-failure/>.

3. Christopher G. Pernin et al., "Lessons from the Army's Future Combat Systems Program" (monograph, Santa Monica, CA: RAND

Arroyo Center, 2012), http://www.rand.org/content/dam/rand/pubs/monographs/2012/RAND_MG1206.pdf.

4. William M. Robare, "Army's Failed Programs: Moral Imperative for Change" (Carlisle Barracks, PA: U.S. Army War College, November 2011), <http://www.dtic.mil/dtic/tr/fulltext/u2/a565223.pdf>.

5. C. Todd Lopez, "How Long for a New Pistol?" Army.mil, 21 March 2016, accessed 8 September 2017, <https://www.army.mil/article/164604>.

6. Office of Management and Budget (OMB), OMB Circular A-11 (Washington, DC: The White House, July 2017), https://www.whitehouse.gov/omb/circulars_a11_current_year_a11_toc.

7. Chairman of the Joint Chiefs of Staff Instruction 3170.011, *Joint Capabilities Integration and Development System* (Washington, DC: U.S. Government Publishing Office, 23 January 2015), accessed 15 September 2017, http://www.jcs.mil/Portals/36/Documents/Library/Instructions/3170_01a.pdf?ver=2016-02-05-175022-720.

8. J. Roland Fox, *Defense Acquisition Reform, 1960-2009: An Elusive Goal* (Washington, DC: U.S. Army Center of Military History, 2011), http://www.history.army.mil/html/books/051/51-3-1/CMH_Pub_51-3-1.pdf.

9. Goldwater-Nichols Department of Defense Reorganization Act of 1986, Pub. L. 99-433, 100 Stat. 992 (1986); National Defense Authorization Act for Fiscal Year 2017, Pub. L. 114-328, 130 Stat. 2000 (2016).

10. Weapons System Acquisition Reform Act of 2009, Pub. L. 111-23, 123 Stat. 1704 (2009).

11. Defense Acquisition Workforce, 10 U.S.C. § 87 (2013).

12. The Clinger-Cohen Act, Pub. L. 104-106 110 Stat. 186 (1996); The Federal Information Technology Acquisition Reform Act, Pub. L. 113-291, 128 Stat. 291 (2015).

13. Army Capabilities Integration Center, "Army Warfighting Challenges," last updated 31 January 2017, accessed 2 October 2017, http://www.arcic.army.mil/App_Documents/AWFC-Current.pdf.

14. Sydney J. Freedberg Jr., "Army Changing How it Does Requirements: McMaster," *Breaking Defense* online, 19 February, 2015, accessed 11 September 2017, <http://breakingdefense.com/2015/02/army-changing-how-it-does-requirements-mcmaster/>.

15. National Defense Authorization Act for Fiscal Year 1997, Pub. L. 104-201, 110 Stat. 2422 (1996).

16. Clayton M. Christensen, *Competing Against Luck: The Story of Innovation and Customer Choice* (New York: HarperCollins, 2016).

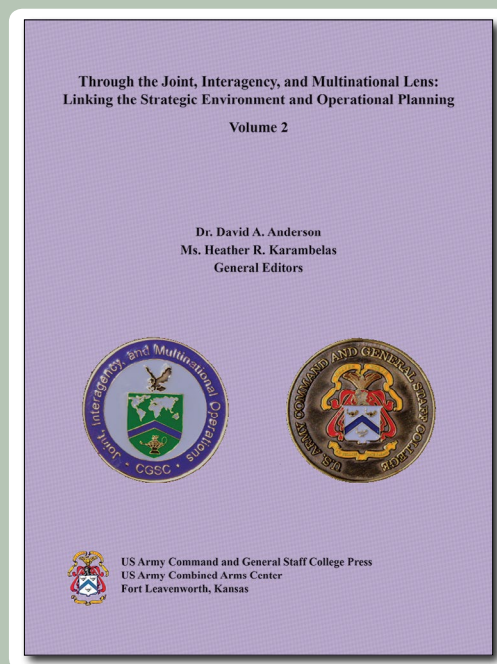
17. Ibid.

18. Steve Blank, "The Mission Model Canvas—An Adapted Business Model Canvas for Mission-Driven Organizations," 23 February 2016, <https://steveblank.com/2016/02/23/the-mission-model-canvas-an-adapted-business-model-canvas-for-mission-driven-organizations/>; Alexander Osterwalder et al., *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers* (Hoboken, NJ: John Wiley & Sons, 2010).

19. Steve Blank, *The Startup Owner's Manual: The Step-by-Step Guide for Building a Great Company* (Pescadero, CA: K&S Ranch, 2012).

Military Review

WE RECOMMEND



The Army University Press announces the publication of *Through the Joint, Interagency, and Multinational Lens: Perspectives on the Operational Environment*, Volume II. This scholarly work was written by members of the Department of Joint, Interagency, and Multinational Operations (DJIMO) faculty at the U.S. Army Command and General Staff College. The chapters in this volume focus on topics that have a strategic-level planning flavor, are related to the instruments of national power, and will be of interest to all security professionals. The informative commentaries are written in the context of current challenges that our national level leaders face today. It is our hope that the readers will enjoy the authors' diverse opinions that often challenge conventional ideas while contributing to their understanding of our complex security environment. To view this publication please visit [http://www.armyupress.army.mil/Portals/7/combat-studies-institute/csi-books/DJIMO%20Volume%202%20\(Web\).pdf](http://www.armyupress.army.mil/Portals/7/combat-studies-institute/csi-books/DJIMO%20Volume%202%20(Web).pdf).



Soldiers of the 10th Mountain Division train in the vicinity of a protected cultural site 28 July 2005 on Fort Drum, New York. Part of 10th Mountain Division predeployment training involves learning to recognize and protect sensitive cultural and historical sites during operations by conducting training on and around actual protected sites found on Fort Drum. (Photo courtesy of authors)

Integration of Cultural Property Protection into a Decisive Action Training Exercise

Maj. Kristoffer T. Mills, U.S. Army
Laurie Rush, PhD

Since the rise of the Islamic State (IS) in 2014, its deliberate and discriminant campaign to stamp out non-Islamic cultural history by destroying ancient and culturally significant non-Islamic sites has captured the attention of the world. An effective strategic response to calculated genocidal actions perpetrated by forces such as IS requires a sophisticated understanding of the role cultural property has in creating and sustaining community identity. The 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict defines cultural property

as including religious and historic structures, monuments, archaeological sites; objects such as works of art, manuscripts, books, and other objects and collections of artistic, historical, scientific or archaeological interest; and repositories such as museums, libraries, and archives.¹

It is incumbent upon those engaged in stability operations to understand how such destruction of cultural property is an expression of aggressive power aimed at reducing a cultural community's capacity for resilience and continued existence. Supporting the stabilization of communities attempting to recover from the atrocities of genocidal occupation that aimed to eradicate not only the existence but also the entire history and memory of a people requires education and training to be able to identify, respect, and protect cultural property on the battlefield.

In September 2016, the G-9 (civil-military operations) office, 10th Mountain Division (Light Infantry) initiated a unique partnership with the Cultural Resources Branch (CRB) at Fort Drum, New York. The deputy G-9, Maj. Kristoffer Mills, consulted with the installation's Cultural Resources Program manager (CRM), Dr. Laurie Rush, to gain a better understanding of the culturally significant sites within the Fort Drum training area while planning for a brigade-level exportable combat training capability exercise, which is a field training exercise based on the Decisive Action Training Environment. This particular exercise, Mountain Peak 17-02, was conducted on Fort Drum to prepare the unit for a subsequent training rotation to the Joint Readiness Training Center at Fort Polk, Louisiana.

The initial purpose of reaching out to the CRM was to build a "no strike list" for the exercise scenario that would be based on actual Fort Drum protected sites.

As the planning progressed for the exercise, the deputy G-9 realized that Fort Drum's Cultural Resources Program (CRP) could facilitate civil-military operations training scenarios, and the CRM recognized an opportunity to inject training on cultural property protection throughout the 10th Mountain Division. The partnership between the G-9 office and the CRB has since continued to enhance 10th Mountain Division training and operations in this area.

Background

The Fort Drum CRB is subordinate to the Environmental Division of the garrison public works office, and it is a functional office within Installation Management Command. Unfortunately, training units traditionally view these types of offices as a hindrance because many installation archaeologists approach cultural resources stewardship by telling soldiers, trainers, and range control what they are not allowed to do and where they cannot dig, while also imposing restrictive latitudes for maneuver within the training areas. As a consequence, archaeology maps of Army installations have sometimes been referred to as "measles" maps by military

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Laurie Rush, PhD, is an anthropologist and Army archaeologist, serving as a civilian in support of the U.S. Army 10th Mountain Division at Fort Drum, New York. She initiated a series of projects to support implementation of cultural property protection (CPP) during U.S. military operations and codirected the recent NATO project for development of CPP policy, doctrine, and best practices. She has a BA from Indiana University Bloomington, an MA and PhD from Northwestern University, and is a fellow of the American Academy in Rome and a Smithsonian research associate.



planners—archaeological sites characterized as symptoms of a disease infecting a military installation.

Unfortunately, this somewhat adversarial approach to management of training lands also results in the failure of military leadership to recognize that installation archaeologists represent social science education and expertise that can be of extreme value to personnel preparing to deploy and operate in the complex cross-cultural battlefield environment that today characterizes much of the potential operational area globally. In view of the need to prepare for such complexity, Department of Defense (DOD) archaeologists are potentially a great resource for units preparing to deploy because they are trained in analysis of cultural behavior, predictive modeling for patterns of occupation across a wide range of environments, and recognition of evidence of past human behavior that includes sophisticated approaches to imagery analysis.

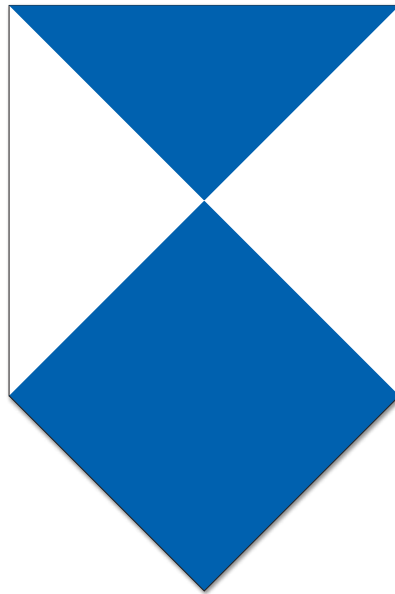
In contrast to many other DOD installations, Fort Drum's CRP emphasizes the use of archaeological sites and cultural property in the training areas to provide realistic training opportunities. It makes no sense

Army archeologists conduct a test dig 2 August 2007 on Fort Drum, New York, to assess the potential value of further excavation at the site. Maneuver training around such sites habituates soldiers to incorporating protection of culturally important locations into their operational planning and their actions on the ground. (Photo courtesy of authors)

to prevent U.S. military personnel from operating around significant cultural property on training lands at domestic U.S. installations when they are preparing to deploy to some of the most archaeologically rich and sensitive areas of the world, such as the ancient Mesopotamian cities of Iraq and Afghanistan's historical Silk Road. Recognizing the significance and importance of training with regard to cultural property, the Department of the Army endorsed the use of installation cultural resources as training assets in its most recent guidance to cultural resources managers.²

As the home of 10th Mountain Division, Fort Drum has also benefitted from the opportunity to learn about cultural property challenges directly from the

experiences of military personnel who have returned to the installation after multiple deployments. 10th Mountain soldiers and trainers work extremely hard to ensure that training opportunities adjust and respond to lessons learned from forward deployments. The CRP has supported these efforts, especially when the challenges include cultural property. For example, when soldiers reported that Iraqi insurgents were using headstones as firing points, the Cultural Resources Team (CRT) constructed culturally reminiscent replica cemeteries and added them to urban sprawl and urban terrain training sites on Fort Drum so that dealing with such scenarios could be practiced. And, after the global news media featured reports of damage to the ancient city of Babylon by U.S. and Polish forces in 2004, the CRT constructed mock ruins in the training areas to offer field training opportunities to identify, avoid, and respect ancient places as well as sites regarded as sacred by indigenous peoples during the course of military operations.³



The "distinctive Blue Shield emblem" is described in Article 16 of the 1954 Hague Convention. The emblem is used to identify cultural property and those personnel responsible for its protection. (Photo courtesy of Wikimedia Commons)

Using Former Communities as Training Opportunities

Citizens who lost their homes in the 1940s on Fort Drum provide additional incentive for making actual archaeological sites available to military personnel. Five northern New York villages were vacated when the installation expanded. These were initially managed as off limits due to their designation as National Register-listed archaeological districts, much to the annoyance of some former residents.⁴ As one of the citizens pointed out, "we gave up our homes for military training, not for archaeology."⁵ However, in response, the cultural resources staff turned to the Integrated Training Area Management program and the Land Rehabilitation and Maintenance (LRAM) managers for help with transforming off-limits acreage filled with nineteenth- and early twentieth-century ruins into a training opportunity that would protect the remaining features, offer an

educational opportunity, and be safe for soldiers.⁶ The LRAM staff cleared the historic features of vegetation so that the CRM and the LRAM manager could develop prescriptions for stabilization and protection.

The first property listed by the National Register was the archaeological district of historic Sterlingville. This company town was established in the mid-nineteenth century for the purpose of manufacturing pig iron. The village, situated on a crossroad, featured two churches with associated cemeteries, a school, a hotel, a general store, a post office, and multiple village homes, in addition to the iron furnace and associated mill pond. The Army purchased it in 1940, evicted the residents, and destroyed all the structures.⁷ Foundations, wells, cisterns, and other robust features were all that remained by 2002 when

the CRM and LRAM personnel began to transform the property into a training asset. Its location on a crossroad, relatively close to the cantonment, made the village especially valuable for a wide range of training scenarios from traffic checkpoints to bivouac.

The greatest challenge when transforming an area such as Sterlingville is to create protection for historic features while retaining evidence for the soldiers that they are operating in an area designated as historic. Standard treatments include covering crumbling foundations with geotextiles and filling them with sand and gravel—the parking lot approach, reinforcing beautifully laid masonry walls with pressure-treated wooden framework structures, sandbagging small features such as cisterns, and even using recycled tank treads to cover features to be used as potential vehicle fighting positions. Once complete, the area was signed "Historic Area; Training Permitted; No Digging."

The Blue Shield, an international symbol of protected cultural property per the 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict, was also added to some of the signage to provide familiarization.⁸ The trainers also eventually added some wooden structures to the properties where

the features had been completely covered by the fabric and fill, so that the village began to once again take on the appearance of a community.

The initial approach of the cultural resources and LRAM managers in terms of potential use of the cultural resource training assets was a version of “If you build it, they will come.” The sites are left for the trainers and soldiers to use in any way they found to be useful. During the early years of 10th Mountain engagement in Iraq, the replica ruins were often used for identification of triggers for improvised explosive devices, and historic Sterlingville emerged as an extremely important location for marketplace and checkpoint challenges.

In 2014, the CRP had an opportunity to advise the division on how the sites could be used more proactively to enrich scenario opportunities for the annual Mountain Peak military exercises. In preparation for the exercise, one of the division exercise planners approached the CRM to learn more about the nature and locations of cultural resources in the training areas. The CRT provided a field briefing with a tour of historic Sterlingville, replica sites and features, historic cemeteries, indicators for historic features hidden in the landscape, and the Conservation Corps camp complete with dam, pond, and picnic area. The planner worked with the CRT to prepare signage for the cultural properties that fit scenarios associated with the fictitious country of Atropia, its neighbors, ethnic groups, and insurgents. He offered the CRM an opportunity to brief the red force, who were going to be playing insurgents in the scenario on how to read the historic landscape. This scenario would use the cultural features to their best advantage.

It was not until 2016 that the CRT would be able to build on this modest beginning to offer more significant support to 10th Mountain Division field exercises and Mountain Peak exercises. The increased support was due to the proactive approach and contributions of the division G-9.

Laying the Groundwork for Cultural Property Protection Exercises

As plans for 2016 Mountain Peak unfolded, the first product the Cultural Resource Branch contributed to exercise planning was the map of the culturally significant sites on Fort Drum, which are protected by local, state, national, and international laws. These sites

include cemeteries, abandoned towns, homesteads and farms, foundations, churches, ancient Native American ceremonial places, and archeological sites dating back ten thousand years or more. All of these sites are historically significant to local communities, Native Americans, and interested global citizens, and they are preserved by the federal government on behalf of all the American people. Initially, the CRM provided this information to the exercise planners who were responsible for implementing the elements of environmental protection required for all training on Fort Drum in compliance with all New York state and federal environmental protection laws and regulations.

It is important to note that the map of protected sites on Fort Drum and similar maps for all U.S. domestic training installations are analogous to the cultural property inventories of protected sites and institutions that operations planners must consider for all forward operations under not just 1954 Hague but also laws of armed conflict, domestic law including Section 402 of the National Historic Preservation Act, and DOD and Army regulations such as U.S. Central Command Environmental Regulation 200-2, *Environmental Quality: CENTCOM Contingency Environmental Guidance*.⁹ These inventories contribute to the “no strike” component of the targeting process, so the opportunity to implement target avoidance during an exercise is another valuable aspect of the efforts to integrate such exercises into Fort Drum training.

Once the inventory was established and shared, the next step was for the CRM and her team to provide guided tours of the training areas to show locations of protected sites, mock training sites, and various examples of the methods for identifying and marking culturally significant locations. These tours offered an understanding of the human terrain in the training areas, with the hope that skills developed at home for “reading” a crosscultural landscape could be applied in challenging situations overseas.

Installation tours of cultural property by subject-matter experts may also serve as a stand-alone training opportunity. These locations can be incorporated into land navigation exercises, and Fort Drum has established cultural property guides for staff rides and offers field exercises for Reserve Officer Training Corps (ROTC) cadets during which they are challenged to identify aboriginal stone features within the wider Fort Drum forested landscape.

The CRP has also created multiple products to support warfighter education and training for cultural property protection, including archaeology awareness playing cards for Egypt, Iraq, and Afghanistan; a pocket guide; and specialized cultural property briefings.¹⁰ The playing cards are distributed widely

emphasized the strategic value cultural property possesses for both friendly and enemy forces.

The aforementioned products, tour, and materials assisted the deputy G-9 in writing a detailed Annex K and Annex V (Interagency) for the Mountain Peak 17-02 tactical operations order, and enabled the development

of robust scenarios to support civil-military operations training. However, there was one problem—there was a lack of available and qualified role players to support the exercise and its associated master scenario event list (MSEL) injects. The solution to this problem came from the CRP when the CRM and her team of ten dedicated professionals offered to provide their assistance and expertise as role players.

Exercise Execution

The Fort Drum Cultural Resource Program provided a significant amount of support to the deputy G-9 in the development of Annex K and Annex V, as well as

the development of the scenario and MSEL injects. In addition to complementing the planning support to the exercise, members of the CRT volunteered their time to serve as various Atropian characters to add more realism to the scenarios. The CRM was scripted as the senior government official, or the Atropian minister of cultural affairs, antiquities, and archeology (MoCAAA). The ten personnel on staff were scripted as various role players that constructed multiple nongovernmental organizations (NGOs), international governmental organizations (IGOs), and an indigenous native Atropian organization (see figure, page 112).

The benefits of cultural resources personnel functioning as role players is that they are intimately familiar with the training area and understand the cultural and historic significance of the sites because the training area serves as their workplace outside of the office in garrison. By profession, the role players were either archeologists



To support overseas predeployment training, the 10th Mountain Division issues playing cards to soldiers that describe actions to be taken to protect sensitive historical and cultural sites. (Photo courtesy of authors)

throughout the DOD to promote cultural property protection and have inspired a series of comparable materials across the international community. The cultural property pocket guide has been widely distributed, and the deputy G-9 included the guide as an appendix to Annex K (Civil Affairs Operations) of the operations orders for the exercise.

A Fort Drum-specific cultural property briefing created by Rush was also included as an appendix in Annex K and incorporated into pre-mission training for units.¹¹ The briefing provided information on how to identify and respect cultural property, and it

or anthropologists, so the deputy G-9 created scenario organizations that reflected their real professions. Prior to the execution of the exercise, the role players were provided detailed scripts, talking points, rules of engagement, and background stories of their respective organizations and characters. The deputy G-9 also facilitated rehearsals and strategized possible questions, discussions, and issues that might be encountered during the key leader engagements (KLEs) and interactions with the training units. He provided daily exercise updates to keep the role players informed of events that occurred in the scenario so that they remained better prepared for their roles.

The CRB had additional resources that contributed to the realism of the training. Between the ten personnel, there were enough costumes, jewelry, and props so that each person was wearing some type of traditional “Atropian” clothing. The role players were dressed in scarves, beads, turbans, robes, sashes, belts, vests, and daggers. The most significant contribution was that the office had replica artifacts that were incorporated into the scenarios. The inclusion of the artifacts added yet another level of realism and depth to the exercise.

Most importantly for the G-9, the presence of actual objects promoted training and awareness of cultural property protection. The artifacts included tablets, a stamp, and a goblet, which were emplaced by observer/controllers in enemy territory with the expectation that the artifacts would be recovered during sensitive-site exploitation by the training unit. The CRM’s character introduced the artifacts into a scenario during the initial KLE with the brigade commander, where she presented photographs of the stolen artifacts in the form of catalog information from the National Museum of Atropia. Atropian delegations from the various NGOs, IGOs, and private organizations provided information about the artifacts, and emphasized the cultural significance and specific handling instructions for each artifact. The inclusion of the artifacts provided an opportunity for the training

- Atropian Minister of Cultural Affairs, Antiquities, and Archeology (MoCAAA)
- Deputy Minister, MoCAAA
- Security, MoCAAA
- Director, Atropian Cultural Resource and Environmental Preservation Organization (ACREPO)
- Deputy Director, ACREPO
- Director, Council of the Atropian Native Indigenous People (CANIP)
- Deputy Director, CANIP
- Regional Director, World Islamic Humanitarian Assistance Group (WIHAG)
- Assistant Regional Director, WIHAG
- DART/OFDA (USAID)

Figure by authors

Figure. Atropian Governmental Organizations, Nongovernmental Organizations, and U.S. Government Interagency Organizations

unit to hone their interpersonal-communication and rapport-building skills during KLEs. It also exercised several staff sections within the brigade to include the civil-military operations (S-9), intelligence (S-2), and operations (S-3) sections, the public affairs and legal officers, and the attached civil affairs company. The brigade commander immediately built rapport with the Atropian government officials and delegation representatives, and conveyed to his staff the importance of returning the artifacts to the Atropian government. He also understood the tremendous potential to capitalize on the possible strategic messaging opportunities and the potential to gain invaluable intelligence from the recovery of the artifacts. Success in recovering the artifacts proved to be both a strategic and tactical success for the brigade.

The successful integration of cultural property protection during the brigade exercise at Fort Drum was replicated during a second exercise at Fort Polk, Louisiana, to support 3rd Brigade, 10th Mountain Division. Unfortunately, the ten personnel from the CRO could not travel to Fort Polk, but the CRM accepted the deputy G-9’s invitation to be a role player and advisor during the exercise. She returned as her Atropian character, MoCAAA, to conduct two KLEs with 3rd Brigade, and to meet with the brigade



to coordinate training for their academic week in preparation for deployment in support of Operation Inherent Resolve.

During the initial KLE, the CRM introduced herself and expressed her concerns about the combat operations' potential impact on the cultural sites in the unit area of operations. At the subsequent KLE the following day, she presented photos of Atrobian artifacts stolen from the Atrobian National Museum that was looted and destroyed by enemy forces. The brigade S-9, legal officer, and protections cell officer took the photos and disseminated guidance to subordinate battalions on the proper handling of the artifacts. The brigade public affairs officer also published a press release about the KLE and that the main topic of the meeting was the missing artifacts.

Two days later, another role player was introduced to the scenario. This role player was an Atrobian landowner who discovered a bag with two artifacts while cleaning trash left behind by enemy forces. The landowner also came to request compensation from the unit as a result of maneuver damage. This inject provided an opportunity for the staff to take advantage of the strategic messaging opportunity and to demonstrate their competency in respecting a host nation's cultural property. The inject also provided an opportunity to collect additional information about the enemy force.

Col. Scott Naumann, commander of 1st Brigade Combat Team, 10th Mountain Division, and his staff meet with civilian role players 1 December 2016 during Mountain Peak 16-02 at Fort Drum, New York. The role players act as local nationals to help train the units on interacting with their host-nation leaders. (Photo by Maj. Kristoffer Mills, U.S. Army)

The next day, another role player entered the scenario to add more depth. This role player was a subordinate archeologist who worked at the provincial level. He came to the brigade to request the artifacts at the behest of the minister. While meeting with the brigade, he also stated that he encountered enemy forces while inspecting archeological sites in the unit's area of operations. This particular inject provided an opportunity for the unit S-2 to ask questions of the role player to not only understand ways to protect the archeological sites but to also collect information about enemy activities.

During this second exercise, aspects of cultural property protection were injected into the scenario to provide unique training opportunities that would otherwise not be available to the unit. The cultural property protection-focused scenario injects drove the civil-military operations training objectives for the units. The unit conducted KLEs in order to build rapport with the host-nation government, the injects afforded



opportunities to promote strategic messaging through the public affairs office, information provided by role players allowed the S-2 to conduct military source operations to support intelligence operations, and the staff exercised their ability to understand the policy and laws associated with cultural property. Prior to the conclusion of the exercise, the brigade S-9 repatriated the stolen artifacts and returned them to the Atropian government. Considering the upcoming mission and destination for 3rd Brigade, the most important training provided was the understanding and appreciation for cultural property protection.

Tip of the Spear

As increased attention is placed on the defeat of IS and the restoration of stability in Iraq and Syria, the international community will continue to emphasize the importance of implementation of meaningful protection of cultural property during the course of military operations. Fort Drum has also provided expertise to international military efforts to establish cultural property protection policies, doctrine, and best practices, including leadership for a NATO Science for

U.S. Army soldiers walk down the Great Ziggurat of Ur, a temple at the ancient city of Ur and an archaeological site on the outskirts of Nasiriyah 13 May 2009 about 320 kilometers southeast of Baghdad. The U.S. military transferred control of the site to Iraqi authorities on the same day. (Photo by Nabil al-Jurani, Associated Press)

Peace and Security-funded series of advanced research workshops devoted to the subject.

In the summer of 2016, ROTC interns at Fort Drum provided cultural property inventories for Estonia, Finland, Lithuania, and Latvia in support of cultural property protection injects for a NATO exercise in the Baltic Sea.¹² According to NATO Allied Joint Force Command Naples, these data were used effectively to contribute to injects where vibrations from heavy vehicle traffic were threatening a historic church and where an ancient seaside castle required special protection.¹³ In the after-action report, there was consensus that these injects added meaning and realism to the training effort.

At Fort Drum, the integration of the CRB and inclusion of cultural property protection into an U.S. Army exercise was most likely unprecedented in the

history of the modern force, according to the CRM, who has been working with the DOD for almost twenty years. The successful incorporation of cultural property protection and role players provided by the CRB demonstrates innovation in providing civil-military operations training that provides opportunities for units to interact with host-nation government officials, NGOs, IGOs, and private institutions.

The collaboration between the 10th Mountain Division G-9 and CRB, and the resulting successful injects, offers a division- and brigade-level training model for the rest of the Army that can also be duplicated by other military organizations across the globe. The United Kingdom recently ratified The Hague Convention and, as a result, the UK Ministry of Defence has identified the Fort Drum injects as a best practice worthy of study.¹⁴ The United Nations Education, Scientific, and Cultural Organization is interested in providing cultural property protection training to UN member militaries and has consulted the Fort Drum CRM for assistance.¹⁵ Also, the Austrian military has used the historic Sterlingville training asset concept to develop the villages found on their training areas in a similar fashion and are incorporating their ruins into exercises.¹⁶

The collaboration between the CRM and the deputy G-9 is innovative, and in terms of DOD archeology,

is the “tip of the spear” for cultural property protection training. The creative inclusion of artifacts into training scenarios and military exercise participation by CRB personnel provides tremendous opportunities to share lessons learned with NATO partners and UN members as they develop strategies and programs to implement cultural property protection into military training. Additionally, there is an opportunity to update and expand current U.S. military doctrine addressing cultural property protection as the only existing dedicated doctrine to the topic at present is the Graphic Training Aid 41-01-002, *Civil Affairs Arts, Monuments, and Archives Guide*, October 2015.¹⁷

Conclusion

As multinational, coalition partners cooperate to defeat IS and other organizations that would eradicate parts of human history for their own political objectives, the international community must also cooperate and leverage every capability possible to preserve and protect the cultural heritage of past civilizations. Tragically, too many ancient sites and artifacts have been lost to the hands of time and human malfeasance, but there remains hope and opportunities to protect and preserve the record of human history as it has developed among all peoples for our children and future generations. ■

Notes

1. United Nations Educational, Scientific, and Cultural Organization (UNESCO), “Convention for the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention 1954,” UNESCO website, accessed 4 October 2017, http://portal.unesco.org/en/ev.php-URL_ID=13637&URL_DO=DO_TOPIC&URL_SECTION=201.html.

2. Kathleen McLaughlin, *Historic Property Guidance* (Washington, DC: Department of the Army, 2016).

3. Jonathan Steele, “Damage Inquiry at Ancient Babylon,” *The Guardian* online, 11 June 2004, accessed 20 September 2017, <https://www.theguardian.com/world/2004/jun/12/iraq.jonathansteele>.

4. “National Register of Historic Places,” National Park Service website, accessed 21 September 2017, <https://www.nps.gov/nr/>.

5. Thomas Bogenschutz, now deceased, and his wife were the last couple to be married in Sterlingville before the village was destroyed. The comment was made in either 2002 or 2003 during a bus tour at Fort Drum for families who lost homes on the installation.

6. Army Regulation 350-4, *Integrated Training Area Management (ITAM)* (Washington, DC: U.S. Government Publishing Office, May 1998).

7. Keitha Kellogg Peterson, *Drummed Out* (Watertown, NY: Benjamin Printing, 2002), accessed 20 September 2017, <http://nyheritage.nnyln.net/cdm/pageflip/collection/jcclibrary/id/3959/type/compoundobject/show/3821/cpdtype/document/pftype/image#page/2/mode/2up>.

8. “The Blue Shield Emblem,” U.S. Committee of the Blue Shield website, accessed 21 September 2017, <http://uscbs.org/blue-shield-emblem.html>.

9. National Historic Preservation Act, 54 U.S.C. § 300101 et seq. (2016), accessed 20 September 2017, <http://www.achp.gov/nhpa.pdf>; U.S. Central Command (CENTCOM), *Environmental Regulation 200-2, Environmental Quality: CENTCOM Contingency Environmental Guidance* (MacDill, FL: U.S. CENTCOM), accessed 20 September 2017, https://www.cemml.colostate.edu/cultural/09476/pdf/CENTCOM_ITTR_CCR_200-2-1.pdf.

10. James A. Zeidler and Alexandra V. Wallace, “Product Catalog for Cultural Property Planning and Training in the Department of Defense,” Center for Environmental Management of Military Lands, Fall 2010, accessed 4 October 2017, <http://www.denix.osd.mil/cr/lrmp/factsheets/reports-and-other-products/product-catalog-for-cultural-property-protection-planning-and-training-legacy-09-324/>; “Heritage Preservation, ROE



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First!: Pocket Guide for U.S. Military Personnel," DOD Environmental, Safety, and Occupational Health Network and Information Exchange (DENIX) website, accessed 21 September 2017, <http://www.denix.osd.mil/cr/lrmp/factsheets/reports-and-other-products/soldier-pocket-guide-english-heritage-preservation-roe-first-legacy-08-324/>; Laurie Rush, Cultural Briefing, 24 October 2016.

11. Kristoffer T. Mills and Laurie Rush, appendix 3 (Cultural Briefing) to Annex K (Civil Affairs Operations) to *Operation Order 17-02 Atropian Resolve*, 1 November 2016, https://army.deps.mil/Army/CMDS/FORSCOM_10mtr/g9/Exercise (CAC required).

12. Laurie Rush, mentor, Fort Drum ROTC Cultural Property Protection Internship.

13. Unnamed flight lieutenant (OF-2) (British Air Force coordinator) to assistant chief of staff, J9 I CMI/ CIMIC [classified military information/civil-military cooperation] Operations and Targeting SO, Joint Force Command Naples (presentation, NATO Workshop, Sanremo, Italy, 7–9 December 2016).

14. Timothy Purbrick (lieutenant colonel, The Royal Lancers, Army Reserves staff officer, Concepts Branch, Army Headquarters, UK), personal communication, travel to Fort Drum, New York, to study the Fort Drum approach, 12–14 June 2017.

15. Request for support from UNESCO's Giovanni Boccardi, chief of unit, Emergency Preparedness and Response, and Jan Hladik, secretary of the 1954 Convention. Laurie Rush was invited faculty for UNESCO Cultural Property Protection Training for African peacekeeping forces at the Regional Peacekeeping Training Center, Harare, Zimbabwe, September 2017.

16. Anna Kaiser (director of the Donau University at Krems, Cultural Property Protection Master's Program), exercise organized for the NATO Advanced Research Workshop, August 2017.

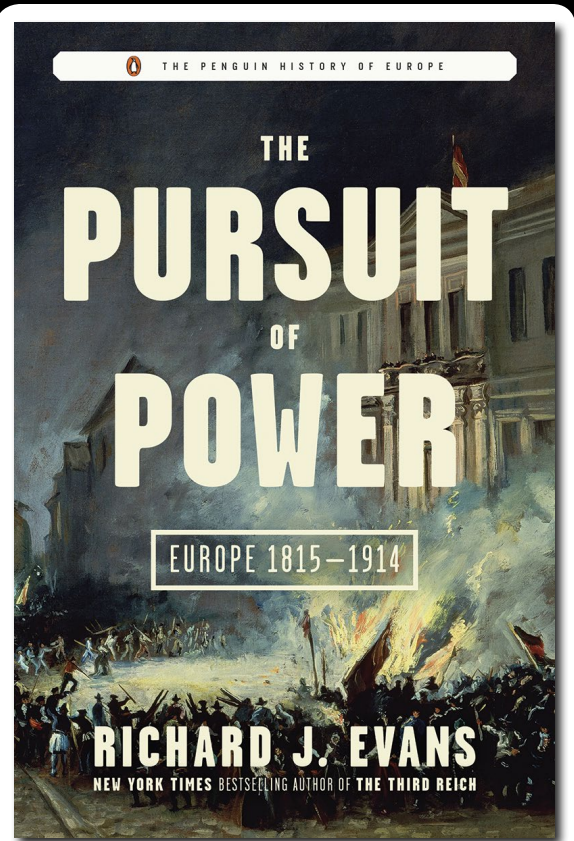
17. Graphic Training Aid 41-01-002, *Civil Affairs Arts, Monuments, and Archives Guide* (Washington, DC: Department of the Army, October 2015), accessed 21 September 2016, https://rdl.train.army.mil/catalog-ws/view/100.ATSC/B64AFE99-CA98-4891-AD9E-5D69E-C28A14F-1302924733371/gta41_01_002.pdf.

REVIEW ESSAY

The Pursuit of Power Europe 1815–1914

Richard J. Evans

Viking, New York, 2016, 848 pages



Mark Montesclaros

Sir Richard Evans adds his considerable powers of analysis to this work, the seventh volume in *The Penguin History of Europe*, which spans ancient to modern Europe in a series of nine single editions. The author is a professor of history and president of Wolfson College in Cambridge, and his contribution, *The Pursuit of Power*, is the most recent publication in the series. Chronologically it predates the next volume in the series, *To Hell and Back: Europe 1914–1949*, by Sir Ian Kershaw, published earlier in 2015 and analyzed by this reviewer in the July–August 2016 edition of *Military Review*.

Evans employs the same holistic style that was so effective in his renowned *Third Reich* trilogy, which encompasses far more than simply political or military history. In that series—which spanned the Reich’s coming to power, its conduct while in power, and its prosecution of World War II—Evans covered such diverse topics as culture, the economy, religion, science, the Holocaust, and resistance movements. Aimed at the general reading public, if not the specialist, the *Third Reich* trilogy was a highly acclaimed

model of synthesis and scholarship. The same attributes are evident in *The Pursuit of Power*.

Evans began writing *The Pursuit of Power* in 2009, which attests to the level of effort and perseverance required to compose a history of Europe that spans one hundred years in a single volume. Evans’s slice of *The Penguin History of Europe* covers the post-Napoleonic period to the eve of World War I, specifically 1815–1914. Why those benchmarks? In his very useful preface, Evans explains that those years in particular signal the high-water mark for the continent; that is, during that timeframe, Europe stood first globally in a number of important areas, which he highlights throughout the text. Additionally, the author makes a keen early observation that sets the tone for the entire book: “Europe is best seen as a social, economic, political, and cultural region sharing many common characteristics and stretching from Britain and Ireland in the west to Russia and the Balkans in the east.” Thus, Evans places a premium on considering Europe as an entity whenever possible in his treatment, rather than as an accumulation of regional histories or individual

country narratives. *The Pursuit of Power* is thus unique and works on multiple levels of analysis.

The organization of the book is elegant in its use of thematic “lines of effort.” It also reflects Evans’s intent to approach his history of Europe in a manner different from previous writers. The author divides the book into eight chapters of roughly equal size, each in turn consisting of ten sections. Exactly half of the chapters—1, 3, 7, and 8—cover political history and are organized chronologically. They include, amongst an impressive scope of topics, an excellent synthesis of 1815 Europe, the French Revolutions of 1830 and 1848, the Italian and German unifications of the 1870s, and the dissolution of the Ottoman and Habsburg empires. Chapters 2 and 4 cover socioeconomic themes, each encompassing roughly a half century in time. Here, Evans tackles such seminal developments as the emancipation of the serfs, the rise of industry and the working class, the decline of the aristocracy, urbanization, and European emigration. Chapters 5 and 6 are uniquely titled “The Conquest of Nature” and “The Age of Emotion,” respectively, reflecting what the author considers as broad “cultural” history. The former describes the state of nineteenth century “globalization” and the shrinkage of time and space with developments in transportation, commerce, medicine, and the adaptation of standard time as well as the metric system. The latter focuses on broad intellectual and cultural movements, in particular the transition from Enlightenment principles to those of Romanticism and later, Realism. In this fascinating chapter, Evans spans an eclectic variety of subjects, including religion, literacy and language, education, the arts, gender issues, and the rise of nationalism. Organizationally, *The Pursuit of Power*’s unique design provides the basis for a holistic synthesis of European history in the nineteenth and early twentieth centuries. In addition, the even-numbered chapters provide a respite to the book’s political emphasis in the odd-numbered ones, giving the book a unique balance, increased readability, and immense breadth.

As indicated by the book’s title, all of the lines of effort outlined above lead to the author’s underlying end—to describe how multiple actors and entities in Europe pursued power. (Indeed, the author’s choice of “power” in the volume’s title contrasts with the one that precedes it in the *Penguin History* chronology—Tim Blanning’s *The Pursuit of Glory, Europe 1648–1815*). Evans’s periodization is thus bookended by the Napoleonic Wars and World

War I—continental and global conflagrations, respectively. Why the intervening years were peaceful in comparison is at the core of Evans’s explanation; although Europe was not at war, there were a number of forces at work that combined to make the next one possible, if not inevitable. As the author articulately explains, multiple entities pursued power against the backdrop of the Napoleonic legacy and the revolutions of 1830 and 1848. Some were desperately trying to hold onto power—the aristocracy, the decaying Habsburg and Ottoman empires, and collective, “conflict prevention” groupings such as the Concert of Europe and the Holy Alliance. Others entities, borne of the forces of change throughout the century, were intent on obtaining or accumulating power. These were as varied as nations seeking global or regional hegemony via the “great game,” or individuals seeking greater levels of emancipation and basic civil rights. As Evans weaves this hugely complex tale, the pursuit of power in all of its manifestations provides the basis for the global conflagration to come: “Well before August 1914, the outbreak of a general war was widely anticipated across Europe, hoped for by some, feared by others. Nevertheless, when war actually did come, it was a surprise to almost everyone.” Thus, in the context of the three aforementioned *Penguin History* titles, glory gives way to power; power precedes the “hell” of the world wars. Evans’s book superbly connects the dots between the volumes that bookend it; collectively, the three encompass over three centuries of European history.

In essence, *The Pursuit of Power* displays Evans’s sheer ability to synthesize and analyze a vast amount of historical information and communicate it to the reader in a way that makes sense. This ability to connect the dots—that is, to draw relationships and comparisons between disparate events and trends, is the greatest attribute of the book. The author has a way of putting things clearly yet concisely in order to help one understand complex ideas. For example, when describing the European context at the outset of the book, the author observes, “Had the Europe of 1785 looked at itself in a mirror thirty years later, in 1815, it would not have recognized what it saw.” He also does not hesitate to question other historians’ conclusions; for example, one of the prevailing views is that the revolutionary upheavals of 1848 and the national unifications of 1871 are separate and distinct events. Evans offers a different perspective: “In

many respects, it makes sense to see the whole period of 1848 to 1871 as a single period of revolutionary change, rather than focusing individually on each of the short-term upheavals that followed one another with such breathtaking speed during these years.” *The Pursuit of Power* is replete with such commentary and analysis, adding context and breadth to an understanding of the seminal events and trends in European history between 1815 and 1914.

Also of note is Evans’s insistence that the book not be a collection of individual national histories, without linkages either to each other or to the continent as a whole. He is also a master at covering regional variations, which he does across a wide variety of topics—the state of the peasantry, industrialization and rise of the working class, and political and intellectual movements, to name but a few. As expected, Evans gives ample coverage to the Great Powers such as Britain, France, and Russia. Nevertheless, he also provides sound insight into developments in the Iberian Peninsula, the Low Countries, Scandinavia, and eastern as well as southern Europe, with particular attention to the fascinating and complex demise of both the Ottoman and Habsburg empires. This remarkable breadth is refreshing for those accustomed to narratives that focus almost exclusively on events in central Europe, with little to no coverage of peripheral states. In the same vein, Evans also incorporates a global approach in *The Pursuit of Power*. He constantly reminds the reader of the position of Europe in the worldwide hierarchy, again, discussing a wide range of issues—trade, commerce, the abolition of slavery, and the spread of culture and ideas internationally. This is most evident in chapter 8, “The Wages of Empire,” where the author makes cogent observations regarding the acquisition of colonial possessions: “Such acquisitions reflected Europe’s worldwide hegemony in the nineteenth century. They were made possible by industrial growth, military supremacy, and above all by improved communications.” He also argues that European prominence in international commerce was underwritten by the power of continental navies, in particular that of Great Britain. With the risk of sounding repetitive, Evans is superb at drawing relationships between events and trends in nations or regions, tying them in with continental developments, and then articulating a European perspective in a global context.

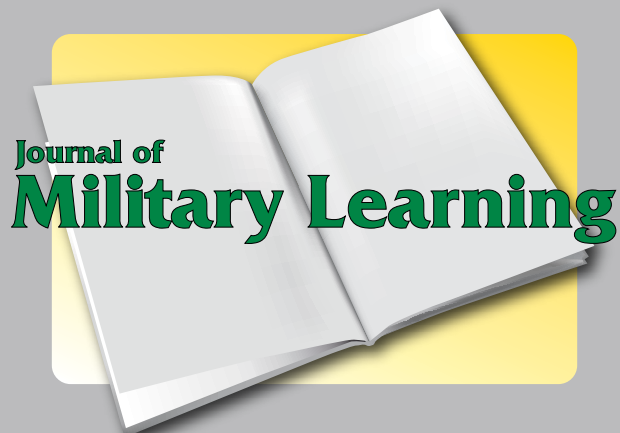
In addition to covering broad brushstrokes such as revolution, intellectual thought, and sweeping social change affecting the whole of Europe, Evans is equally adept at describing the life of “ordinary Europeans” who witnessed such events as they occurred. In this regard, one of his helpful innovations is using personal vignettes that introduce and place into context the main themes to follow. His first chapter on the immediate post-Napoleonic aftermath in Europe, for example, effectively uses the diary of a German foot soldier, Jakob Walter, who accompanied Napoleon on his ill-fated Russian Campaign of 1812 as a conscript in the Grand Army. Walter not only survived that horrific ordeal but also, quite remarkably, captured his personal thoughts in a diary that did not surface until the 1930s. Through the example of Walter, the author contextualizes the general war-weariness in Europe and attitudes toward Napoleon in particular. In a similar vein, the author opens “The Challenge of Democracy” with a narrative featuring Emmeline Pankhurst, an Englishwoman who symbolized the British suffragist movement and campaigned tirelessly for female emancipation in Great Britain. Again, Evans uses the Pankhurst example as a basis for exploring the general topic of emancipation, not solely female, across the European continent. The author’s use of vignettes such as these not only sets the historical context but also helps the reader form a personal connection to distant, nineteenth century voices.

There are a few potential criticisms of *The Pursuit of Power*, some imposed by the limitations placed on the series’ authors. For example, because of the single volume format, the book is densely packed with facts and analysis, over eight hundred pages worth, and requires concentration and perseverance on the part of the reader, especially those not familiar with the nuances of European history. (Evans recommends that the reader tackle the book from start to finish). Additionally, format rules dictate that the *Penguin History* contributors use primarily secondary sources, without the use of endnotes

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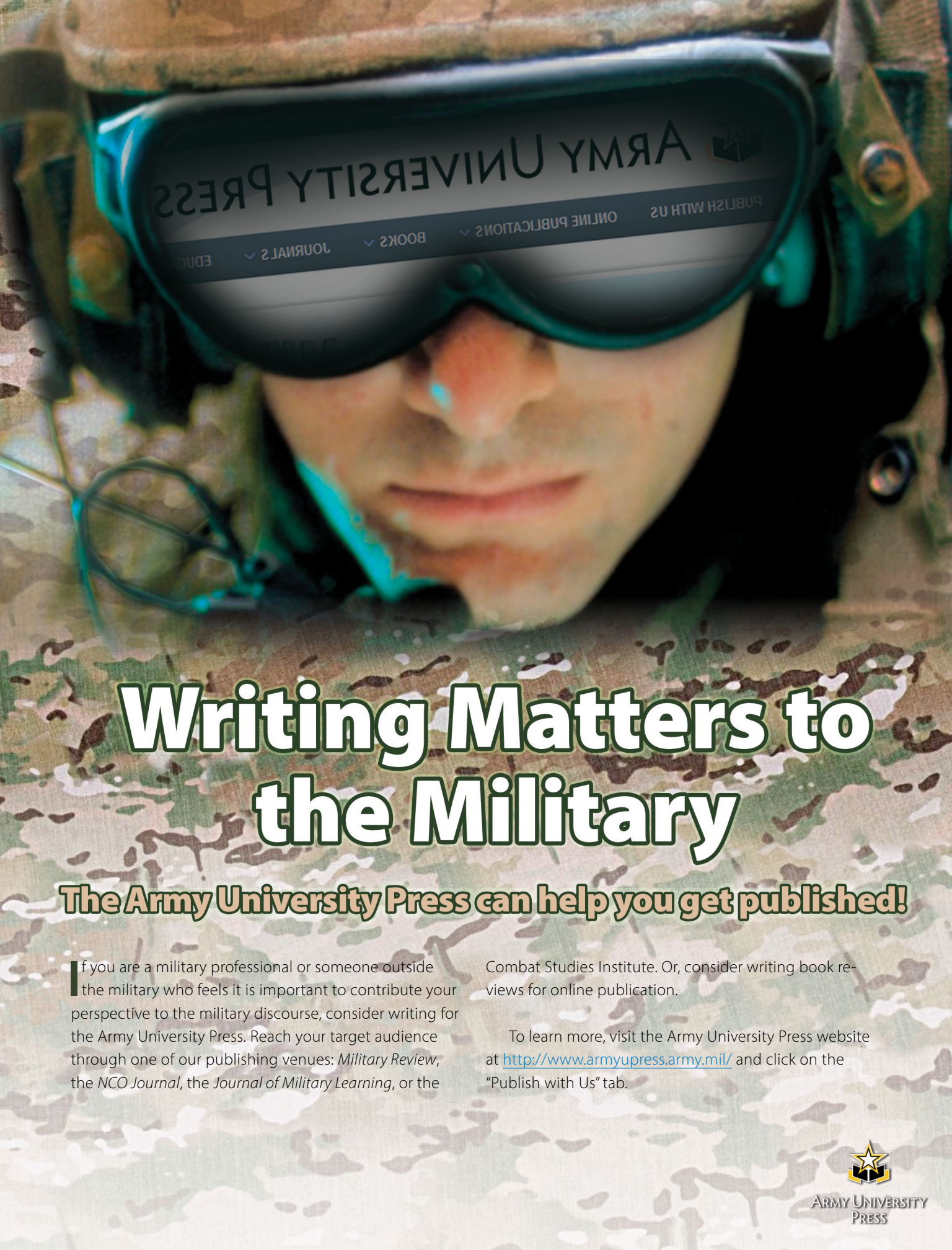
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or footnotes. This may be off-putting to some who are looking for additional detail or more specific source information. Finally, Evans's command of the material, acquired over decades of teaching and writing, may intimidate some due to the multiplicity of complex relationships, not to mention places, names, dates, and so forth.

These shortcomings, however, pale in comparison to Evans's superb analysis and unique ability to make complex relationships clear and understandable to the general reader. As stated, this is his most significant contribution. All told, *The Pursuit of Power* is a superb addition to *The Penguin History of Europe* series and effectively sets up the final two volumes by Sir Ian Kershaw, the first published in 2015, as noted above. With Kershaw's upcoming *Fractured Continent: Europe 1950–The Present*, the series will be complete and brought up to date. Richard Evans's new work is indispensable to an understanding of twentieth century as well as today's Europe, and is highly recommended to the general reader as well as the specialist in European affairs and nineteenth century history in particular. Anyone who reads *The Pursuit of Power* will benefit from an enlightened as well as broadened perspective of the continent from a master historian. ■



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LETTER TO THE EDITOR

Response to J. Michael Waller's "Weaponizing Ridicule"

(*Military Review*, September–October 2017)

The Cowardice of the Mass Murderer

The occurrence of mass murders, particularly those allegedly related to religious beliefs, has become almost commonplace. Efforts to reduce the incidence of mass murders have not been successful. We can speculate as to the reasons for this lack of success—the wide variability in circumstances, in methods employed, and in attributes of perpetrators. I will suggest another approach, recognizing that there is no magic solution.

This approach focuses on the potential mass murderer, on altering implicit rewards entailed in the murderous act. Perpetrators may see themselves as heroes, as exacting justified revenge, as bearers of religious righteousness. They appear immune to negative

attributions such as "evil," or "monstrous," or "traitors." Indeed, they may expect, even gloat, when defamed. However, an attribution that is unexpected and not readily dismissed is that of COWARD, a description used by President Obama in commenting on the killings in Baton Rouge and Dallas. That label is justified because the victims of the mass murderer are defenseless. The prospect of being regarded as a coward may well have an inhibitory function for many potential murderers.

This function can be reinforced by a formal procedure in which the mass murderer's name and label of coward are inscribed in a chart maintained by a government agency such as the FBI, or the Surete, or



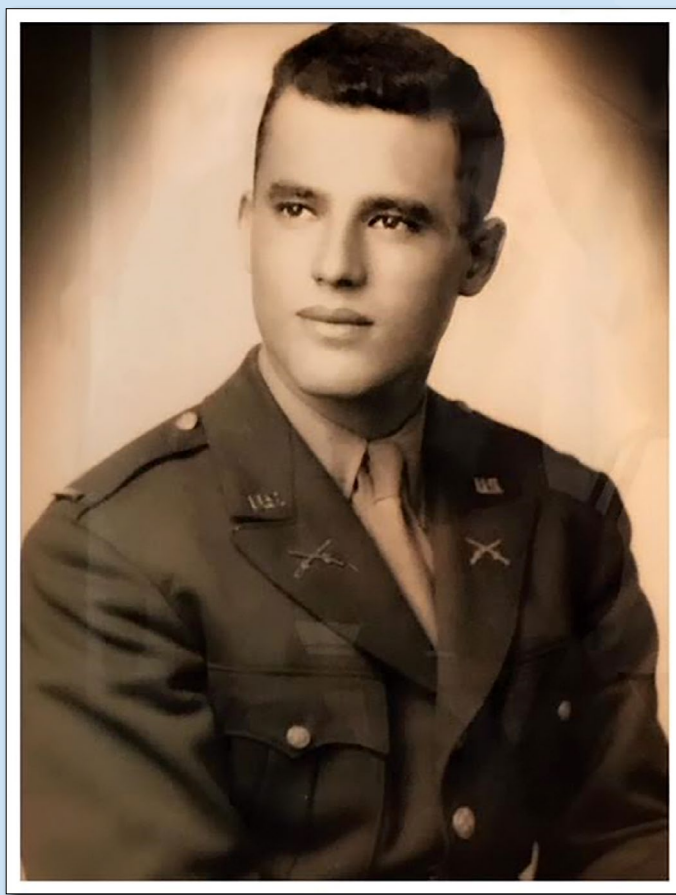
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Scotland Yard. Distress at being labeled a “coward” is further enhanced in those potential perpetrators who believe in a hereafter. The possibility of being considered a coward in eternity dampens any images of a lifetime of bliss. Of course, being labeled a coward is not a panacea and cannot be expected to inhibit the behavior of all potential mass murderers.

If the murders were a political act, supporters of the perpetrator may maintain that he or she is a hero in that they risked their lives for a political goal. But political, religious, or other justifications for a murderous action that entails the killing of noncombatants are irrelevant. The deliberate murder of an innocent, unsuspecting individual remains an act of cowardice.

The inhibitory function of the label of coward can only be effective if the community at large believes that individuals who murder the defenseless are cowards. I know that I do. ■

**Seymour Feshbach, PhD,
Professor Emeritus of
Psychology, UCLA**



(Photo courtesy of Feshbach)

2nd Lt. Seymour Feshbach, 1943

Seymour Feshbach enlisted in the U.S. Army in June 1943. After basic training, he entered the Officer Candidate School program at Fort Benning, Georgia, where he earned a commission in the Infantry. He initially served at several stateside posts until being assigned to a task force that was earmarked for participation in the invasion of the Japanese mainland. However, while he was in the Pacific staging for the invasion, the U.S. nuclear attack on Japan resulted in an abrupt end to the war. He was subsequently reassigned to Korea, where he completed his World War II military service. Following World War II, he finished his undergraduate studies at the City College of New York (CCNY) and entered the graduate program at Yale University where he pursued a doctorate in psychology. During this time, he also met and married a fellow scholar with whom he would later have three children.

Upon graduation, and before initiating his academic career, he was recalled to active duty for the Korean War and selected for assignment to the Pentagon, where he served for the duration of the war. Subsequent to the Korean armistice, he began his career in psychology at the University of Pennsylvania during which his major area of concentration was research into the dynamics of aggressive behavior, particularly in the reduction of aggression. He later moved to the University of California, Los Angeles (UCLA), where he spent the balance of his career. In his later research, the focus of his research shifted from the study of aggression to other areas, particularly analysis of patriotism and nationalism. At UCLA, he served as chair of the Psychology Department and head of the University's Academic Senate. He also served as president of the International Society for Research on Aggression, and president of the Society for the Psychological Study of Social Issues. His work has been widely recognized through various awards, including UCLA's Karpf Peace Prize, as well as invitations to accept prestigious positions of responsibility.

Response to Retired Lt. Col. Tim Thomas's "The Evolving Nature of Russia's Way of War"

(*Military Review*, July–August 2017)

I've had the privilege of being able to talk to the author of "The Evolving Nature of Russia's Way of War" on multiple occasions. What I've learned from Mr. Thomas about Russian strategy interests me as a Latin American researcher for a variety of reasons, including Russian influence on Cubans, and by extension, Venezuelans (whom together we can refer to as Bolivarians). Russians have influenced Bolivarian strategic culture directly through training and education, but the shared Marxist legacy might be of most interest to us. For instance, as the "Evolving Nature" article reminded me, the Bolivarians pursue what they call the "combination of all forms of struggle." Beyond the article, however, one of Thomas's books, *Recasting the Red Star*, touches on the influence of Marxist thinking on strategy-making, and discusses the centrality of deception. It all makes one want to ask, "What is the Russian deception to-day, and where are they unfolding it?" Might it not be, if the Russian global strategic goal is to gain increasing



Staff conversations, which included General Staff Chief Valery Gerasimov (second from left) and then General-Lieutenant Andrey Valerovich Kartapov (second from right) were held 15 July 2015 at the Russian Ministry of Defense in Moscow with representatives of the Republic of Korea. The writings and published speeches by both men are widely regarded as reflecting dominant strategic concepts guiding development of the Russian military. (Photo courtesy of the Russian Ministry of Defense)

The Evolving Nature of Russia's Way of War

Lt. Col. Timothy Thomas, U.S. Army, Retired

This article discusses the three Russian military articles about which most Western military analysts specializing in Russia have focused their attention over the past four years. Unlike other analyses of those articles, this one offers a different perspective in that it compares them side by side, examining the text

of the original versions and not merely the press reports about them. New graphs and tables included in the original versions are named, and a few are discussed further, and one is included here. This article is intended to do four things in particular. First, it demonstrates that five elements of Russian military thought continue to dominate

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To view this article, please visit <http://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/July-August-2017/Thomas-Russias-Way-of-War/>.

strategic advantage through control over hydrocarbon energy markets, that the geographical locus of the deception is eastern Europe? Might it not be—as Latin Americanists would dream—that the geography of the main Russian strategic effort is globally disperse with centers like Nigeria, Iran, Indonesia, and, of course, the country with the largest proven hydrocarbon energy reserves in the world. A Ukraine ploy would make for a perfect deception according to the notion of reflexive control. Playing to our predispositions, the Russians can gather almost every bit of American military attention away from South America and the Caribbean. What presence and influence does the United States currently have over the political parties, industries, and military units of Cuba and Venezuela? About as close to none as can be. Meanwhile, Russians are all over it. Sad. ■

Geoff Demarest

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Robot Nudging

Changes to tactics, techniques, and procedures most often originate out of necessity. The December 1944 issue of *Military Review* included a short article that described such a situation. "Robot Nudging," shown here, told the story of an innovative approach to air defense discovered by a British Royal Air Force pilot.

During World War II, the British faced the threat of thousands of German V-1 flying bombs fired from occupied territory in France and the Netherlands. British forces implemented several techniques to combat these early cruise missiles with varying degrees of success. These techniques included the use of antiaircraft guns, barrage balloons, and intercept aircraft.

The *Military Review* article details a technique discovered out of desperation by an RAF pilot in an intercept aircraft who had run out of ammunition. The pilot used the wing of his aircraft to knock the bomb off course. Labeled "bomb nudging," this technique was soon added to the list of possible air defense measures employed in defense of Great Britain.

To view the entire December 1944 edition of *Military Review*, Volume XXIV, Number 9, visit <http://cgsc.contentdm.oclc.org/cdm/singleitem/collection/p124201coll1/id/969/rec/3>.

For another example of World War II innovation, read the story of the Culin hedge cutter on the inside back cover of the July-August 2016 *Military Review* at http://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview_20160831_art024.pdf.



A photo of shadows on the ground shows a Royal Air Force Supermarine Spitfire maneuvering alongside a German V-1 flying bomb 31 December 1943 in an attempt to "topple" or deflect it from its target. (Photo courtesy of The Imperial War Museums)



A V-1 Fieseler Fi 103 in flight. (Photo courtesy of Wikimedia Commons)

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COMMAND AND GENERAL STAFF SCHOOL

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A MONTHLY REVIEW OF MILITARY LITERATURE

Robot Nudging

From a British source.

ONE of the methods used by RAF Spitfire pilots to deal with flying bombs was to range alongside them and shoulder them off their course so that they would crash and explode harmlessly on open ground.

This "bomb-nudging" procedure was the impromptu discovery of a pilot who ran out of ammunition after destroying two flying bombs. Deciding to take a chance with the third, he ranged alongside the "diver," delicately slid his starboard wing beneath its port wing, flicked his control column, threw the bomb's gyro mechanism off balance, and sent the machine spinning to the earth.

The pilot promptly reported the success of the maneuver and all fighter stations were informed, but the novelty of the method led to its being rather discouraged and it was not officially sponsored until scientific investiga-

tion proved that at high speed the air cushion between the two machines sufficed to deflect the flying bomb.

Bomb-nudging was not invariably successful because, after the first attempt, the gyro-pilots of the high-flying divers sometimes enabled them to recover balance, compelling the attacking fighters to repeat their dash twice or even three times before achieving their object.

A Mustang pilot accidentally found another road to conquest. Screaming down in a power dive onto a flying bomb, he overshot it and tore ahead. Pulling out of the dive, he saw it splash in the Channel and realized that the slipstream of his aircraft had thrown the bomb out of control, downed and drowned it. This method, too, was added to the list of the killers' recipes.