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Cover photo: Graphic illustration portraying an artist's conception of a future operational environment shaped by new technology. (Photo courtesy of Epirus, Inc.)

Next page: Paratroopers assigned to 2nd Battalion, 503rd Parachute Infantry Regiment, 173rd Airborne Brigade, build vehicular obstacles with concertina wire in a controlled area 15 August 2020 during Exercise Saber Junction 20 at the Joint Multinational Training Center, Hohenfels Training Area, Germany. (Photo by Sgt. John Yountz, U.S. Army)

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2021 General William E. DePuy

Special Topics Writing Competition

This year's theme: "Contiguous and noncontiguous operations: pivoting to U.S. Indo-Pacific Command—the Army's role in protecting interests against adversaries who can contest the U.S. joint force in all domains."

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 closes soon! Send in your entry by 12 July 2021!

1st Place	$1,000 and publication in *Military Review*
2nd Place	$750 and consideration for publication in *Military Review*
3rd Place	$500 and consideration for publication in *Military Review*

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

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- Field Manual 3-0—competition continuum (competition, crisis, conflict)
- Multi-domain task force
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- Protection and security (air defense artillery, engineer, chemical, biological, radiological, nuclear, cavalry)

Joint Operations

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- Joint/long-range precision fires
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- Joint forcible entry

Europe/Central Command/ Indo-Pacific Command

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- New operational environment: adversaries operating in their "near abroad" (close proximity to own borders)
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Spc. Kysam Moody, a Mississippi National Guardsman, moves through an obstacle course 20 April 2021 during a competition at Camp Shelby Joint Forces Training Center, Mississippi. (Photo by Spc. Benjamin Tomlinson, U.S. Army)

Preparing for the Future

Marine Corps Support to Joint Operations in Contested Littorals

Gen. David H. Berger, U.S. Marine Corps

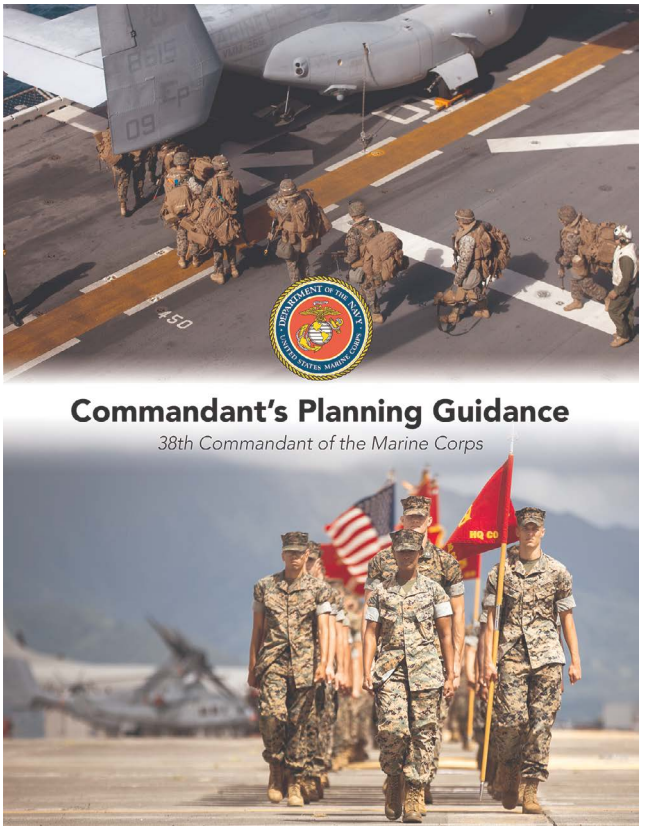
Over the last five years, the U.S. defense establishment has begun to grapple with the implications of the advent of a radically more complex and challenging strategic epoch. The return of great-power competition and the continuing threats of regional rogue states and violent nonstate actors challenge our Nation's interests amid an ongoing "revolution in technology that poses both peril and promise."[1]

Consideration of the challenging future these changes are likely to produce has sparked an energetic focus on developing new operating concepts, technologies, and force structures in all the military services. The U.S. Marine Corps is no exception. In close partnership with the U.S. Navy, our thought in recent years has converged around the concepts of *littoral operations in contested environments* and *expeditionary advanced base operations*, and their implications for the full range of Title 10 service functions in organizing, training, and equipping the forces necessary to execute them. During my predecessor's tenure as commandant, the U.S. Marine Corps embarked upon a campaign of learning to draw out these implications, a campaign that has continued and accelerated on my watch. Our learning to this point has led us to some interesting initial conclusions and hypotheses. One of the most interesting is *the possibility that a major role for Marine Corps forces in critical future scenarios may revolve around enabling naval and joint force commanders as a dedicated multi-domain reconnaissance and counterreconnaissance force.*

Reconnaissance and counterreconnaissance are precisely defined in joint and service doctrine. Reconnaissance operations, in any domain, use the full range of available "detection methods to obtain information about the activities and resources of an enemy or adversary."[2] Counterreconnaissance seeks to prevent adversaries from doing the same to us; it comprises "all measures taken to prevent hostile observation of a force, area, or place."[3] In the maritime context, it is wise to marry these current doctrinal definitions with the broader perspective conveyed in two "navy words of distinguished lineage": *scouting* and *screening*. The distinguished naval tactician Capt. Wayne P. Hughes Jr. defined scouting as "reconnaissance, surveillance, code-breaking, and all other ways to obtain and report combat information to commanders and their forces," and screening as "all measures used to frustrate the enemy's scouting effort … includ[ing] the possibility of attacking a threatening enemy."[4] This broader naval understanding of the mission informs my understanding of reconnaissance and counterreconnaissance in the pages that follow.

The most recent phase of the U.S. Marine Corps' learning process began with my *Commandant's Planning Guidance* of July 2019, amplified by a June 2020 article

articulating "The Case for Change," in which I laid out my assessment of the major features of the operating environment for which we now have to plan.[5] Nesting within the 2018 *National Defense Strategy*'s threat analysis, I observed that U.S. military responses to the challenges posed by revisionist powers, rogue states, and technologically advanced nonstate actors must contend with the realities of an increasingly mature precision strike regime. Several of these actors also make use of a sophisticated toolkit of coercive behaviors below the threshold of violence that some describe as gray-zone strategies. I also noted the obvious facts of geography—the intersection of threat and U.S. interests means that our interaction with several of our most formidable challengers will largely occur within the maritime domain. Sharing my predecessor's conclusion that "the Marine Corps is not organized, trained, equipped, or postured to meet the demands" of this rapidly changing operating environment, I have been deeply engaged over the last eighteen months with the challenge of formulating appropriate responses to those demands.[6]



To view the *Commandant's Planning Guidance: 38th Commandant of the Marine Corps*, visit https://www.hqmc.marines.mil/Portals/142/Docs/%2038th%20Commandant%27s%20Planning%20Guidance_2019.pdf.

A major part of the Marine Corps' response to this challenge is the program of development and learning that we call Force Design 2030 (FD 2030). We have already executed some of the less controversial elements of this program—for example, my decision to divest the entire Marine Corps' inventory of M1A1 Abrams tanks. The more consequential elements of the program are still underway, and among these are significant changes to a major portion of our ground combat element: fielding the Marine Littoral Regiment, restructuring our infantry battalions, and eliminating much of our existing towed cannon artillery in favor of longer-range rocket and missile systems. The latter will be able to launch a wide range of containerized munitions, including antiship missiles. Accompanying these changes are shifts in supporting aviation and logistical capabilities. The overall thrust of our FD 2030 program is to produce a Marine Corps that is "prepared to operate inside actively contested maritime spaces in support of fleet operations" that are themselves nested within overarching joint campaigns.[7]

These initial changes are the early stages of a much longer campaign. They will allow us to free resources and field experimental capabilities for the sustained period of innovation that the operating environment demands. As FD 2030 is at its heart a campaign of learning, it is not surprising that after a bit more than a year of work, we have learned some things. The wargaming and experimentation we have done thus far, culminating in the annual Naval Services Wargame in October 2020, suggests that the basic proposition of FD 2030 remains valid. Given the realities of geography and the proliferating precision strike regime, the Navy and the joint force will need an "inside" or "stand-in" force that can operate persistently within the weapons engagement zone (WEZ) of a peer adversary. Such a capability is particularly critical in the "contact" and "blunt" layers of the Global Operating Model , when joint forces must "compete … below the level of armed conflict" and should that competition escalate to armed conflict, "delay, degrade, or deny adversary aggression."[8] Stand-in forces will be constantly present in key maritime terrain during periods of competition

below the threshold of violence, deterring and countering nonlethal coercive behavior and other malign activity directed at U.S. allies, partners, and other interests. These same forces will remain inside an adversary WEZ to provide necessary support to naval and joint campaigning should competition escalate to war. Critically, given the vulnerability of large, fixed bases and shore-based infrastructure to long-range precision strike and the challenges of adequately defending that infrastructure, the stand-in force must be able to perform these functions from a strictly expeditionary and highly mobile posture.

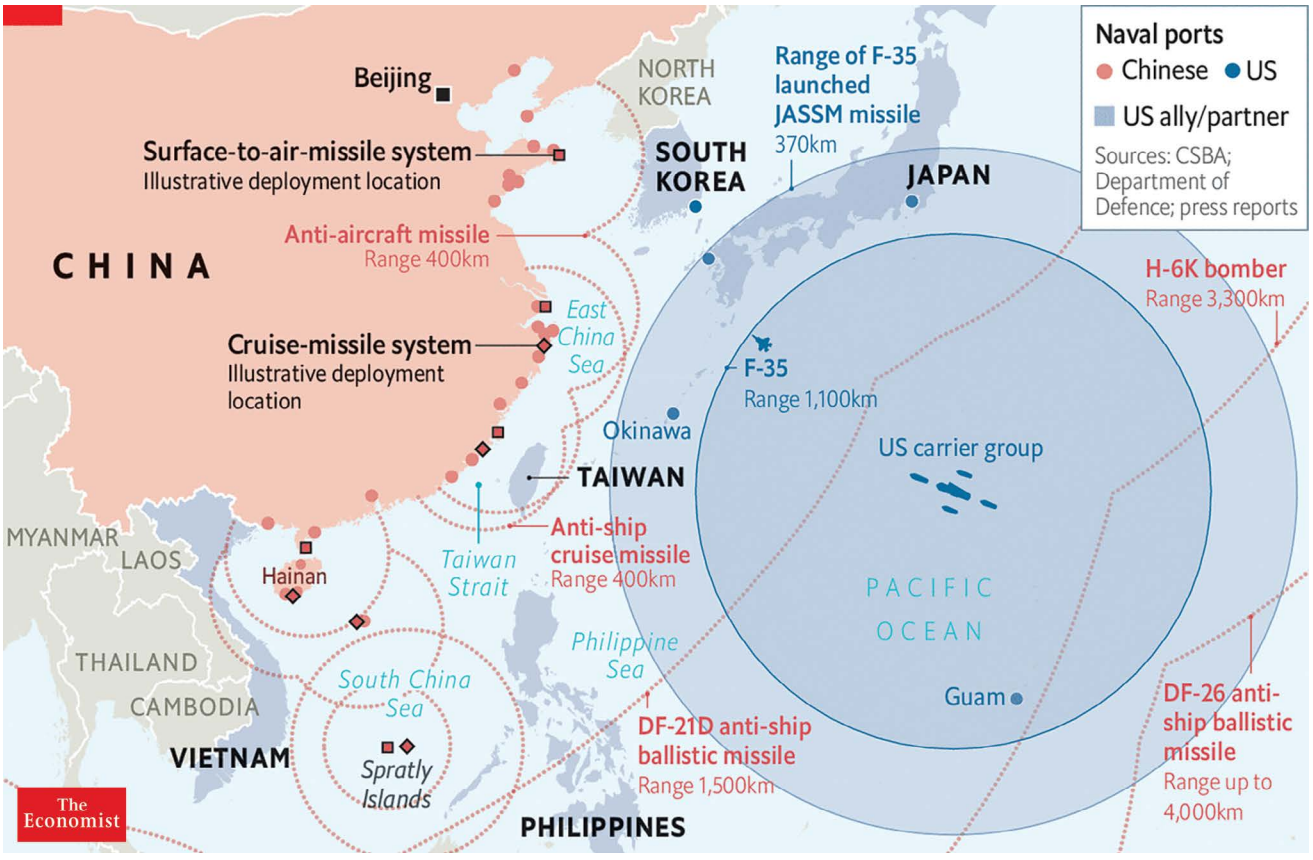
> Given the realities of geography and the proliferating precision strike regime, the Navy and the joint force will need an 'inside' or 'stand-in' force that can operate persistently within the weapons engagement zone (WEZ) of a peer adversary.

These broad conclusions are well supported by the wargaming and analysis we have done thus far. Our ongoing learning from these tools as well as from experimentation and large-scale exercises is steadily generating answers to the question of *how* the Marine Corps can most usefully contribute to solving naval and joint force commanders' problems as a stand-in force. Based upon our evolving understanding of expeditionary advanced base operations, we initially envisioned supporting fleet commanders by providing lethal antiship fires from mobile ground units operating from dispersed, austere expeditionary advanced bases (EABs) and from STOVL fifth generation strike fighters likewise operating from or enabled by specialized EABs.[9] What is now becoming clearer is a critical enabling role of the stand-in force—what the Navy and joint force might need most from the Marine Corps. The answer to the question of how we may best support the broader effort, it seems increasingly likely, is not lethal fires as an end in themselves but rather *reconnaissance and counterreconnaissance* applied in all domains and across the competition continuum.[10]

Gen. David H. Berger is the thirty-eighth commandant of the U.S. Marine Corps. He has commanded at every level, including during deployments to Haiti, Iraq, and Afghanistan. He is a graduate of the U.S. Marine Corps Command and Staff College and the U.S. Marine Corps School of Advanced Warfighting, and he holds multiple advanced degrees including a master of international public policy from Johns Hopkins University School of Advanced International Studies.

The logic of this requirement is clear. With the proliferation of the precision-strike regime, the ability of the naval and joint force to retain the initiative and ultimately to conduct effective offensive action to reverse adversary aggression will depend critically on the ability to win the "hider-finder" competition. Given the rapidly advancing capabilities of our pacing threat, the People's Republic of China (PRC), the joint force's historically dominant capability to sense and understand its operating environment will be vigorously contested or denied in every domain. At least initially, as wargame after wargame suggests, fixed land bases and high-signature land forces will be vulnerable to long-range precision weapons. Large naval vessels will likewise initially face considerable risk operating within the range of a peer adversary's long-range precision strike capabilities, including DF-21 and DF-26 antiship ballistic missiles.[11] Given our pacing threat's capabilities in the space and information domains, reliable tracking and cuing of naval targets through the use of national technical means will be challenged, and our links among command and logistical nodes may also be targeted.

Within this highly contested environment, as simulated in the wargames, analysis, and experimentation we have conducted to date, the utility of the stand-in force in a reconnaissance and counterreconnaissance role becomes clear. A light, self-reliant, highly mobile naval expeditionary force postured forward in littoral areas within the adversary's WEZ would provide naval and joint force commanders the ability to identify and track



(Figure by *The Economist*)

Aircraft Carrier Combat Range

Increasing quantities of more capable area denial systems based on mainland China and on artificial islands built by China have made U.S. naval operations increasingly risky in and around the South China Sea and Taiwan. China has also vastly extended its weapons ranges eastward and now poses a direct threat to U.S. forces based in Guam and naval forces operating in the central Pacific.

high-value targets including key reconnaissance platforms, scouting units, and other elements of the adversary's command, control, communications, computers, cyber, intelligence, surveillance, reconnaissance, and targeting (C5ISR-T) complex. The force could hold these targets at risk with its own organic fires capabilities and, perhaps more importantly, provide critical links for highly lethal naval and joint fires kill chains. With the right investments and doctrine for our own joint and combined C5ISR-T, this capability broadens to encompass the possibility of highly resilient "kill webs" able to link available sensors and shooters even in the face of adversary disruption of the information domain.[12] Moreover, since the stand-in force would operate in continual motion from a variety of low-signature maritime platforms and austere, temporary EABs ashore, it would be fiendishly difficult for the adversary to locate, track, and effectively target. Its constant, distributed presence will introduce significant uncertainty into an adversary's decision-making calculus. Even in steady-state, day-to-day competition below the threshold of violence, this widely distributed mobile presence will greatly expand the depth and fidelity of the joint force commander's understanding of the full range of adversary and other activity within the area of operations. In close cooperation with local allies and partners, this expanded understanding will help discourage an adversary's nonlethal coercive behavior and contribute directly to "deterrence by detection."[13]

Marines assigned to the 13th Marine Expeditionary Unit conduct call-for-fire missions 12 September 2018 during Theater Amphibious Combat Rehearsal (TACR) 18 in Djibouti. Led by Naval Amphibious Force, Task Force 51/5th Marine Expeditionary Expedition Brigade, the TACR integrated U.S. Navy and Marine Corps assets practiced a range of collective critical combat-related capabilities that would support an expanded reconnaissance and counterreconnaissance role for the Marine Corps. (Photo by Staff Sgt. David Proffitt, U.S. Marine Corps)

All of this, it must be emphasized, will be accomplished by naval expeditionary forces operating in international waters and periodic light footprints ashore on the territory of local allies and partners. It does not require the sustained presence of heavy ground forces or the regular deployment of large, land-based aviation elements. The use of the stand-in force in this maritime reconnaissance and security role will be a good fit for

scenarios in which regional allies or partners are unwilling or unable to host substantial numbers of U.S. personnel ashore. While it may be infeasible for heavy land-based joint forces to establish a permanent presence forward in such scenarios, the sustained operations of lighter Marine Corps stand-in forces in the contact and blunt layers can set the conditions for their later introduction in the surge layer. The stand-in force's persistent presence will help build partner and ally confidence in U.S. reliability and commitment. At the same time, its contribution to establishing and maintaining reliable combined and joint C5ISR-T within the WEZ will provide critical enablers for the introduction of follow-on forces.

The notion that maritime reconnaissance and counterreconnaissance might become a major role or mission for the Marine Corps has predictably generated some counterarguments. One of these, heard frequently both within and outside the Marine Corps, is the idea that our service's identity is tied to the forcible entry mission or the amphibious assault. Closely related to that criticism is the notion that our service must maintain a strictly offensive character—that our tradition as "amphibious shock troops" is one to which we are somehow immutably bound. Finally, there is the idea that recasting that part of the Marine Corps that will source the stand-in force to focus on maritime reconnaissance and counterreconnaissance will focus us exclusively on the demands of a single threat in a single theater and compromise our ability to perform our broader enduring role as a globally employable naval expeditionary force in readiness.

These critiques are serious. Taking on the maritime reconnaissance and counterreconnaissance mission would entail an adjustment for the Marine Corps, with implications for certain aspects of our doctrine, force structure, and associated budget. The critics deserve equally serious answers to their concerns, which I will try to provide here in brief.

The issue of "service identity" is particularly troubling, as it can become an obstacle to the kind of innovative thinking we need to keep pace with a changing world. Marine Corps roles and even basic force structure are codified in law; 10 U.S.C. § 5063 prescribes a Marine Corps focused primarily on the "seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign" and structured as "forces of combined arms" organized in three combat divisions and three aircraft wings.[14] Statutes, however, codify what *has been*, and they evolve as new situations and requirements present themselves. The Marine Corps has traditionally been quite agile in navigating such change, and we are consequently fond of referencing our historical role in major military innovations such as the development of amphibious doctrine in the interwar period and of heliborne vertical envelopment in the early Cold War.[15] We are justifiably proud of our historical accomplishments, and

a certain amount of conservatism in military thinking helps counter the risk of infatuation with overly deterministic or otherwise misguided visions of future war. But at a certain point, conservatism can crystallize into a static mentality that becomes an obstacle to necessary change. Our service identity is inextricably linked to our historical record of innovation and adaptation. At

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several points in our history, the Marines have managed to develop a vision of future war accurate enough to allow the timely development of capabilities that proved to be essential enablers to the prosecution of naval and joint campaigns. We did not, for example, conduct the iconic amphibious operations of the Second World War purely for the sake of conducting amphibious operations—those operations enabled naval forces to secure land bases or eliminate those of the adversary in support of an overarching naval campaign. Ultimately, as we neared the home islands of Japan, the rationale for the seizure of bases in the Marianas, Iwo Jima, and Okinawa became directly linked to a larger joint campaign; airfields on these islands were essential to the Army Air Corps in their campaign against Japanese war industry. We should keep this history in mind as we think about amphibious operations or any other form of maneuver. These concepts are tools in a kit that we must be willing to adjust over time.

Closely related to critiques based on service identity is a concern that focusing on maritime reconnaissance and counterreconnaissance might somehow compromise our essentially offensive service ethos. As our basic doctrine for warfighting reminds us, a general bias toward action is essential, and at the appropriate level of war, a bias for the positive aim, the offensive action, is warranted. The maritime reconnaissance and counterreconnaissance mission, as the naval concept of "screening" suggests, is in no sense a matter of merely passive sensing or observation. The purpose of a reconnaissance and security force is to fight for information. Successful accomplishment of that mission has always required an operationally sophisticated balance of prudent observation and savagely aggressive action to force enemy commitment and reveal disposition. Performing this function for the Navy and the joint force is entirely consistent with a warfighting philosophy that counsels us to "orient on the enemy," uncover their "surfaces and gaps," to disrupt their decision-making cycle, gain dominance in operational tempo, and ultimately "penetrate the system, tear it apart, and … destroy the isolated components."[16] The ability to do this, which a well-designed stand-in force will be well postured to provide, is an essential enabler for naval and joint force commanders in multi-domain competition in the contact and blunt layers.

Finally, the idea that a maritime reconnaissance and counterreconnaissance role for the Marine Corps reflects a myopic focus on a single threat or theater; in this case, the PRC in the western Pacific is rooted in a concern that commitment to this role could render us unready for the range of demands we may face as a forward-deployed naval expeditionary force. This is a legitimate concern, and we need to guard against it. There is no question that as a naval expeditionary force in readiness, the Marine Corps is a key element of the Nation's ability to manage the risk of crises and contingencies involving the full global range of expected and unexpected threats. It would indeed be foolish to overspecialize to a degree that would compromise that capability. I am confident that we are managing that risk effectively. A portion of the risk has been assumed by higher authority given the basic conclusions of current strategy regarding great-power competition. This guidance identifies the PRC as the pacing threat and directs the Marine Corps to take certain actions in response. Service action in response to such prioritization is in no sense optional, and I have guided our actions accordingly. Additionally, given the long-standing trends and realities of the twenty-first-century operating environment, it is likely that military operations in general will be increasingly subject to the constraints imposed by the rapidly proliferating precision strike regime. A stand-in force able to persist inside an adversary WEZ and

perform reconnaissance and counterreconnaissance tasks in the contact and blunt layers will be useful to naval and joint commanders in a wide variety of theaters. Winning the hider-finder contest will be critical, no matter where we are on the globe.

Some assert that the security environment we now confront is the most complex, the most dangerous our Nation has ever faced. These claims can sometimes gloss over the significant lethal challenges our predecessors confronted throughout history. Still, the challenges we face now are real, they are many, and they are growing. We cannot afford to double down on traditional or preferred ways of doing business simply *because* they are traditional or preferred; we must retain the flexibility to innovate in response to the demands of *today's* operating environment to produce the enabling capabilities that *today's* naval and joint force commanders require. Even more critical is our ability to anticipate the challenges of tomorrow's environment and invest now in capabilities we will need going forward. This mental and institutional flexibility—the ability to adjust and adapt the specific capabilities and forms of maneuver by which we perform our enduring role as the Nation's naval expeditionary force in readiness—is the essence of the Marine Corps' service identity. While the maritime reconnaissance and counterreconnaissance role is in early stages of concept development, it already shows great potential for helping the joint force gain and maintain relative advantage. Wargaming, experimentation, and practical exercising by Fleet Marine forces will help determine just how great that advantage might be. ■

Learning and innovation go hand in hand. The arrogance of success is to think that what you did yesterday will be sufficient for tomorrow.

—C. William Pollard[17]

Notes

1. The White House, *Interim National Security Strategic Guidance* (Washington, DC: The White House, March 2021), 8.

2. Marine Corps Doctrinal Publication (MCDP) 1-0, *Marine Corps Operations* (Quantico, VA: Marine Corps Combat Development Command, 26 July 2017), 6-4.

3. Ibid., Glossary-10.

4. Wayne P. Hughes Jr. and Robert P. Girrier, *Fleet Tactics and Naval Operations*, 3rd ed. (Annapolis, MD: Naval Institute Press, 2018), 3–4.

5. United States Marine Corps (USMC), *Commandant's Planning Guidance: 38th Commandant of the Marine Corps* (Quantico, VA: Headquarters, USMC, 2019); David H. Berger, "The Case for Change," *Marine Corps Gazette* 104, no. 6 (June 2020): 8–12.

6. USMC, *Commandant's Planning Guidance*, 1.

7. Ibid.

8. Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge* (Washington, DC: U.S. Government Publishing Office, 2018), 7.

9. In February 2021, we codified our present understanding of this core concept in the "Tentative Manual for Advanced Base Operations," available at https://www.marines.mil/News/Messages/Messages-Display/Article/2495507/publication-and-availability-of-the-tentative-manual-for-expeditionary-advanced/ (CAC enabled).

10. MCDP 1-4, *Competing* (Quantico, VA: Marine Corps Combat Development Command, 2020), 1-6. Marines think of interaction with adversaries below the level of armed conflict, as well as all forms of violence including open warfare, as residing at various points along a continuum of competition.

11. Steven Stashwick, "Chinese Ballistic Missiles Fired into South China Sea Claimed to Hit Target Ship," *The Diplomat* (website), 17 November 2020, accessed 8 April 2021, https://thediplomat.com/2020/11/chinese-ballistic-missiles-fired-into-south-china-sea-claimed-to-hit-target-ship/.

12. Compelling thoughts on this have been advanced by Bryan Clark, Daniel Patt, and Harrison Schramm, *Mosaic Warfare: Exploiting Artificial Intelligence and Autonomous Systems to Implement Decision-Centric Operations* (Washington, DC: Center for Strategic and Budgetary Assessments, 11 February 2020), accessed 8 April 2021, https://csbaonline.org/research/publications/mosaic-warfare-exploiting-artificial-intelligence-and-autonomous-systems-to-implement-decision-centric-operations.

13. Thomas G. Mahnken, Travis Sharp, and Grace B. Kim, *Deterrence by Detection: A Key Role for Unmanned Aircraft Systems in Great Power Competition* (Washington, DC: Center for Strategic and Budgetary Assessments, 14 April 2020), accessed 8 April 2021, https://csbaonline.org/research/publications/deterrence-by-detection-a-key-role-for-unmanned-aircraft-systems-in-great-power-competition.

14. 10 U.S.C. § 5063, accessed 8 April 2021, https://www.govinfo.gov/content/pkg/USCODE-2010-title10/pdf/USCODE-2010-title10-subtitleC-partI-chap509.pdf.

15. Victor H. Krulak, *First to Fight: An Inside View of the Marine Corps* (Annapolis, MD: Naval Institute Press, 1984), loc. 1600-1619, Kindle.

16. MCDP 1, *Warfighting* (Quantico, VA: Headquarters, USMC, 1997), 73–76, 92.

17. C. William Pollard, *The Soul of the Firm* (New York: Harper Business; Grand Rapids, MI: Zondervan, 1996), 114.

Military Diversity
A Key American Strategic Asset

Gen. Michael X. Garrett, U.S. Army

As commanding general of U.S. Army Forces Command (FORSCOM), I am responsible for the readiness of more than 750,000 active and reserve component soldiers across the United States.[1]

Readiness is "the Army's ability to provide adequate forces to meet the demands of the NMS [*National Military Strategy*]," and is reflected when the Army meets combatant command requirements, achieves high performance in operations and training exercises, and maintains a technological and tactical edge through modernization initiatives.[2] Readiness is the reason FORSCOM exists: our headquarters' mission is to "train and prepare a combat-ready, globally responsive Total Force."[3]

In my experience, one of the most essential indicators of readiness is a unit's ability to operate as a diverse, cohesive team. The highest levels of trust combined with individual mastery of warfighting fundamentals prepare squads and crews to win at the point of contact against our Nation's adversaries.

Former Acting Secretary of Defense Christopher C. Miller emphasized the connection between readiness, team cohesion, and fair opportunities in his 17 December 2020 memorandum on improving racial and ethnic diversity.[4] My experience as a soldier and commander tells me diversity is much more than a force multiplier; it is essential at every level of mission effectiveness.[5]

Beyond the way a unit shoots, moves, and communicates, readiness in the U.S. Army depends on team members who represent all of America and operate with high morale and camaraderie. And while "the vast majority of the men and women of this Department [of Defense] serve with honor and uphold our core values," even one intolerant or untrustworthy team member can have an outsized impact on a unit's cohesion and reliability.[6]

Without diversity, a homogeneous team of soldiers would lack the resilience, perspective, and growth offered by teammates from different backgrounds. Without trust, these teams would inevitably make mistakes and miss opportunities on the battlefield—possibly at the cost of American lives. If compounded over time, these team-level effects could drive down American and U.S. military credibility, compromising our core, enduring interests.

This makes diversity not only a right but also a strategic military asset—essential to meet today's security challenges.[7]

One Soldier's Experience

In one of his initial public messages to senior Department of Defense leaders, Secretary of Defense Lloyd J. Austin III wrote, "Service members, DoD civilian employees, and all those who support our mission, deserve an environment free of discrimination, hate, and harassment."[8]

Perhaps I am fortunate to have grown up and enjoyed serving in such an environment. Born into an Army family where my father eventually rose to the rank of command sergeant major, I have spent my entire life around the Army and experienced the best of

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Second Lt. Michael X. Garrett (*center*) stands at attention as his parents pin his rank on his uniform during his U.S. Army commissioning ceremony in May 1984 at Xavier University in Cincinnati. Garrett's first assignment in the Army was at the 24th Infantry Division at Fort Stewart, Georgia, where his father, Command Sgt. Maj. Edward Garrett (*right*), served as the division command sergeant major. (Photo courtesy of the author)

its culture: duty, teamwork, and mission focus. While I have experienced and addressed everyday slights and unconscious bias as a Black soldier, I have not experienced the kind of overt racism or hatred I know others have. Army values and common purpose united soldiers and families—even though I knew there were significantly fewer Black kids to play with on the other side of post where the officer corps lived.

Although I did not think about it often, I knew most of the chain of command did not look like me. Gen. Roscoe Robinson Jr. became the Army's first Black four-star general in 1982, only two years before I was commissioned as an infantry officer.[9] In 1989, when I was a captain, Colin Powell became the Army's second Black four-star general when he took command of the organization I lead today.[10]

I was not and am not ignorant to the presence of racism in the Army, but I believed the best thing I could do was follow my role models, be a role model myself, and exceed standards.

Standards drove my experience as a young officer, particularly in the competitive, hard-training 75th Ranger Regiment. What mattered for every member of the team was whether they met the standard: in their

physical fitness, tactical proficiency, and professional behavior. Instead of race, religion, or other differences, we talked about standards and relentlessly trained to be masters of our skills and soldier tasks. And while I always felt the standard was a little higher for Mike Garrett than anybody else, I do not believe race was a determining factor in my career. Today, I am proud to lead in an Army that has also removed gender and sexual orientation as barriers to a soldier's ability to choose their career path and meet standards.

Soldiers graduate from the Basic Leaders Course class 004-19, hosted by 3rd Battalion, 218th Regiment (Leadership), South Carolina Army National Guard, 1 March 2019 at the McCrady Training Center in Eastover, South Carolina. (Photo by Cindi King, U.S. National Guard)

Commanding and leading soldiers as a brigade commander deployed to Iraq helped me value diversity in the U.S. Army on a deeper level. Soldiers from across the country, representing every part of our country, trained and served together in exceedingly complex and dangerous environments. Although they were not assigned to my brigade, I was in Iraq when four soldiers were killed in action together on 6 August 2007: Cpl. Juan M. Alcantara, born in the Dominican Republic and posthumously granted American citizenship; Sgt. Nicholas A. Gummersall, a star athlete from Idaho; Cpl. Kareem R. Khan, a New Jersey native and Muslim soldier; and Staff Sgt. Jacob M. Thompson, a Minnesota native on his second combat tour.[11] This is one tragic example, out of many, of our force's diversity and strength: soldiers from different backgrounds serving and fighting together. It is thoroughly and uniquely American.

The more I looked around, the more I realized the U.S. military looked and felt much more diverse than partner nations' largely homogeneous militaries. I came to quietly respect and appreciate the ways soldiers of different races, religions, cultures, and backgrounds worked together, representing the best of our Nation.

I am honored to be the Army's ninth Black four-star general, which means for all but six years since 1982, Black soldiers—at least Black male

soldiers—have been able to see themselves in one of the Army's top billets.[12] Considering the importance of diversity to our Army's identity, it is clear we have more work to do. We must continue to combat unconscious bias, microaggressions, and rare cases of overt extremist behavior before they corrode us from within.

> A team that ignores its unspoken differences may fail to build camaraderie and risks silently condoning racist or extremist behaviors.

Hopefully sooner rather than later, the Army's tenth, eleventh, and one hundredth Black four-star generals will lead soldiers, alongside the tenth, eleventh, and one hundredth women and non-Black minorities who hold the same rank. More than ever, I am convinced diversity is one of the Army's most valuable strategic assets; it deserves our attention and protection.

Leader Responsibilities

It is every leader's duty to ensure inclusion within their teams through their unit's culture and command climate.[13] Like all strategic assets, leaders must deliberately preserve and sustain their diversity and inclusion. This takes time and energy but is otherwise relatively low cost. Few other U.S. strategic assets—such as military end strength or weapon systems—are available at the low cost of a small-team leader's commitment and focus. Through diversity and inclusion, the Army has an opportunity to dramatically increase a strategic imperative—along with our people's well-being and our force's readiness—through nothing more than leaders' daily actions.

Leaders who infuse inclusion, respect, cohesion, and belonging within their teams will foster the level of diversity necessary for the Army's strategic credibility. Leaders should create opportunities for soldiers to prove themselves and be judged against standards instead of their gender, race, ethnicity, religion, or sexual orientation. With their leaders' respect, soldiers are welcome to perform and advance on these teams just as I was, without judgment or bias. Through cohesion, teams see past their differences and trust one another where it matters most: at the point of contact. And through belonging, soldiers identify themselves as members of their teams despite their different backgrounds because they share a deep connection to the mission.

This is easier said than done. Unit cohesion, or interpersonal respect, is not as clearly assessed and validated as a platoon's ability to conduct a live-fire exercise or a tank crew's gunnery table performance. An inclusive and ready unit takes 365-day-a-year leadership; fortunately, soldiers have 365-day-a-year leaders. From the squad to corps levels, leaders must ensure their actions support the strategically diverse force we need, in the following ways:

Develop leaders. Teach all leaders and soldiers to identify unconscious bias, navigate difficult conversations, and address conflicts. Microaggressions—described as "a comment or action that subtly and often unconsciously or unintentionally expresses a prejudiced attitude toward a member of a marginalized group"—take many forms.[14] For example, as a general officer, I have been part of groups where a guest assumed one of my white staff members was the group's senior member. While it is tempting to brush off a seemingly harmless assumption, doing so would be a missed opportunity. Leaders must be comfortable identifying microaggressions about to occur in their own behavior and be clear when correcting these indignities within their formations. Furthermore, subordinate leaders must be empowered to admit they cannot solve an inclusion or interpersonal problem on their own, and they must be connected with best practices and trained professionals.[15]

Define and uphold standards. In our fair and inclusive Army, all soldiers deserve the opportunity to prove themselves by meeting the standard. They rely on their leaders to communicate exactly what that standard is and then follow through by consistently applying this standard. Ill-defined or changing

standards leave room for subjective leadership and erode soldiers' trust in their leaders.

Promote unity of effort. Give small teams an opportunity to rally around a common purpose: a mission, a field training exercise, or a squad- or platoon-wide goal. The Army is made up of individuals from all different backgrounds and parts of our Nation, but there is always the potential for common ground. People join the Army to serve, to become leaders, or to seek new opportunities and education—these motivations are not exclusive to any one race, ethnicity, gender, or religion.[16] Leaders who know their people can tap into these motivations and build connections across the team.

Encourage difficult conversations. When I run during physical training hours, I sometimes "hijack" a squad on the road, introduce myself, and ask questions about their team. Months ago, I asked one squad, which happened to include soldiers of different races, how often they had conversations about race. Their answer: "Of course not, why would we talk about that?" At their age, I would have had the same answer. What I did not appreciate in my twenties, and hope I helped these soldiers appreciate now, is that teams are better when they acknowledge their differences and learn about one another.[17] A team experiencing healthy conflict—such as respectful, empathetic conversations about personal topics—is genuinely building inclusion and belonging. Alternatively, a team that ignores its unspoken differences may fail to build camaraderie and risks silently condoning racist or extremist behaviors.[18]

Foundational Training Days—the FORSCOM-wide initiative in which leaders dedicate one day in each month's training calendar to building trust between leaders and team members—gives teams time to ask tough questions, tackle issues, and get to know one another's unique perspectives. Foundational Training Days rely on teams and leaders to approach each opportunity with an open mind and genuine desire to build relationships. This is not time off from training, and in many cases, may incorporate small-team training opportunities where trust and teamwork are the principal outcomes.

These recommendations are relatively tactical-level actions for leaders of small teams and squads to ultimately achieve strategic results. The benefits of leaders who promote inclusion within their teams are clear, albeit best measured over the long term.

> A culture of inclusion offers transformative experiences to those who do enter the Army with biases; soldiers and veterans who learn and grow in our teams come to represent the best of American values.

A culture of inclusion offers transformative experiences to those who do enter the Army with biases; soldiers and veterans who learn and grow in our teams come to represent the best of American values.

Diversity as a Strategic Asset

We will take urgent action to ensure that our national security workforce reflects the full diversity of America and all the strengths it brings.

—President Joseph R. Biden Jr.[19]

National strategy exists to secure and advance our Nation's long-term, enduring, core interests over time.[20] Military strategy is the business of civilian leaders, generals, and admirals regarding force employment within the combatant commands and each military institution's direction for its future force.[21] As the commander of one such institution within the U.S. Army, I believe America requires, and will continue to require, a diverse force in order to be effective. Like America's partnerships, diplomatic corps, and cutting-edge technology, a diverse and inclusive military force is an essential element of our force's ability to compete, fight, and win around the world.[22]

A diverse and inclusive force is effective at the point of contact—the time and place where squads, platoons, and companies achieve victory or decisive advantage—because they combat group-think while trusting one another with their lives.

A diverse and inclusive force is resilient. When squad members come from various backgrounds and cultures and share few of the same life experiences, their common bonds are the shared hardships of training and operations.

A diverse and inclusive force attracts and retains talent. In 2015, Pentagon data said 71 percent of all young Americans were ineligible to serve in the military for various reasons such as health issues, obesity, physical fitness, education, and criminal history.[23] Our all-volunteer military needs the best talent from the remaining 29 percent and cannot afford a reputation that turns off our country's smartest, healthiest, and most moral women and people of color. For example, we do not know how many women have declined to consider joining the Army in light of the horrifying death of Spc. Vanessa Guillen.[24] We may never know, but we have likely missed the chance to train and develop some future senior leaders.

A diverse and inclusive force helps young Americans, families, and veterans trust and relate to the U.S. Army. Outside of recruiting and talent management, the Army is also a symbol of our Nation's values—a source of pride for the American conscience and our partners. A recent Reagan Foundation survey found that Americans' trust in the U.S. military has declined since 2018, though it is still above the public's trust in six other public institutions.[25] In the wake of a divisive 2020 marked by racial tension and conflict, the military can and should be a source of national unity.

Gen. Michael X. Garrett (*right*) cheers on soldiers assigned to the 7th Army Training Command 29 October 2019 during the final stretch of an esprit-de-corps run in Grafenwoehr, Germany. (Photo by Spc. Ryan Barnes, U.S. Army)

A diverse and inclusive force represents American values abroad. In 1997, a Bolivian army corporal named Rodrigo Mendoza trained alongside soldiers from 7th Special Forces Group (Airborne) during a training exchange in his own country.[26] Inspired by this experience, Mendoza completed his mandatory national military service, moved to Puerto Rico, enlisted in the 82nd Airborne Division, gained U.S.

citizenship, and eventually earned a Special Forces green beret of his own. Every day, diverse and cohesive teams of soldiers across the world represent the democratic values that make America strong. And while these exchanges are meant to build partner capacity, not recruit foreign citizens, Mendoza's story demonstrates the reach and impact of American values. Without this reach, we would not only lose influence abroad but also present adversaries with opportunities to undermine our Nation's credibility.

As an organization that has declared "People First!," we have an obligation to follow through on this promise by ensuring respect and decency across our formations.[27] And ultimately, a diverse Army will attract the best of America's next generation when they see themselves in the chain of command and know they have equal opportunities to lead and advance.

Leaders who look at the Army's top priority, "People First!," in a strategic context are well-prepared to balance "people" and "readiness" in their units. Specifically, diversity and inclusion within the military are vital strategic assets that keep our force strong and set our Nation apart on the global stage. However—beyond strategy—diversity, inclusion, tolerance, respect, and fair opportunities are essential rights for all people. Leaders who disagree with the idea that diversity is a strategic asset have no less responsibility to ensure inclusion at their level. It is their legal and ethical responsibility.

> Diversity and inclusion within the military are vital strategic assets that keep our force strong and set our Nation apart on the global stage.

This article's strategic context is a new way for leaders to think about diversity, but at the end of the day, these justifications are not the reason the U.S. Army takes care of its people. We take care of our people because it is right, because we care, and because they deserve it.

The Army is fortunate to have leaders who have the heart to take care of people today and the perspective to understand the long-term impacts of unit culture on military readiness. ■

Notes

1. As of 17 February 2021, U.S. Army Forces Command (FORSCOM) includes 230,444 active component soldiers and 188,091 U.S. Army Reserve soldiers. An additional 334,542 Army National Guard soldiers are not formally in FORSCOM's chain of command but fall within FORSCOM's training and readiness oversight responsibility for the Total Force. These numbers total 755,039 personnel.

2. Army Regulation 525-30, *Army Strategic and Operational Readiness* (Washington, DC: U.S. Government Publishing Office [GPO], 2020), 2.

3. Army Regulation 10-87, *Army Commands, Army Service Component Commands, and Direct Reporting Units* (Washington, DC: U.S. GPO, 2017), 2.

4. Acting Secretary of Defense Christopher C. Miller memorandum, "Actions to Improve Racial and Ethnic Diversity and Inclusion in the U.S. Military," 17 December 2020, accessed 5 April 2021, https://media.defense.gov/2020/Dec/18/2002554854/-1/-1/0/ACTIONS-TO-IMPROVE-RACIAL-AND-ETHNIC-DIVERSITY-AND-INCLUSION-IN-THE-U.S.-MILITARY.PDF.

5. See also Kristy N. Kamarck, *Diversity, Inclusion, and Equal Opportunity in the Armed Services: Background and Issues for Congress*, Congressional Research Service (CRS) No. R44321 (Washington, DC: CRS, 23 December 2015).

6. Secretary of Defense Lloyd J. Austin memorandum, "Stand-Down to Address Extremism in the Ranks," 5 February 2021, accessed 5 April 2021, https://media.defense.gov/2021/Feb/05/2002577485/-1/-1/0/STAND-DOWN-TO-ADDRESS-EXTREMISM-IN-THE-RANKS.PDF.

7. U.S. Const. art. XIV, § 1.

8. Secretary of Defense, "Stand-Down to Address Extremism in the Ranks."

9. "Resume of Service Career of Roscoe Robinson, Jr., General," General Officer Management Office, accessed 5 April 2021 (CAC access required), https://www.gomo.army.mil/ext/portal/Officer/Resumes.aspx?Ltr=R&Type=Deceased.

10. "General Colin Luther Powell," General Officer Management Office, accessed 5 April 2021 (CAC access required), https://www.gomo.army.mil/ext/portal/Officer/Resumes.aspx?Ltr=P&Type=Retired.

11. Clyde Haberman, "Becoming an American Citizen, the Hardest Way," *New York Times*, 18 September 2007; Jeff Papworth, "Local Gold Star Mother Remembers Son's Commitment to Serving His Country," *Idaho State Journal*, 6 November 2019; Karen Tumulty, "Kareem Rashad Sultan Khan," *Time*, 19 October 2008; Mark Steil,

"Soldier from North Mankato Killed in Iraq," Minnesota Public Radio News, 8 August 2007.

12. "Welcome to GOMO," U.S. Army General Officer Management Office database, accessed 5 April 2021 (CAC access required), https://www.gomo.army.mil/.

13. This is a frequent topic in Army leadership discussions. For example, see "Leaders Listen, Act on Diversity and Safety Issues," Association of the United States Army, 23 July 2020, accessed 5 April 2021, https://www.ausa.org/news/leaders-listen-act-diversity-and-safety-issues. During a virtual town hall on 22 July 2020, Gen. James McConville, the chief of staff of the Army, said, "We have to make sure, as leaders, that every single soldier in our Army is treated with dignity and respect, and every single soldier is taken care of."

14. "Unconscious Bias," University of California, San Francisco, accessed 5 April 2021, https://diversity.ucsf.edu/resources/unconscious-bias. "Unconscious biases are social stereotypes about certain groups of people that individuals form outside their own conscious awareness." The Army has taken steps to eliminate the potential unconscious bias, sometimes called implicit bias, in the organization's decision-making. One example is through its removal of photos in promotion boards, as described in Kyle Rempfer, "Army Ditches Officer Promotion Photos as Part of an Effort to Eliminate Unconscious Bias," *Army Times* (website), 25 June 2020, accessed 6 April 2021, https://www.armytimes.com/news/your-army/2020/06/25/army-ditches-promotion-photos-as-part-of-an-effort-to-eliminate-unconcious-bias/; *Merriam-Webster*, s.v. "microaggression," accessed 26 March 2021, https://www.merriam-webster.com/dictionary/microaggression.

15. For example, see guides such as Derald Wing Sue, *Facilitating Difficult Race Discussions* (Hoboken, NJ: Wiley, n.d.), accessed 5 April 2021, https://www.colorado.edu/center/teaching-learning/sites/default/files/attached-files/facilitating_difficult_race_discussions.pdf; Elizabeth P. Cable, *Conversations that Matter: A How-to Guide for Hosting Discussions About Race, Racism, and Public Health* (Charlotte, NC: The Lee Institute; Omaha: CityMatch, 2012), accessed 5 April 2021, http://www.leeinstitute.org/wp-content/uploads/2015/06/FINAL_CityMatCHField-Guide.pdf.

16. Todd C. Helmus et al., *Life as a Private: A Study of the Motivations and Experiences of Junior Enlisted Personnel in the U.S. Army* (Santa Monica, CA: RAND Corporation, 2018). The study found soldiers join the Army for family, institutional, and occupational reasons, including a call to serve, perception of honor, thirst for adventure, and pay and benefits.

17. Dori Meinert, "Is It Time to Talk About Race and Religion at Work?," Society for Human Resource Management (SHRM), 28 November 2017, accessed 5 April 2021, https://www.shrm.org/hr-today/news/hr-magazine/1217/Pages/is-it-time-to-talk-about-race-and-religion-at-work.aspx. The SHRM "Better Workplaces, Better World" initiative advocates that the workplace is one of the best places for discussions about diversity and inclusion because "work is one of the most desegregated environments in American society."

18. Ella Bell Smith et al., *Easing Racial Tensions at Work* (New York: Center for Talent Innovation, 2017), accessed 5 April 2021, https://www.talentinnovation.org/_private/assets/EasingRacialTensions_Infographic-CTI.pdf. Analysis from the Center for Talent Innovation shows employees benefit and feel more comfortable when they feel they can discuss race relations. The report also acknowledges Black, White, and Asian (notably, not Latino) employees who say "it is never acceptable at their companies to speak out about experiences of bias" feel more isolated and/or alienated at work.

19. The White House, *Interim National Security Strategic Guidance* (Washington, DC: The White House, March 2021), 22, accessed 5 April 2021, https://www.whitehouse.gov/wp-content/uploads/2021/03/NSC-1v2.pdf.

20. Joint Doctrine Note 2-19, *Strategy* (Washington, DC: U.S. GPO, 10 December 2019), v.

21. Ibid., vii.

22. The White House, *Interim National Security Strategic Guidance*.

23. David Vergun, "Army Sees Challenges Ahead to Recruiting Future Soldiers," Army.mil, 25 August 2015, accessed 5 April 2021, https://www.army.mil/article/154299/Army_sees_challenges_ahead_to_recruiting_future_Soldiers/.

24. Kay Jones and Ray Sanchez, "Pfc. Vanessa Guillen Bludgeoned to Death on Army Base, Family Attorney Says," CNN, 3 July 2020, accessed 5 April 2021, https://www.cnn.com/2020/07/02/us/vanessa-guillen-fort-hood-disappearance/index.html.

25. "February 2021 Reagan National Defense Survey," Ronald Reagan Presidential Foundation & Institution, accessed 5 April 2021, https://www.reaganfoundation.org/reagan-institute/centers/peace-through-strength/reagan-institute-national-defense-survey/. The survey found public trust in the U.S. military had declined from 70 percent in 2018 to 56 percent in 2021. In both years, the military ranked ahead of law enforcement, the presidency, the Supreme Court, public schools, news media, and Congress.

26. David Chace, "Where This Brotherhood Began," Army.mil, 14 March 2012, accessed 5 April 2021, https://www.army.mil/article/75608/where_this_brotherhood_began.

27. Marie Pihulic, "CSA: Put People First, Winning Follows," Army.mil, 1 October 2020, accessed 5 April 2021, https://www.army.mil/article/239597/csa_put_people_first_winning_follows.

The Army in the Indo-Pacific

Relevant but Not a Tripwire

Maj. John Q. Bolton, U.S. Army

Two recent *Military Review* articles endorse the utility of land forces in the Indo-Pacific, specifically regarding Taiwan (Capt. Walker Mills, "Deterring the Dragon," and Brian J. Dunn, "Drive Them into the Sea," September-October 2020). While Dunn calls for a corps-sized element intended to deploy to Taiwan to deter Chinese attack, Mills recommends basing U.S. troops in Taiwan to demonstrate American commitment. While landpower clearly has a role to play in the region, a Taiwanese tripwire is a foolhardy suggestion that would *undermine* American military capacity and flexibility while inflaming tensions without gaining advantage. This article considers the unique capabilities landpower brings to the Indo-Pacific while cautioning against overestimating China's capabilities or responding rashly to its growth.

(Note: To simplify, the Republic of China will be hereinafter referred to as Taiwan, and the People's Republic of China will be referred to as China or PRC.)

Maj. John Q. Bolton, U.S. Army, attends Johns Hopkins School of Advanced International Studies studying American foreign policy. A Mandarin speaker and a graduate of the U.S. Army Command and General Staff College's Art of War Scholars Program, he holds degrees in military history and mechanical engineering. He has served in various command and staff assignments including as the aviation officer in charge for the Thailand portion of Pacific Pathways 19-01, and he has deployed multiple times. He is an AH-64D/E aviator with nearly two thousand flight hours, including over eight hundred in combat.

Landpower's Utility in the Indo-Pacific and Need for Joint Options

Much has been written about a return to great-power competition, but the Army must consider its primary duty is to provide a spectrum of flexible, coherent, affordable, and feasible options to policy makers. Strategy is fundamentally about matching means to ends, but ends can vary across a region, necessitating varying means. An era of great-power competition does not imply a great-power war will be predominant. Even during the forty-year Cold War, U.S. and Soviet planners designed forces and doctrine to counter the other, but each state's forces were predominantly employed in low-level conflicts, often working with or against proxy forces. Lest we become the "instruments of our own downfall," the joint force must develop tools across the spectrum of conflict during force design, fielding, and training.[1] Platforms, units, and plans cannot exist solely for high-end conflict while we hope they work at the low end; the force must provide policy makers options across the spectrum of conflict ranging from deterring an adversary to compelling him to our will (see figure 1, page 24).[2]

Despite the 2017 *National Security Strategy* calling for growing America's capabilities in the region, a 2020 Army War College report stated the joint force was "out of position" in the Indo-Pacific.[3] The lack of a "common joint path" and a force posture ill-suited to the region's "hypercompetitive" environment means the joint force cannot ably respond to developing regional threats and

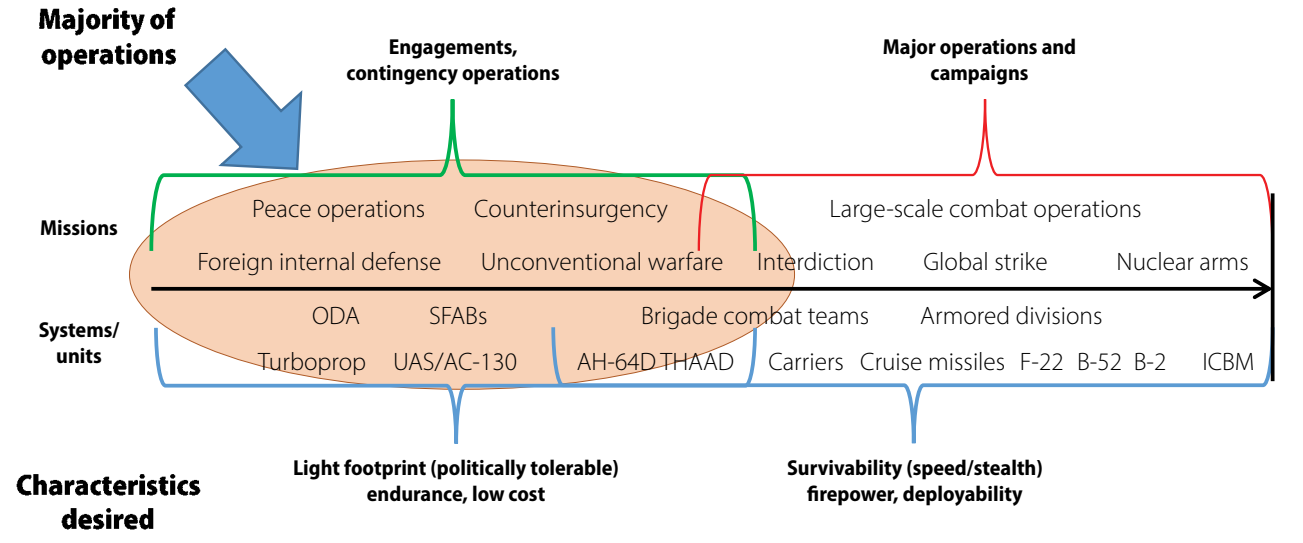
Taiwanese soldiers take part in a drill 19 January 2021 ahead of the Chinese New Year at a military base in Hsinchu, Taiwan. (Photo by Ann Wang, Reuters)

conditions.[4] These deficiencies (both conceptual and structural) are made clear by China's development of anti-access/area denial capabilities underpinned by illegal island building and also by China's increasing use of "gray-zone" techniques such as encouraging Chinese fishermen to illegally trawl in other states' economic zones. By the former, China inhibits American freedom of maneuver, while the latter exploits Western cognitive demarcations between war and peace.

Given the maritime scope and vast scale of the Indo-Pacific, naval and air domains would seem predominant. And while air and naval platforms may do the bulk of the movement, and potentially the fighting, land forces retain their utility simply because people reside on land, only temporarily occupying the air or sea. Furthermore, land-based capabilities are often easier to conceal, cheaper to employ, and more survivable.[5] Systems ranging from Terminal High-Altitude Air Defense to Short-Range Air Defense and Aegis Ashore demonstrate these traits.[6]

Landpower has unique characteristics beyond seizing and holding ground. It can function as a "grid" of theater-wide functions including basing, port operations, and general sustainment, enabling joint force access and longevity (see figure 2, page 25).[7] This grid consists of enabler units and host-nation support and staging agreements. Accordingly, the Army should continue to develop I Corps (based at Joint Base Lewis-McChord) as its Indo-Pacific operational headquarters, which, working with U.S. Army Pacific and U.S. Indo-Pacific Command, can conduct reception, staging, onward movement, and integration for joint and multinational forces across the region while also coordinating joint fires for multi-domain task forces. Developing these capabilities ensures policy makers have options.

Landpower also has its distinctive utility as a means for regional cooperation. Army security force assistance brigades and special operations forces allow the application of landpower short of war by working with allies and partners.[8] Army forces can best relate with partnered and allied forces given the fundamental similarities between ground forces as opposed to platform-focused naval and



ICBM–Intercontinental ballistic missile **ODA**–Operational detachment alpha **SFAB**–Security force assistance brigade **THAAD**–Terminal High Altitude Area Defense **UAS**–Unmanned aircraft system

(Figure by author)

Figure 1. U.S. Military Units and Systems Across the Spectrum of Conflict

air forces. Since "7 of the 10 largest armies in the world are in the Pacific theater, and 22 of the 27 countries in the region have an army officer as chief of defense" (many of whom attended the U.S. Army Command and General Staff College), the Army is well-equipped to "speak" to regional players with its cadre of foreign area officers.[9]

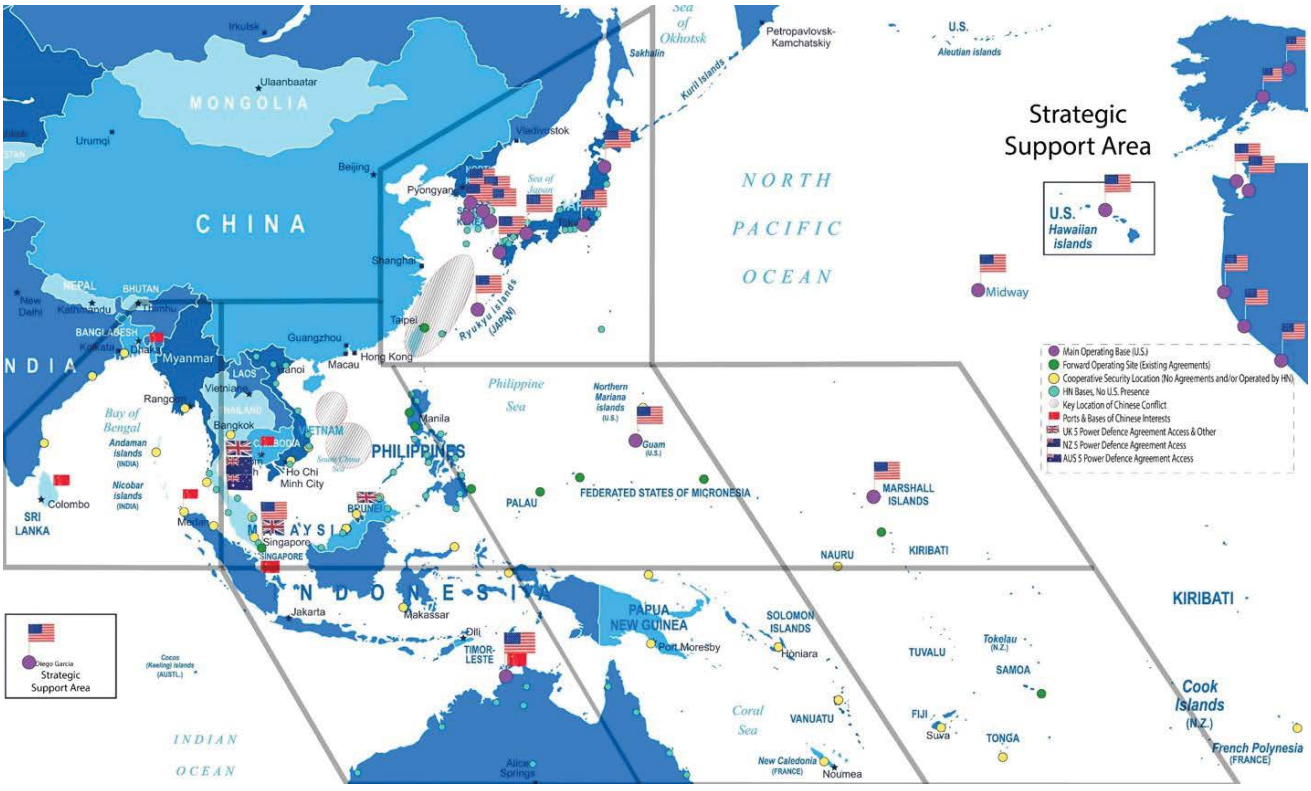
The Army's Pacific Pathways framework means American landpower is "west of the international dateline ten months of the year" and engaging with multiple regional militaries including Singapore, Thailand, Australia, and Palau.[10] Pathways builds interoperability and relationships in ways that port visits or senior leader delegations do not. However, landpower's utility does not allow for poor strategy. Placing U.S. forces in Taiwan would needlessly escalate tensions with China for a purely symbolic show of support, one that pales in comparison to actual support such as the sale of nearly $2 billion worth of arms to Taiwan annually.[11] Doing so would unnecessarily escalate predominantly gray-zone competition, forcing China to actively consider Taiwan "lost" and then potentially escalating plans to attack Taiwan or elsewhere. With this gauntlet thrown, we now turn to China and the People's Liberation Army (PLA).

Assessing the People's Liberation Army

We should not mistake China's economic might for assured military dominance nor assume the PRC is blessed with exceptional foresight. The evidence does not support these assertions. China demonstrated strategic mistakes and errors over the past generation, from antagonizing its Southeast Asian neighbors to failing to build an effective anti-American coalition. Assuming PRC clairvoyance repeats America's early Cold War mistakes about Soviet missiles, aircraft, and technological developments when, in fact, the United States led in nearly every measurement, always qualitatively and often quantitatively until the 1970s.[12] In examining China, we see a pattern of often disastrous grand plans, from the 1950's Great Leap Forward and Anti-Sparrow Campaign to the modern Belt and Road Initiative (which has not yet borne the fruit PRC President Xi Jinping promised).[13]

U.S. and Chinese Capabilities

Turning to China's military, a 2017 RAND Corporation report as well as the annual Department of Defense *China Power Report* demonstrate that while



(Figure from *An Army Transformed: USINDOPACOM Hypercompetition and US Army Theater Design*, Strategic Studies Institute, U.S. Army War College, 2020)

Figure 2. The Army as the Grid

the PLA's capabilities have certainly improved, China still has, at best, regional parity with American and Taiwanese forces (see figure 3, page 27).[14] This is not to say the PLA forces are not formidable, but the PLA's last major fight was a limited invasion of Vietnam in 1979 (China lost) while its last amphibious operation was in the 1950s against nationalists fleeing Hainan Island.[15] Looking further back, excluding 1979, not a single PLA soldier has fought in more than a border skirmish since the Korean War. We should not confuse modernization for capability or experience, nor quantity for quality.

Mills notes that China has declared returning Taiwan to the PRC is a "core interest" and that a cross-strait operation is the PLA's "#1 strategic objective."[16] But Americans often fail to understand the PLA is a component of the CCP, meaning ideology is predominant, and these declarations must be taken in context as propaganda as much as they are doctrine.

Even so, when considering that China's armed forces are focused on invading Taiwan, one must remember Taiwan's military is *entirely* dedicated to defending the island. Taiwan is no mere symbolic island. For the Taiwanese, an invasion is a question of literal life or death, not power politics. The Taiwanese military is not a pushover—even when compared to its mainland nemesis. Discounting Taiwanese capabilities (or love of freedom) is incorrect at best and, at worst, reflects paternalistic attitudes that previously spoiled America's relationship with South Vietnam.[17] According to the U.S. Naval Institute, though Taiwan's military is dwarfed by the PLA, its active-duty forces are comparable to the U.S. Army, with roughly three hundred thousand troops.[18] As a percentage of twenty-three million citizens, this likely represents the world's highest mobilization rate. Furthermore, Taiwan's reserve mobilization capacity is able to arm hundreds of thousands of islanders.[19] Taiwan's military is well equipped after decades of buying American equipment. As a result, Taiwanese forces comprise a strong defense against invasion from an improved but still developing PLA.

Taiwanese Air Force "Not Old Anymore—See You Soon" infographic released in 2019 of the Taiwanese F-16s, which are emblematic of America's commitment to Taiwan. (Photo courtesy of the Taiwanese Air Force)

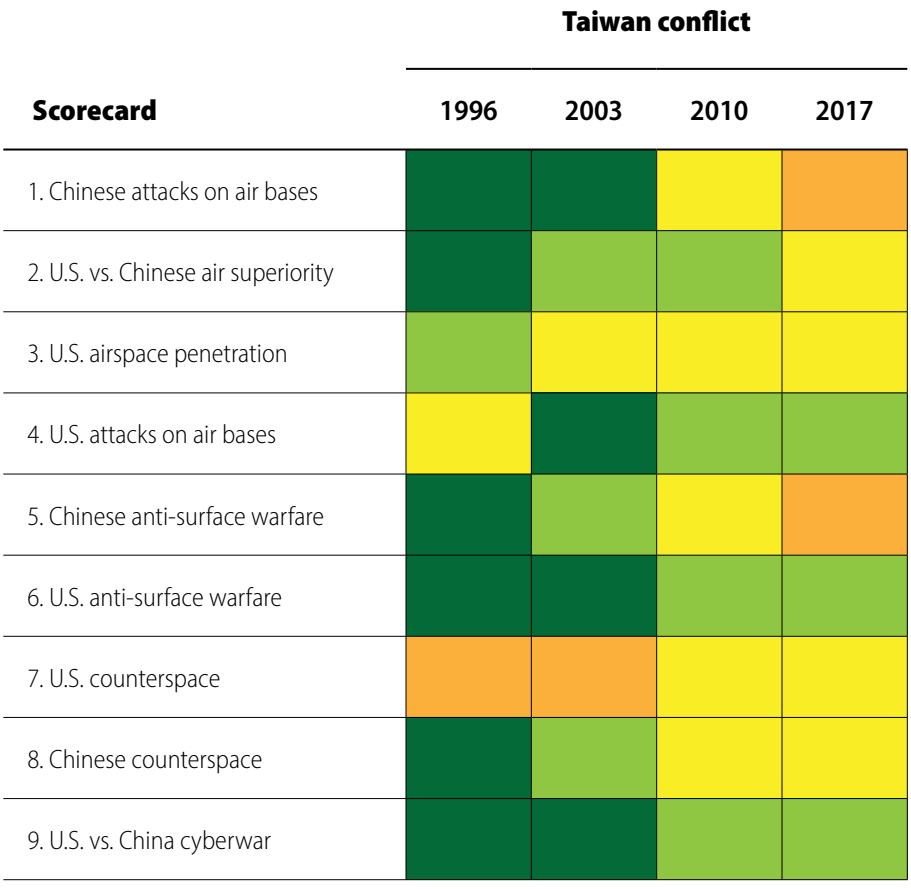
Imagining a Chinese Invasion of Taiwan

While the forecasts vary, none assume that the PLA, even with operational dominance, would easily subdue Taiwan. To occupy Taiwan, China would first need to establish air and sea dominance against peer (or better) systems before deploying sufficient force to establish a foothold and then occupy the island. Given Taiwan's approximately 120,000 active army and marine troops, the historical attacking-to-defending ratio of 3:1 means nearly 300,000 PLA troops would need to fight ashore via airborne, air assault, airlift, and amphibious means. It is unlikely that the PLA could ready such an enormous force without tipping its hand, further enhancing Taiwan's (and the combined American, Japanese, and Australian) response. Estimates generally agree that the PLA would need at least thirty days to begin moving equipment and personnel to embarkation ports and airfields, giving the Taiwanese time to mobilize their million-plus reserves.[20] Taiwan's geography also favors the defense. With only three to four months of good weather per year and only thirteen western beaches capable of landing large amphibious forces, PLA forces moved to Taiwan via air would quickly find themselves isolated, especially considering the mines, destructible bridges, and other impediments built along Taiwan's coast.[21]

Carl von Clausewitz cautioned that "war is a more than sum in arithmetic."[22] Taiwan, which is fiercely committed to its independence, would not simply be quelled with PLA troops ashore. PLA troops would find armor, air power, and high-tech advantages nullified by Taiwan's dense urban environment. Historic doctrine recommends at least twenty troops per one thousand civilians to subdue an insurgency.[23] Applying this standard, China would need to sustain approximately 460,000 troops on Taiwan for years after an invasion. Both attacking force

and occupational force totals exceed the PLA's strength in the regions adjacent to Taiwan, and the latter is roughly 50 percent of China's total ground forces.[24] For reference, this force is nearly three times what America maintained in Iraq at the height of that war.[25]

As this brief analysis shows, an invasion remains unlikely, despite the alarmist rhetoric, due to weather, accidents, and chance compounding already enormous difficulties. It seems more likely that an island of twenty-three million freedom-loving Taiwanese with an effective navy and U.S.-provided fourth-generation fighter aircraft could repel a force that has not fought a war since a limited invasion in 1979 and has not won a battle against a peer in nearly three centuries. At a minimum, the Taiwanese could delay the PLA while the United States and other Western powers mobilized forces and enacted punishing economic sanctions; one can imagine even a successful PLA invasion devolving into a contested occupation. Such a "Taiwanese ulcer" would constrain PRC options over the medium and long terms.



(Figure from *The U.S.-China Military Scorecard*, RAND Corporation, 2017)

Figure 3. RAND Corporation Scorecard

Why Basing Troops in Taiwan is a Bad Idea

U.S. troops in Taiwan would create an unacceptable moral hazard, underwriting Taiwanese with American lives and geostrategic flexibility. Mills presumes too much regarding the deterrent effect of potential U.S. forces in Taiwan. Mills quotes Thomas Schelling to point out that "one cannot incur a genuine commitment" solely via promises but fails to heed Schelling's advice that the best strategies limit an adversary's options while preserving one's own; U.S. troops in Taiwan would do the opposite.[26] U.S. forces are an ancillary consideration to China's calculus in what is primarily a political decision (to attack Taiwan). Moreover, any U.S. force short of an armored brigade would be tactically and operationally insufficient to seriously affect PRC decisions but would

become America's focal point, hindering its ability to support Taiwan. In effect, troops on the island would cripple American policy. Like Douglas MacArthur's isolated Philippines garrison in 1942, this force would not deter a major power having decided on war but would constrain America's response.

Schelling also warned that deterrence depends on "communicating our own intentions."[27] Since America has pledged to provide Taiwan a credible defense for two generations, sending troops to the island is escalation (and also major change to policy) without benefit. Troops in Taiwan would marginally raise the threshold of Chinese action but tie the hands of American policy makers and military commanders. Just as dangerous as not appreciating an enemy is naively committing to unachievable ends. American troops on the island would explicitly show Taiwan was lost to the PRC. Well-established "loss aversion" behavior means that troops on the island, rather than deter, would *increase* the chance of war.[28] Deterrence presumes a rational adversary who understands American actions as intent, an astounding presumption of American ability to convey strategic intent. But given the PRC's ideological focus on reclaiming Taiwan, rationality should not be expected in this area.

> An island of twenty-three million freedom-loving Taiwanese with an effective navy and U.S.-provided fourth-generation fighter aircraft could repel a force that has not fought a war since a limited invasion in 1979 and has not won a battle against a peer in nearly three centuries.

Conflict on a spectrum requires utilizing all elements of power, not just military and certainly not U.S. troops used as a "tripwire." But if troops will not deter China, what will? Put simply: everything else. The United States has other instruments of statecraft and elements of national power to deter and, if necessary, compel China. For example, one-third of China's oil comes from the Middle East or Africa via sea lanes America and its allies could control.[29] Additionally, American economic power allows for targeted sanctions against China's "military-civil fusion."[30] In competition with China, allies and partners are paramount and an important American advantage. But the minute a uniformed American soldier or marine arrives on Taiwan, states will have to make a choice between the U.S. and China, curtailing U.S. asymmetric advantages by forcing allies and partners to choose between the United States and the PRC absent any PRC inciting action. Forty years of strategic ambiguity has served America well; placing troops in Taiwan would abrogate that flexibility.

Conclusion and Recommendations

A Chinese invasion of Taiwan is no mere theoretical exercise. The island's independence has been a thorn in the CCP's side since 1949. Taiwan's independence is a reminder of China's "Century of Humiliation" from 1849 to 1949 when Western powers, internal rebellion, and civil war destroyed the Chinese state. The CCP, and Xi especially, use this history and near-xenophobic nationalist rhetoric—"勿忘国耻"(Never Forget National Humiliation) is a common phrase in CCP propaganda—as a means to foster unity and excuse the party's abusive techno-authoritarianism.[31] As an example of this nationalistic bent, in May 2020, China dropped "peaceful" from its pledge to retake the island.

However, China's overarching focus is maintaining domestic tranquility.[32] We should not perceive, through our own narcissism, that China is a diabolical actor built on succeeding the United States. China is acting as one would expect a growing, insecure, power to act—haphazardly flexing its muscle (economic and military) to establish regional dominance with success in some areas and failure in others—much like the United States of the late nineteenth century.[33] That does not mean the United States should ignore or

accede to Chinese actions, only that China's actions are not surprising, nor are its attempts to challenge existing orders to build its own institutions.

Indeed, as China grows, securing domestic tranquility (or at least acquiescence) will become increasingly important as the emerging Chinese middle-class chafes against CCP restrictions. Xi's use of Chinese nationalism can be better seen as a means to quell domestic dissent than achieving global dominance.

Chief Warrant Officer 4 Trevor J. Saari (*right*) holds a discussion with Royal Thai Army aviators in early 2019 during a deployment in support of Pacific Pathways 19-01 in Thailand. The Pacific Pathways program has the goal of expanding the U.S. Army's engagement in the Indo-Pacific region and is critical in building alliances that can help deter Chinese aggression in the region. (Photo by author)

Overestimating the PRC's threat to Taiwan and the larger Indo-Pacific reflects a failure of imagination and an inaccurate calculus regarding U.S. strengths in the region. We must remember that most of China's military developments are *defensive,* designed to *inhibit* U.S. freedom of maneuver. These Chinese tools require a deliberate response across the joint force, not simply placing troops in harm's way. The thought of basing troops in Taiwan falls into a classic American trap of seeing conflict as binary, with clear distinctions between war and peace. Mills' logic is simple: since we cannot stop China everywhere, we should shape the conflict to our liking by putting troops in Taiwan. But doing so benefits China more than America because it plays into the imperialist narrative the CCP espouses while limiting U.S. options.

The United States has a plethora of tools, ranging from economic pressure and sanctions to a capable, forward-deployed military, whereas China has two: financial coercion and military threats. Between allies (China has North Korea) and partners (China has few) and global leverage, America remains strong. We should not discount the power and attractiveness of American ideals which, even when tarnished, still appeal to people around the world. China's leaders are "haunted by the power and attraction" of these American ideals to the Chinese people.[34] In 1947, George Kennan predicted the Soviet system would collapse as it "[bore] within it the seeds of its own decay."[35] As it is with modern China—it is an appearance of strength predicated on unsustainable coercion, manipulation, and control.

The 2017 *National Security Strategy* calls for the employment of informational and economic elements of power to counter China.[36] Complicating policy options, troops in Taiwan would make the ambiguous explicit. Rather than helping the United States regain the initiative in the Indo-Pacific, plopping an isolated contingent in a vulnerable location would limit American options while giving credence to Chinese claims of America striving toward hegemony, all while hamstringing Taiwan's operational-level defense. As a result, the United States would have to align significant combat power to respond to nearly any threat to Taiwan. Such

power would be apportioned and therefore unavailable for other efforts to expand U.S. influence and further any competitive advantages throughout the region. The joint force must provide flexible, rapidly deployable force packages to provide policy makers a suite of options to respond along the spectrum of escalation. While the logic of forward positioning troops make sense, Taiwan is a bridge too far, lacking the facilities and power projection platforms needed to be useful.[37] Instead, joint force should consider basing a brigade-sized unit in Guam, Okinawa, or the Japanese mainland. This force would have the deterrent effects Mills calls for while also being applicable across the Indo-Pacific.

For the Army, Taiwan represents a scenario where landpower may not be predominant but is nonetheless essential. U.S. Army Pacific and I Corps will be required to usher joint and multinational forces into the region in the event of conflict in Taiwan. The "grid" concept modernizes and regionalizes theater support operations performed by the Army during the Gulf War as well as in Iraq and Afghanistan. Additionally, Army operational capabilities such as airborne employment from the continental United States or Alaska to the Indo-Pacific, tactical air assault, and air movement remain essential.

That said, the Army *must* invest in its Indo-Pacific capabilities. While units have become regionally aligned with a specific Pacific Pathways exercise, the personnel system does not leverage regional expertise effectively. No language or regional association considerations exist within the assignment system, despite the nearly decade-old "pivot to the Indo-Pacific." Given the region's importance, specialized training, especially in language skills, is necessary.

The Army must continue to improve its linkages to joint and regional partners throughout the Indo-Pacific. Though Pacific Pathways is a fine start, the Army must ready itself for competition along a spectrum of conflict. Decisive action training has helped shepherd this concept, but the nature of the Indo-Pacific, with multiple states, languages, and competing interests, creates a complicated venue for employment. As a result, the Army should establish a Pacific University under the auspices of U.S. Army Pacific to better prepare Army leaders for operating in the region. By providing "the grid" for empowering the joint force as well as landpower capabilities such as Terminal High-Altitude Air Defense and survivable basing options, the Army remains a key player in the Indo-Pacific. It is uniquely capable to reinforce the asymmetric advantages the United States possesses vis-à-vis China. ■

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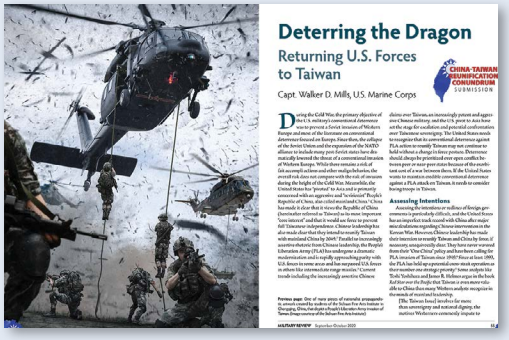

To view "Deterring the Dragon: Returning U.S. Forces to Taiwan" by Capt. Walker Mills, U.S. Marine Corps, from the September-October 2020 edition of *Military Review*, visit https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/September-October-2020/Mills-Deterring-Dragon/.

To view "Drive Them into the Sea" by Brian J. Dunn from the September-October 2020 edition of *Military Review*, visit https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/September-October-2020/Dunn-Drive-Into-Sea/.

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The Strategic Significance of the Chinese Fishing Fleet

Lt. Cmdr. James M. Landreth, U.S. Navy

The sheer tonnage of China's sixteen thousand hull fishing fleet and the fleet's illegal, unreported, and unregulated (IUU) practices exert their own gravitational pull for diplomatic, intelligence, military, and economic analysts globally. Contextualizing China's massive fishing fleet within China's grand strategy, identifying the most likely use case for the fleet, and assessing the most dangerous use case suggest the need for updates in the U.S. Department of Defense's role in monitoring and addressing the assessed threats.

Most Likely Course of Action

While security professionals and naval strategists grow suspicious over the staggering number of Chinese fishing vessels, the primary objective of the fishing fleet is to deliver meat to an increasingly affluent Chinese population with a growing appetite for protein.[1] The dietary evolution of China's 1.4 billion citizens and the corresponding increase in imports have shifted global protein markets dramatically over the past decade.[2] Further, the increase in Chinese meat consumption occurred in conjunction with repeated domestic failures in China's land-based agriculture associated with livestock disease, contaminated groundwater, and poor land management practices.[3] China's domestic production has been so overwhelmed by demand that China has uncharacteristically exposed itself to annually increasing trade dependencies such as the 2020 Phase One trade deal with the United States.[4] While protein imports may seem low risk from the U.S. perspective, they represent a major deviation from Maoist philosophies on China as a self-sustaining food producer.

Given the significant and growing protein demand, China's fishing fleet has aggressively overfished all regional seas, earning China the top marks as the world's worst offender of IUU fishing.[5] While China's fishing fleet of over sixteen thousand blue water hulls seems an asset to military analysts, economists may view the need for such a far traveling fleet as an embodied liability. The need for this large open ocean fleet suggests that China may be experiencing a fishery stock collapse in nearby seas.[6] This is of particular concern for China, the world's largest fishing nation.[7] Unlike failed harvests on land, a fishery stock collapse represents a strategic loss as it can take decades or longer to rehabilitate. The United States' own localized fishery collapse in the 1980s in the Aleutian Basin offers a glimpse of what China may be suffering on a broad scale.[8]

After ravaging its local seas, China spread its IUU fishing practices to Africa and Oceania. Open-source reporting from nongovernmental organizations (NGOs) and government agencies thoroughly document China's IUU practices in Western Africa in particular.[9] Many of the countries impacted by these fishing practices partner with China's Belt and Road Initiative (BRI) but quietly face an existential threat from overfishing due to critical nutritional and economic dependencies.[10] Challenges of overfishing present huge, but not immediately obvious, problems. The effects often metastasize within the legitimate economy and destabilize a number of factors like unemployment, tax revenues, and many others. Somalia's past decades of instability offer a glimpse of what can happen when fishing-dependent fragile states suffer from a fisheries collapse.[11]

Regardless of whether neighboring countries welcome China's aggressive and often illegal fishing practices, China will leverage its recently accrued diplomatic heft in international governmental organizations (IGOs) to push past international norms of behavior and weaker regional powers and devastate the fishing economies of its neighbors.[12] China's conflicts with Vietnam on these matters offer a clear example, which will be discussed in greater detail.

Impacts from the Most Likely Course of Action

Diplomatic. China has successfully campaigned against the international legal frameworks governing the sea and undersea for over a decade—particularly in international waters or transition zones between different exclusive economic zones.[13] China's excessive territorial claims in the South China Sea provide an excellent predicate for how China may further challenge legal frameworks governing fisheries. In addition to legal negotiations, China's overt pressure on the neighboring nation's fishing fleet reached new heights in 2020 when a Chinese Coast Guard (CCG) cutter collided with and sank a Vietnamese fishing vessel.[14] The response of international maritime bodies that establish norms for fishing fleets will set a precedent for China's next moves in its assertive displays in the region.

Military. The Chinese naval forces include the People's Liberation Army Navy (PLAN), the CCG, and the People's Armed Forces Maritime Militia (PAFMM). The PLAN and the CCG conduct regular patrols, but the PAFMM engages in gray-zone activities near contested features such as Scarborough Shoal, the Paracel Islands, and other areas of the South China Sea.[15] Among other tactics, the PAFMM has demonstrated a willingness, ability, and proficiency to band together to form phalanx formations, which disrupt freedom of navigation exercises of U.S. and allied militaries.

As argued previously, the most likely course of action (COA) for the fishing fleet is to continue fishing. However, the large number of fishing vessels offers a ready and distributed platform for signals, acoustic, and imagery collection. If outfitted with basic commercial sensors, the fishing fleet could sustainably scan over 1.2 million nautical miles per day.[16] This collection could occur passively without losing any of the protections of a fishing vessel upon the high seas afforded by the United Nations' Convention on the Law of the Sea. Table 1 (on page 35) provides the outputs of a parametric analysis performed using assumptions about standard fishing vessel maintenance, sensor reliability, and operational patterns.

Previous page: An aerial view of thousands of fishing boats as they berth near Shenjiamen Harbor 1 September 2020 due to Typhoon Maysak, the ninth typhoon of the year in Zhoushan City, east China's Zhejiang Province. (Photo by Imaginechina via Associated Press)

Economic. As with many other manufacturing industries, the Chinese government's subsidization of shipbuilding and sustainment will reorient global markets toward Chinese dependency.[17] The focus of China's investments has been directly aimed at commercial shipping such as oil tankers and container ships, but the capital, liquidity, and favorable regulatory environment provided to the shipbuilding market as a whole generate a positive environment for all classes of ship construction in China. The explosive growth of the Chinese fishing fleet highlights the maritime industry as the latest vector for economic dumping, which will systematically weaken other shipbuilding nations. The accompanying job creation increases the probability the Chinese government will continue its direct support for the shipbuilding industry.

Though U.S. shipyards maintain a qualitative edge at producing and maintaining capital ships such as nuclear-powered submarines and aircraft carriers, they offer no quantitative competition with China in terms of hulls or tonnage. China's status as the world's most prolific low-cost manufacturer secured its position as the world's largest shipbuilding nation (22.3 million gross tons in 2019).[18] As a result of the shipbuilding boom, China's shipbuilding sector has generated staggering progress toward the modernization of the PLAN. The production potential in both the number of hulls and tonnage per hull will remain an important indicator of China's economic and naval competitiveness.[19]

Lastly, China's geographical containment within the first island chain led to its historic orientation as a continental power. However, large maritime industries and a mariner corps to man the blue water fishing fleet will generate maritime depth in seafaring industries that may be needed for a large or protracted maritime conflict.[20]

Table 1. Parametric Analysis of Fishing Fleet in Most Likely Course of Action

Assumptions about each individual ship operating within a fleet	
Average speed of vessel engaged in fishing	8 knots
Average sensor operational availability (at least one of two sensors operating)	90%
Average downtime for sensor maintenance (enables 90% availability of sensors)	20%
Operational tempo per crew (time a rotating crew is deployed at sea/multiple crews assigned each ship to maximize time at sea)	40%
Fuel supply (fishing fleet regarded as a People's Liberation Army strategic priority)	Unconstrained
Model outputs	
Number of available hulls	10,986
Number of available hulls with sensors	6,400
Approximate nautical miles scanned per twenty-four hours	1,228,000

(Table by author. Model output information taken from "Parametric Analysis in Cameo Systems Modeler with ParaMagic Using the Systems Modeling Language," January 2021)

Most Dangerous Course of Action

Based on the above analysis, the majority of China's fishing fleet must remain actively fishing or the population will suffer significant nutrition deprivation. The Chinese Communist Party possesses the means and the will to impose deprivation upon its highly nationalistic population, but the prioritized utilization of the fishing fleet for protein production will increase during any sustained maritime conflict, especially if deteriorating relations with the United States and its allies result in degradation or termination of protein exports to China.

Fishermen sort fish 31 March 2017 on the deck of Chinese fishing boat *Bo Yuan 1* near Conakry, Guinea, West Africa. The Greenpeace ship *Esperanza* was on tour in West African waters to address the problem of overfishing in the region. (Photo by Pierre Gleizes ©/Greenpeace, https://media.greenpeace.org/C.aspx?VP3=DirectSearch&AID=KW-F6MY9JVU1. Used with permission)

In 2019, Brazil, the European Union, United States, Australia, and New Zealand provided over half of China's agricultural imports.[21]

In the most dangerous COA, China diverts a portion of its large fishing fleet to augment the PAFMM, which systematically floods the contact picture in the Western Pacific during a maritime conflict. Even if unarmed, a flooded contact picture increases the difficulty of U.S.-led intelligence, surveillance, reconnaissance, and targeting (ISR&T) activities. Such an abundance of sentries would increase the difficulty of U.S. counter-ISR&T and offensive maneuvers. Additionally, China's aggressive development of economic basing under the BRI includes fisheries depots.[22] These fishery depots could be used to sustain the fishing fleet and PAFMM. China already deploys its burgeoning private military contractors along the BRI, and these private military contractors could efficiently harden the fishery depots.[23]

From a collateral damage perspective, the presence of large numbers of fishing vessels offers potential liabilities for civilian deaths, which the Chinese would leverage to erode legitimacy of a U.S.-led campaign on the high seas or in China's claimed exclusive economic zones.[24] China would most likely leverage its platform at the United Nations and similar IGOs to amplify its narrative, regardless of whether the fishing vessels engaged in activities that qualified them as legitimate military targets. Even in an extreme scenario where the United States designated all Chinese fishing vessels within an operating area as lawful targets, operational commanders would have to balance the economics of expending exquisite U.S. weapons against small craft in order to preserve ordinance for priority targets.

Should China divert any portion of the fishing fleet for paramilitary activities, the most likely capability upgrades will support expanded ISR&T, overt harassment of U.S.-led naval platforms, or terrorist acts upon the sea.[25] Under the cloak of the fleet's protected status as

fishing vessels, these platforms would inflict maximum harassment in order to maximize intelligence gain.

Lastly, the United States enjoys an undersea advantage that extends deep into the Western Pacific, courtesy of the U.S. submarine fleet.[26] If the fishing fleet was used effectively, China could use it to systematically degrade the acoustic environment that submarines rely on for effective employment. For example, large trawler convoys could saturate the acoustic environment to mask the movement of capital warships over key maritime terrain. Additionally, China has invested heavily in undersea infrastructure to counter the U.S. submarine fleet, and up-fitted fishing vessels could serve as distributed mobile listening stations and augment fixed infrastructure.[27]

What Is the Role of the Joint Force in This Fight?

The Chinese fishing fleet does not currently represent a military threat to the United States, but the PLAN could apply these resources in overt or gray-zone military activities. The following analysis provides a framework for the joint force's resource planning efforts with respect to Chinese fishing fleets and provides context for many of the critical security issues that define the region.

The Chinese fishing fleet problem set has a combination of naval, diplomatic, and commercial elements, but key resource providers like the U.S. Army will be significant stakeholders in developing U.S. military strategy for the region. First, the Army maintains the largest number of uniformed personnel in the Department of Defense (DOD), and effective employment of the Army's human resources over the vast Pacific will be critical. Additionally, the Army's robust liaison channels with partner nations via the Defense Security Cooperation Agency (DSCA) will provide numerous opportunities to effectively channel partner resources.

Recommendations to Counter China's Most Likely Course of Action

Diplomatic. The joint force has the potential to support diplomatic gains in vulnerable areas in Africa, South Asia, and Oceania via effective cooperation with non-DOD agencies. Many U.S. agencies like the U.S. Coast Guard (USCG), National Oceanic and Atmospheric Agency (NOAA), U.S. Fish and Wildlife Service, and others augment the State Department's efforts to combat China's abusive fishing practices. While the DOD's largest footprint traditionally occupies the land domain, programs like the Army's linguistic corps offer a key resource in a region with so many spoken languages. In the context of managing the threats posed by China's fishing fleet, the USCG actively engages with partner nations to combat IUU fishing.[28] However, the USCG, NOAA, and other agencies lack the capacity to train linguists to accompany their large and growing list of bilateral fisheries partners. The Army could meaningfully augment fisheries enforcement teams and facilitate deepening diplomatic relationships with concerned nations. Indonesian, Thai, Malayan, Mandarin, Hindi, Arabic, and West African language expertise will all be critical in this endeavor and could easily convert to more traditional DOD activities on land.

Development of nontraditional partnerships with agencies like the U.S. Fish and Wildlife Service, U.S. Department of Agriculture, USCG, and NOAA will require sustained effort, since these organizations may not be accustomed to the DOD's sometimes overwhelming business and operational practices.[29] However, these agencies' specific knowledge will provide increased insights into the calculations of China's fishing fleet and which of the joint force resources will provide the greatest relevance to any contingency.[30]

Information. China's overfishing and manipulation of fishing markets offer opportunities for U.S.-led information campaigns against the Chinese and opportunities to attract new partners, allies, and "silent partners" in the Western Pacific. U.S. efforts could include both overt and covert exploitation of these tensions.[31] Where legal authorities permit, the military services' public affairs, civil affairs, and information operation units may exercise their capabilities to influence the global view of Chinese fishing practices. For example, amplifying the open reports of the Food and Agriculture Organization of the United Nations offers effective methods of raising awareness of China's abuses at

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sea.[32] Additionally, and perhaps more importantly, the joint force could collaborate with private analysis firms like FishSpektrum to provide objective information to the international community about Chinese fishing practices and abuse of international maritime protocol.[33] Partnerships with third-party outlets would provide objective perspectives distanced from a U.S. speaker, which serves a strategic purpose in a time of strained Sino-U.S. relations.

Military. The U.S. military is actively involved in security cooperation relationships with countries concerned over fisheries, but the United States often lacks effective marketing for its efforts in the region. For example, Operational Northern Pacific Guard and the Maritime Oceania Security Initiative expend U.S. military resources on protection of fisheries for small nations in the Pacific, but the United States spends comparatively little to ensure the local populations of partner nations understand the security and value the United States delivers to their economy.[34] In comparison, China accompanies any contributions to partner nations with public ceremony, physical monuments, and contractually required statements of support for flagship programs like the BRI.

The DSCA offers a key vector for the Army to contribute resources toward mitigating the threat posed by the Chinese fishing fleet. The DSCA's consistent presence and effective branding offer an excellent pairing for the military services to apply resources toward interoperability training for disaster response and humanitarian assistance. Perhaps most importantly, DSCA provides an integrated channel for all the contributing services and agencies engaged against China's abusive fishing practices. In the past, the United States sometimes lacked a coordinated approach to building partner capacity, so many U.S. agencies offering resources intermittently contacted single representatives of underresourced partner nations. Not only does this appear disorganized to would-be partners, but it also increases the cost of receiving aid from the United States. The DSCA's approach toward tailoring assistance packages for the needs of each nation offers the DOD an effective partner in placing resources at the point of need.

Table 2. Priority Intelligence Requirements for the Chinese Fishing Fleet

Priority intelligence requirements	
1	Identify logistical hubs that sustain the Chinese fishing fleet (e.g., at-sea refueling ships and fishery bases)
2	Assess the overall fuel demand of the Chinese fishing fleet relative to capacity of distributed logistical hubs
3	Identify primary points of fishery off-load to Chinese food processors
4	Analyze disputes between Chinese vessels (the People's Liberation Army Navy, Chinese Coast Guard, People's Armed Forces Maritime Militia, or fishing vessel) and any non-Chinese fishing vessel (e.g., Vietnam)

(Table by author)

Economic. In the realm of economics, the joint force should seek to illuminate the negative consequences of Chinese economic practices in all diplomatic, information, and military activities. Efforts should seek to inform partner nations about the risks of Chinese debt-book diplomacy that frequently recur within the BRI. The joint force should leverage the support of NGOs for this critical objective. NGOs like the Pew Charitable Trusts specialize in counter-IUU fishing.[35] These NGOs often retain local representatives that maintain longstanding relationships with local government leaders, which avoids the perception that the United States pushes a colonialist or political agenda. IGOs like the World Bank also offer another meaningful path for influence on counter-IUU fishing.[36]

Recommendations to Counter China's Most Dangerous Course of Action

In addition to the above actions, the joint force may need to apply military capabilities and resources to address the most dangerous COA for the Chinese fishing fleet.

Excerpt from "China's Monster Fishing Fleet"

By Christopher Pala

Foreign Policy · 30 November 2020

https://foreignpolicy.com/2020/11/30/china-beijing-fishing-africa-north-korea-south-china-sea/

"On August 5, 2017, China complied with a United Nations decision and formally imposed sanctions on North Korea, including a ban on seafood exports. Seafood, particularly squid, is one of North Korea's few significant foreign-exchange earners, and the sanctions were expected to increase the pressure on the regime.

"But just a few weeks after the ban came into effect, hundreds of squid-fishing vessels left Chinese waters and rounded the southern tip of South Korea. They entered North Korea's 200 nautical-mile exclusive economic zone (EEZ), nearly doubling the number of Chinese fishing vessels operating there from 557 to 907, according to a recent Global Fishing Watch report that tracked data from four different satellite systems. Even as China publicly claimed that it was complying with sanctions, many of the Chinese vessels continued to make trips to North Korea and back, including several round trips each year during both 2018 and 2019, said Jaeyoon Park, one of the report's lead authors.

"The Chinese fleet, made up of squid jiggers and pair trawlers, scooped up a staggering amount of squid—equal to almost as much as the entire squid catch in Japanese and South Korean waters combined over the same period, the report estimated. The Chinese decimated the squid population off North Korea to such a degree that Japanese and South Korean fishers saw their own take of the usually plentiful, migratory species plummet."

A Chinese fishing vessel equipped with an array of lights that are meant to attract squid at night is anchored in South Korean waters. (Photo courtesy of South Korean Fisheries Agency/ Ulleung Island)

In any large-scale conflict with China, the U.S.-led campaign plan will seek to counter Chinese antiaccess/area denial investments with the types of technologies and operational concepts associated with Joint All Domain Command and Control and service-related initiatives such as the U.S. Air Force's All-Domain Battle Management System, the U.S. Army's Project Convergence, the U.S. Marine Corps' Expeditionary Advanced Base Operations, and the U.S. Navy's Project Overmatch.[37] As detailed above, the Chinese fishing fleets could meaningfully complicate the United States' high-end capabilities through overt means (e.g., ISR&T) or through masking movement of military formations. The large number of fishing hulls and unclear lawful target status challenge resources and the standard rules of engagement, so planners should prioritize disabling logistical hubs for fishing fleet sustainment. For example, degrading at-sea refueling operations of the fishing fleet would limit the effective range of fishing vessels. Table 2 (on page 38) provides a recommended list of priority intelligence requirements associated with the Chinese fishing fleet.

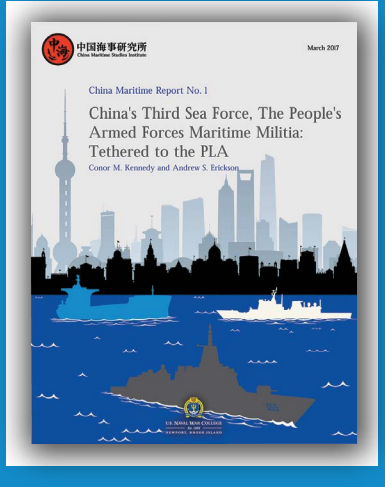
Should the U.S.-led effort require denying, degrading, or destroying any portion of the Chinese fishing fleet or logistical enterprise, the United States must prepare the supporting narrative and rules of engagement. Regardless of facts on the ground, China's legal strategy will likely accuse the United States of engaging in unrestricted warfare.[38] The joint force's vast experience in low-intensity conflict over the past two decades offer the opportunity to augment the Navy's experience in this area. Similar to navigating a convoy through a dense urban environment, a war in the Western Pacific will transit the densest maritime traffic scheme on the planet.[39]

The United States will need cooperative assets such as advanced capability naval platforms, sensors, and weapons in any envisioned conflict in order to disable high-end vessels like Chinese destroyers. However, fishing vessels engaged in paramilitary activities and supporting land-based logistical hubs provide manageable contacts for ground-based forces and partner nations to address with lower-cost munitions. This division of labor would increase efficiency and provide more effective weapon-target pairing.

The DOD should place a key emphasis on developing military interoperability with Indian Armed Forces.[40] Geopolitical analysis routinely emphasizes the importance of India's role in defining the probability of success for any sustained maritime conflict with China. India offers key terrain in the diplomatic, intelligence, military, and economic domains. Diplomatically, India has the best chance of championing the plight of developing nations suffering from Chinese abusive fishing practices. From an intelligence perspective, India's long coastline across the world's busiest maritime trading routes ensures that all commercial and military maritime traffic is within the range of shore-based, intelligence gathering capabilities. With respect to the military, India's partnership in preserving freedom of the seas and observance of international fisheries will be critical in upholding legitimate commerce should the United States become embroiled in maritime conflict.

Economically, the United States and China compete for the status of India's largest trade partner.[41] However,

In response to growing concern regarding the emerging role of China's maritime militia as a sea force that had been involved in a series of international incidents aimed at intimidating China's regional neighbors and obstructing free transit through the South China Sea, the U.S. Naval War College prepared a short study titled *China's Third Sea Force, The People's Armed Forces Maritime Militia: Tethered to the PLA*. Published in 2017, this report outlines the structure, command and control, and strategic role of this force within Chinese overall geopolitical and military strategy. It seeks to clarify the maritime militia's exact identity, organization, and connection as a reserve force that supports the objectives of the People's Liberation Army. U.S. military decision-makers should be aware of the role of the Chinese maritime militia and that of the expanding Chinese civilian fishing fleet that is also increasingly used as an instrument of coercion, intimidation, and attempted normalization of territorial claims. To view this study, visit https://digital-commons.usnwc.edu/cmsi-maritime-reports/1/.



Twelve Chinese fishing boats are banded together with ropes 21 December 2010 to try to thwart an attempt by a South Korean coast guard ship to stop their alleged illegal fishing in the Yellow Sea off the coast of South Korea. (Photo by Park Young-Chul, Agence France-Press)

India's consistently positive trade balance with the United States earns it a more favorable perception than India's consistently negative trade balance with China. In a future conflict, reinforcing cooperation with India offers a key pathway to fortify the region, and early effort by the joint force in this line of effort will provide strategic advantage.

Conclusion

The number of hulls and overall tonnage of China's fishing fleet should qualify it as a modern marvel, and military planners should monitor its use closely. Across the spectrum of conflict, the fishing fleet will most likely support its primary mission of protein harvest. However, Chinese planners could divert a relatively small percentage of these fishing vessels for paramilitary activity in the most dangerous COA to great effect. Below the threshold of conflict, the military services can play critical roles in suppressing the harmful activities of China's abusive fishing fleet. In doing so, the DOD will establish and mature key relationships with nontraditional federal agencies, partner nations, NGOs, and IGOs that will deliver decisive effects should Sino-U.S. tensions rise above the threshold for armed conflict. ■

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Preparing Theater Ammunition Supply Points for Large-Scale Combat Operations

Chief Warrant Officer 3 Michael K. Lima, DBA, U.S. Army

A massive array of landing craft, barrage balloons, Allied troops, and equipment arrives mid-June 1944 at Omaha Beach in Normandy, France. (Photo courtesy of the U.S. National Archives. Image retouched by mikaul via Wikimedia Commons)

The crucible for the Ordnance Department, like the individual fighting man, is the battlefield.

—Brig. Gen. Hal C. Pattison, U.S. Army, 17 June 1966

The U.S. Army Ordnance Corps has provided support for major combat operations during wars such as Operation Desert Storm in 1991 and, more recently, Operation Iraqi Freedom. However, these supporting efforts pale in comparison to the scale of those during World War II. The austere environment that the Allied forces faced in World War II offered little to no infrastructure for offloading supplies and poor road networks for moving provisions to the forward line of troops. As the Army transitions from counterinsurgency to preparing for large-scale combat operations (LSCO), the ammunition soldier must once again prepare for operations in joint security areas without robust infrastructure. Ports could be replaced with logistics over-the-shore (LOTS) delivery and earth-covered magazines with open storage. The Army must review historical lessons learned to recognize logistics culminating points overcome by past ordnance soldiers.

Strategic Support Area

The strategic support area includes the Army's organic industrial base and private-sector industrial complexes with capabilities to produce and maintain military munition systems to meet military requirements.[1] The strategic support area encompasses the area extending from the continental United States to the joint security area within a theater of operations.[2] Ammunition may be shipped from Joint Munitions Command's production facilities throughout the continental United States to a theater-level ammunition supply point (ASP). For LSCO, ammunition would flow in with forces and sustainment ammunition from Army pre-positioned stocks (APS) such as APS-3 (afloat) with pre-positioned sets, ammunition, operational project stocks, and activity sets.[3] Army pre-positioned ammunition support to a theater of operation includes pre-positioned ammunition committed to an area—for example, APS-4 (Northeast Asia and Pacific)—and planned resupply of national-level munitions.[4]

Traditionally, ammunition support teams with quality assurance specialist ammunition surveillance and contract personnel are deployed to survey ports, serviceability of APS ammunition, and overall safety of munition operations. However, future LSCO might not follow the same pattern of essential support provided by civilian employees and contractors. The Army will have to rely heavily on ordnance soldiers in theater to perform the technical work done by civilians until sea lines of communication are open. The ordnance soldiers assigned to an ASP must be able to receive, configure, inspect, manage, and then ship and issue ammunition to support the theater.

Modular Ammunition Ordnance Company

The foundation of the Army's ammunition formations is the modular ammunition ordnance company, which provides ammunition support on an area basis within the theater area.[5] Starting in the joint security area, the company ships ammunition to ammunition transfer and holding points in division and brigade support areas. The modular ammunition company consists of a headquarters with mission command capacity. It typically has three modular ammunition platoons and a modular ammunition rough terrain container handler augmentation team.[6] Theater ASPs require one or more rough terrain container handler augmentation teams to operate.[7]

Unfortunately, the active duty Army only has six modular ammunition ordnance companies.[8] There are three more ammunition companies and one ordnance (ammunition) battalion in Korea, but they are wartime host-nation support units, which operate with limited military personnel and are highly dependent on the local national workforce to complete assigned missions. With just over a handful of modular ammunition

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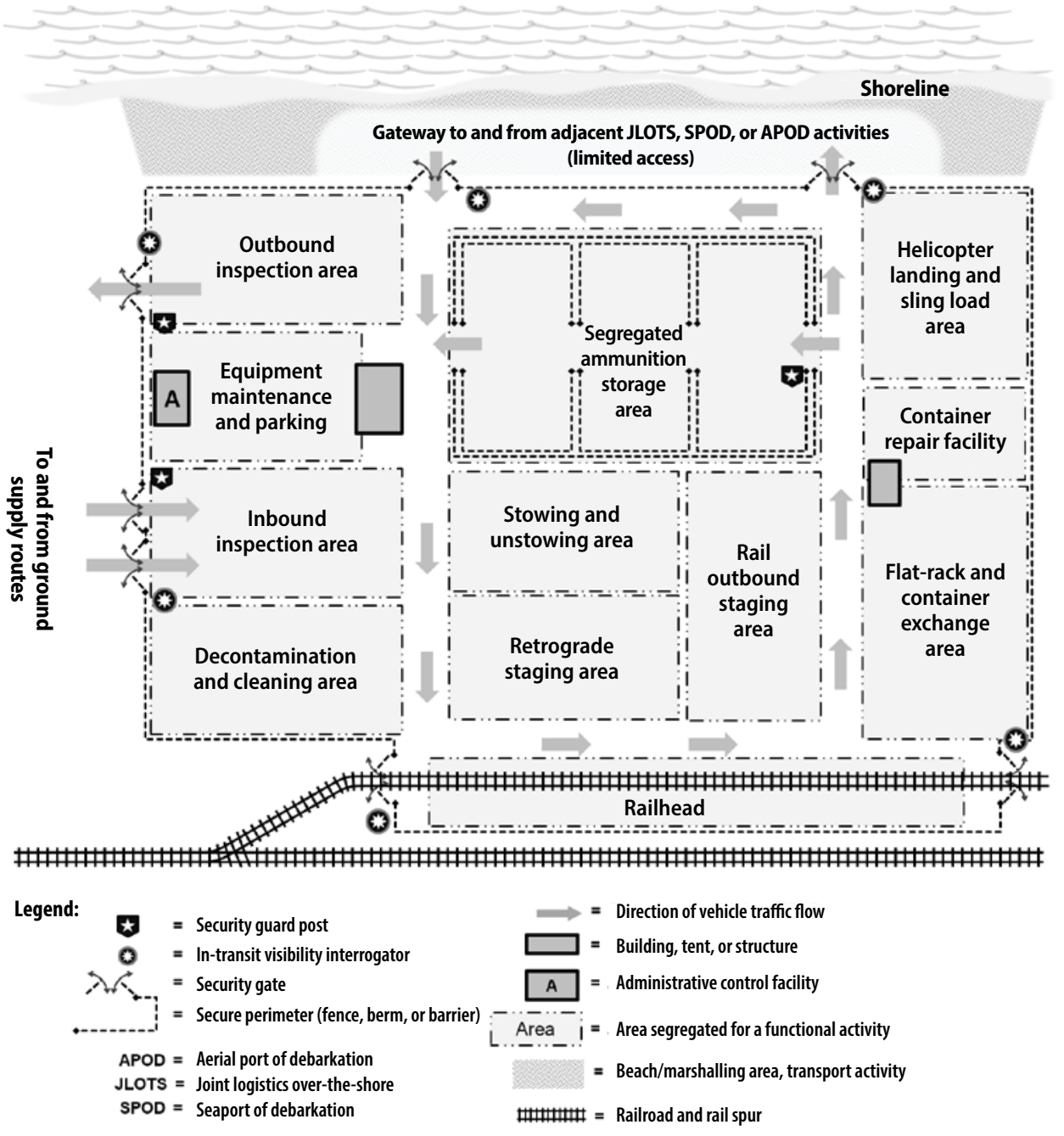
ordnance companies, the Army will have to rely even more on the Reserve Component for ordnance support during LSCO. The Army Reserve contains nearly 20 percent of the Army's units and a quarter of its mobilization base-expansion capacity.[9] The National Guard is about 39 percent of the Army operational force.[10] The integration of Army Reserve ordnance companies with various ammunition sections within

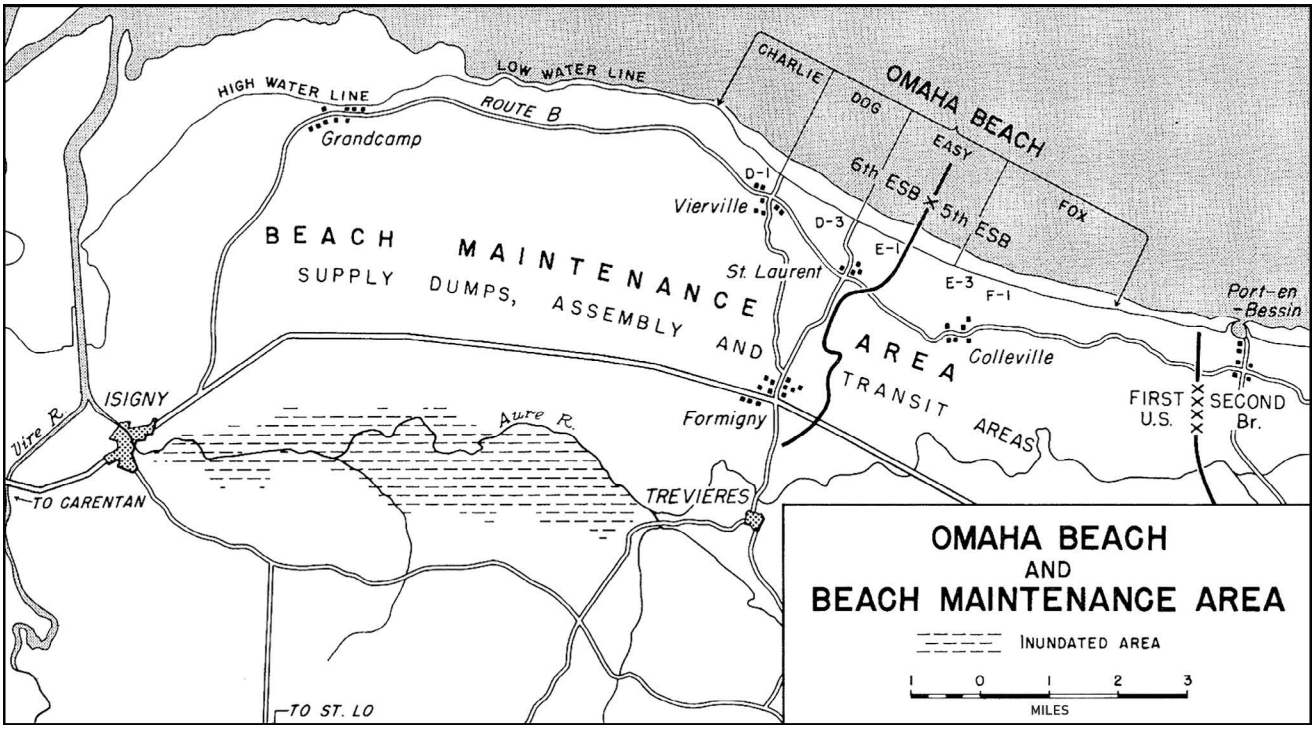


Notes:

1. Facility is not to scale.
2. Inbound line haul equipment is staged along a roadway (or accommodating area) outside of the marshalling area, with controlled entry into the yard.

(Figure from Army Techniques Publication 4-35, *Munitions Operations and Distribution Techniques*)

Figure 1. A Notional Layout of an Ammunition Supply Point



(Figure by H. Damon via the Library of Congress)

Figure 2. Omaha Beach and Beach Maintenance Area, 1944

the force to offset any shortages in personnel will be one of many requirements for operating theater ASPs. Another is the interoperability of ammunition operations between Army ordnance units, Marine Corps ammunition companies, Navy Munitions Command detachments, and Air Force munition squadrons.

Theater Ammunition Supply Points

An ASP is an ammunition support activity that is designated for receiving, storing, maintaining, and providing munitions support to Army forces at echelons above brigade.[11] ASPs are field, semifixed, or permanent storage areas of various sizes.[12] Current Army technique publications describe the ASP site selection process, recommending locations that minimize the need for engineer support near improved road networks for transportation.[13] The ASP can be six square kilometers or larger, depending on the tactical situation and mission.[14] Figure 1 (on page 45) depicts the ideal layout of a notional ASP.

One or more ammunition platoons operate an ASP. However, there are a limited number of active duty modular ammunition companies, and the technical skills needed to run a theater ASP surpass the internal capabilities of the ammunition ordnance companies. Army regulations allow trained military ammunition inspectors in the grade of staff sergeant or above to supplement and assist quality assurance specialist ammunition surveillance personnel.[15] But ultimately, the Army's Ammunition Surveillance Program is managed and executed by Department of the Army (DA) civilian employees.[16] These civilians possess the technical knowledge needed to run the Army's ammunition surveillance programs and are far more experienced in ammunition surveillance management than their military counterparts.

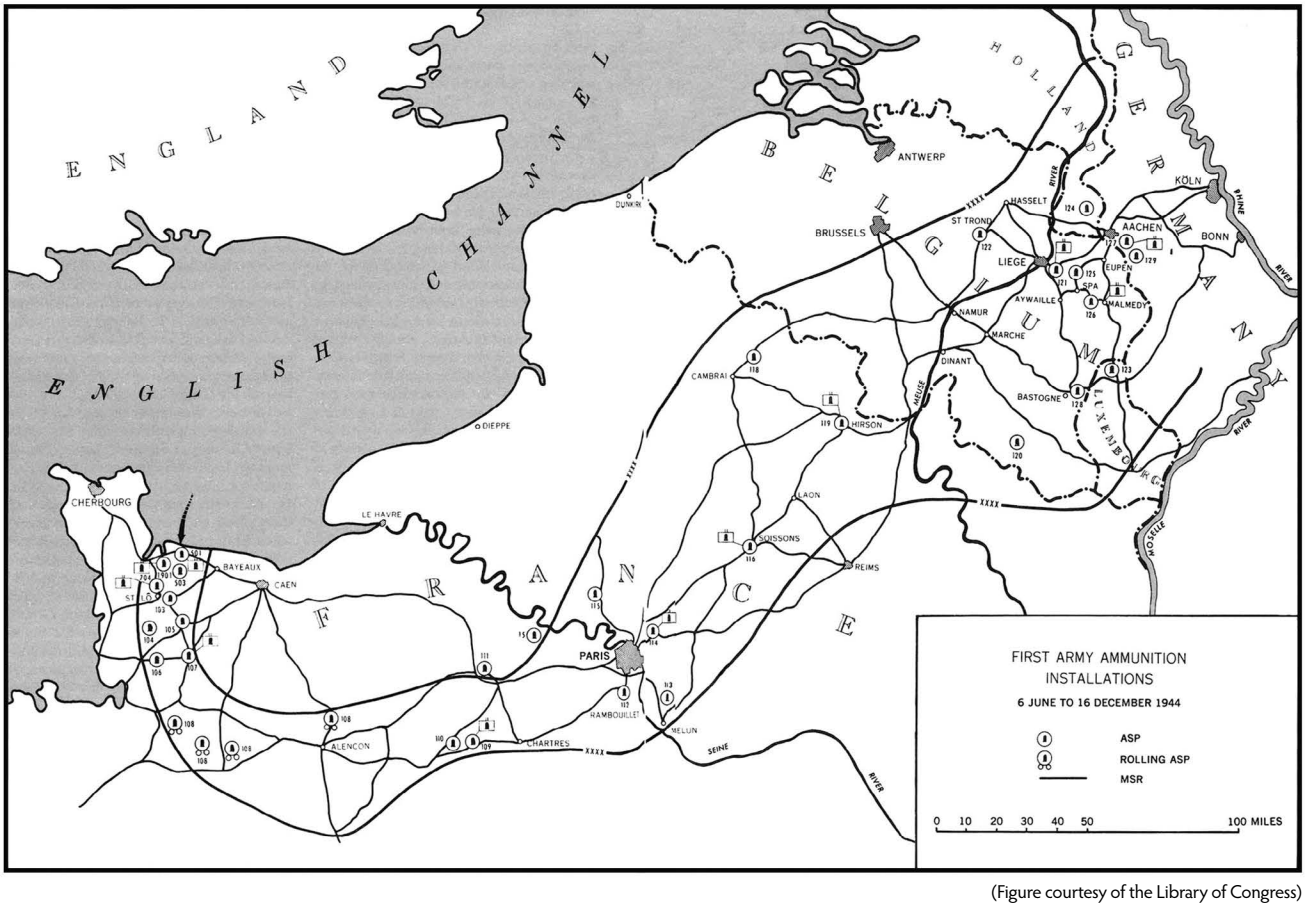
The Army must focus on ordnance soldiers who can perform theater-level ASP operations in austere conditions without the assistance of DA civilian employees. Soldiers within ammunition platoons must be able to conduct ammunition and explosives surveillance programs, inspect ammunition for serviceability, and assign condition codes. Other required tasks include determining storage compatibility and computing explosives safety quantity distances to ensure proper separation of ammunition sites and exposed sites.

Ammunition Dumps

Ammunition dump is an anachronistic term for any organized area designated for the reception, classification, storage, or issue of ammunition.[17] For LSCO, it is necessary to have bulk munitions as close as feasibly possible to the forward line of troops. It is even more critical when the initial combat assault requires continuous resupply of munitions. These conditions have not been seen by ordnance soldiers since World War II operations such as Operation Overlord (Battle of Normandy), Operation Dragoon (the landings on Provence in Southern France), and Operation Iceberg (Battle of Okinawa). Omaha Beach, for example, is on the Normandy coast. The beach maintenance area and ammunition dumps had a level shelf of sand with patches of marsh grass and ravines forming exits to inland villages (see figure 2, page 46).[18] For Operation Overlord, the ordnance officer for First Army, Col. John Medaris, planned to place nine ordnance battalions on Omaha Beach and five battalions at Utah Beach.[19]

The decision was to support the main effort of the Army with a forward support element as the Army went across France. One such unit was the 71st Ordnance Group (Ammunition Supply). The Ordnance Group consisted of two ammunition battalions of six companies each, one battalion to operate forward ASPs and the other to run the main army ammunition depot with reserve ammunition to stock the forward ASPs.[20] Along with the units coming across the English Channel, the ammunition came across on watercraft and barges in support of the Allied forces. The number of ammunition units provided an overwhelming amount of support for ordnance operations in the European theater of operations.

The amount of ammunition and the number of ASPs in the European theater during the first year of World War II was greater than those seen in wars such as Vietnam and Iraq. In Europe, the ordnance officer organized a mobile ASP, which was the only large-scale mobile ASP operated to any extent by any of the armies in World War II.[21] For example, during eleven days of



(Figure courtesy of the Library of Congress)

Figure 3. First Army Ammunition Installations

Soldiers of the 618th Ordnance Ammunition Company use a crane to unload ammunition from a DUKW amphibious vehicle 15 August 1944 in Normandy, France. (Photo courtesy of the U.S. Signal Corps via the Library of Congress)

operations in August 1944, a mobile ASP handled 13,156 tons of ammunition.[22] Figure 3 (on page 47) shows the number of ASPs throughout France in just half a year that enabled the Allies to push back German forces. The number of ordnance ammunition battalions and companies that were required is more than what is now in the U.S. Army on active duty. During this time frame, there were thirty-four ASPs, including mobile ASPs, from the beaches of Normandy to the German western front.

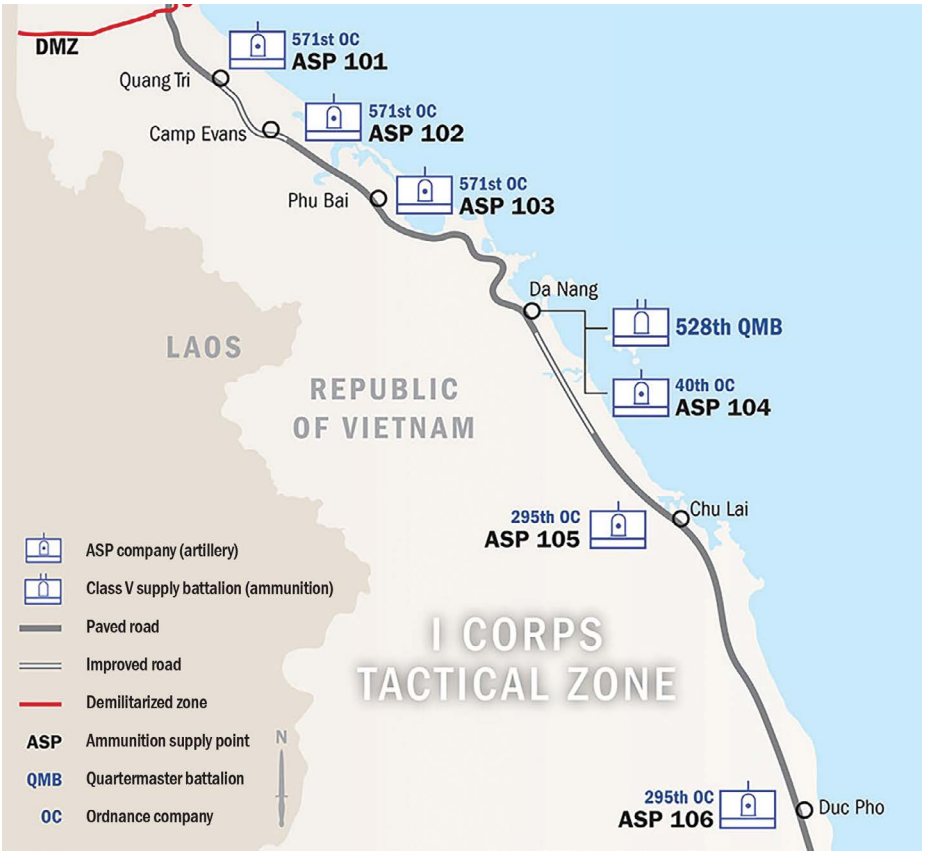
Ordnance Battalions (Ammunition)

Reliance on the Reserve Component will increase in LSCO. Combat sustainment support battalions will have to provide mission command like the ordnance battalions (ammunition). Current technique publications identify the ammunition support missions of the ordnance battalion (ammunition) and the combat sustainment support battalions as identical.[23] However, while the two organizations have the same mission, the ordnance battalion (ammunition) is the only unit dedicated to the command of ordnance companies and with the right mix of personnel for ammunition mission sets.

A historical example of this command relationship is the 528th Quartermaster Battalion (QMB) in Vietnam. The 528th QMB was organized like a petroleum supply battalion, but it was explicitly activated to provide a command structure for a newly formed ammunition battalion.[24] Despite the organization, the battalion received the correct personnel and assumed the ordnance support mission for the I Corps tactical zone through

control of ordnance companies and detachments that were already on the ground and trained in ammunition supply functions (see figure 4).[25] The war in Vietnam required providing ammunition to troops fighting an enemy across a battlefield with no front line. Compared to World War II with its massive Army and corresponding support requirements, the ordnance (ammunition) units in Vietnam numbered just a few to handle the conflict. By November 1969, the 528th QMB provided mission command for six ASPs: 571st Ordnance Company with ASP 102 at Camp Evans, ASP 103 at Phu Bai, and ASP 101 at Quảng Tri; the 661st Ordnance Company with ASP 105 at Chu Lai and ASP 106 at Đức Phổ; and the 40th Ordnance Company with ASP 107 at Da Nang.[26]

The ordnance battalion (ammunition) provided mission command with dedicated ordnance companies to manage all aspects of supply in the I Corps area of operations. The majority of shipments came to 628th QMB by cargo ship from the United States or by intratheater shipment.[27] Intratheater resupply came primarily from Cam Ranh Bay in South Vietnam, manned by additional ordnance units.[28] The one battalion and six companies in I Corps were just about the strength of the current active duty ordnance (ammunition) companies, and the operations in Iraq and Afghanistan provided formable tests for ordnance (ammunition) units that operated ASPs.



(Figure courtesy of *Veritas: Journal of Army Special Operations History* 1, no. 2 [2005])

Figure 4. I Corps Ammunition Supply Points Controlled by 528th Quartermaster Battalion, Republic of Vietnam, 1960

Ordnance (Ammunition) Unit Transformation

The ammunition companies that operate ASPs today have undergone a transformation from those seen in the large-scale combat operations of World War II. But as the U.S. Army prepares for fighting peer threats, it must fill the gap left by that transformation in ordnance (ammunition) operations. That gap is the number of units recommended in doctrine. Ordnance field manuals during the World War II era prescribed six companies per ammunition battalion and two battalions per field army.[29] The current Army techniques publication for munitions distribution, *Munitions Operations and Distribution Techniques*, only offers a modular ammunition ordnance company with headquarters platoon and typically three modular ammunition platoons to support a division.[30] This reflects the nature of the counterinsurgencies the U.S. Army has been fighting, which required fewer personnel to operate fewer ASPs in a theater of operations, consequently requiring fewer active duty ordnance (ammunition) units. In 2011, the 80th Ordnance Battalion reflagged to the 13th Combat

Sustainment Support Battalion.[31] And in 2013, 83rd Ordnance Battalion, one of the last ordnance (ammunition) battalions, deactivated, but the ammunition mission was taken on by the Ammunition Depot, 10th Regional Support Group.[32] The deactivation reduced the number of assignments available for ammunition soldiers to perform their wartime functions.

The U.S. Army is now down to only six active duty modular ordnance companies located at major installations with ASPs operated by logistics readiness centers. With contractor-run facilities and civilian-led organizations, the ability to train at ASPs is limited. The integration of soldiers, DA civilians, and contractors is inconsistent among various ASPs, and it is often stressed by soldier training requirements, contract concerns, and uncertainty about how to distribute the workload.[33] The disparity in and lack of available training has reduced the ability of ordnance (ammunition) units to perform the work without the Department of Defense employees who perform those ammunition functions. This is even more apparent in combat operations when it comes to ammunition surveillance functions, including inspecting and the classification of munitions.

During Operation Iraqi Freedom, the Combined Forces Land Component Command had seven ordnance ammunition companies, one ordnance ammunition battalion (minus), and one ordnance ammunition group (with one company and two platoons) in support of the invasion of Iraq.[34] The total included all of the continental U.S.-based active duty ordnance (ammunition) companies, but with support from an ammunition force comprised of Reserve Component units.

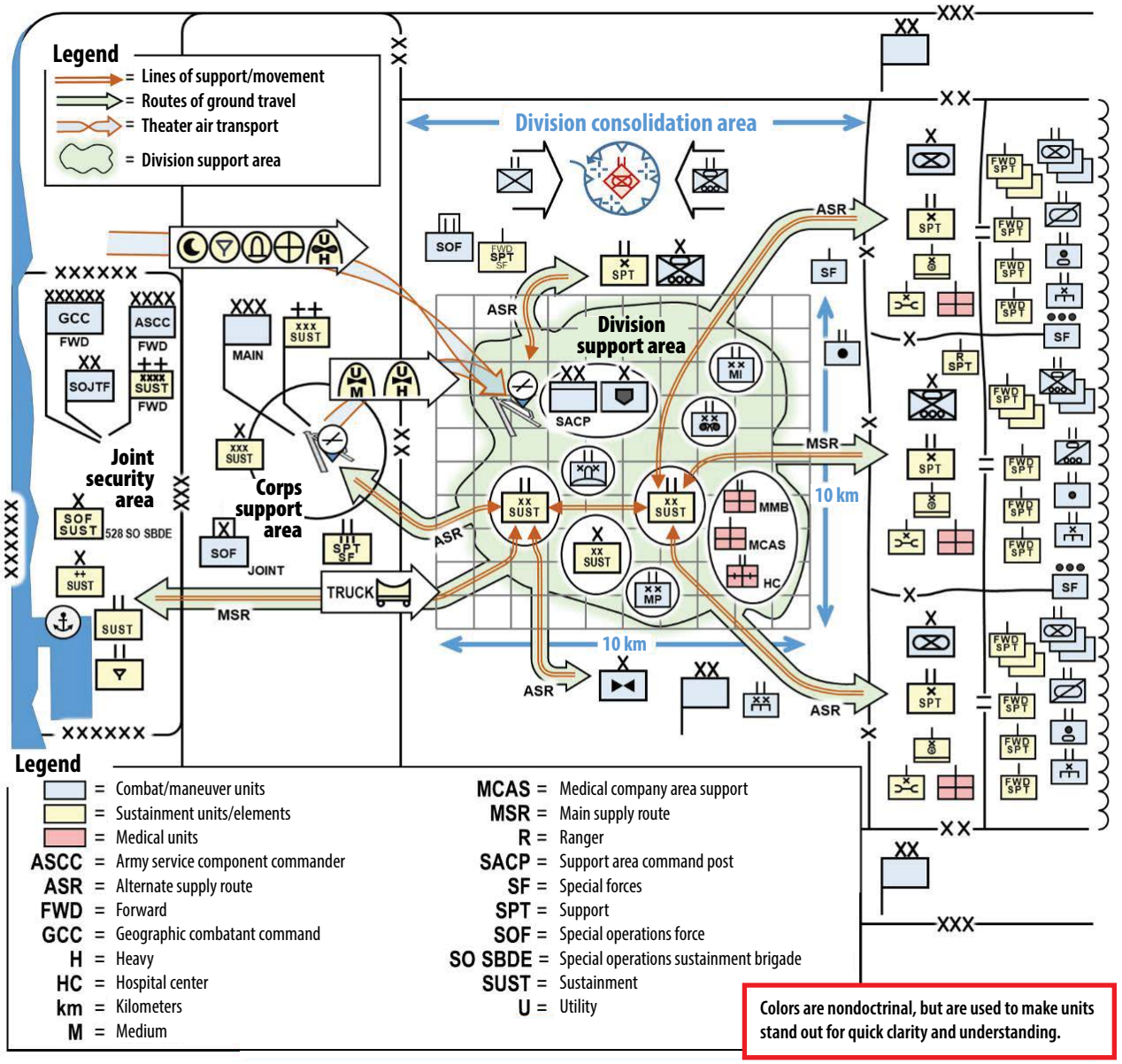
The number of ammunition units in Operation Iraqi Freedom was comparable to but did not reach the level required for the initial invasion of World War II. However, as the Army has transformed into a modular, expeditionary force, so too has the configuration of APS transformed into standard brigade combat team packages.[35] The ability to have ammunition and equipment in mission sets has reduced the required forward push of munitions and ammunition units into theaters, but the U.S. Army will still be dependent on the Reserve Component when it comes to LSCO. The question is whether the majority of the expertise regarding ammunition operations belongs in the Army Reserve and National Guard.

Ammunition Operations Training

In the active duty Army, logistics readiness centers perform the majority of ammunition functions on major Army installations. In the National Guard, garrison training centers provide full-time support at forty-seven ASPs in thirty-six states and one territory. The ASPs are organized and structured in the garrison training centers by regulation, not by current doctrine.[36] The ammunition support allows for National Guard units to have a reserve force that operates ASPs during times other than deployments. With ASP operations as a core function of the National Guard, many personnel assignments are for military technicians who are employees of the Department of Army and are required to maintain military membership to retain employment; they are referred to as dual-status technicians.[37] Examples of garrison training centers include Camp Navajo Ordnance Operations in Northern Arizona and Atterbury-Muscatatuck Training Center in Indiana; they provide training areas and have ASPs to support the Total Army force. The National Guard has invested in training centers such as the Utah Army National Guard's construction of an $11.7 million state-of-the-art ASP near the twenty-nine thousand-acre area of Camp Williams.[38] While the U.S. Army Reserve does not have the core function of managing ASPs, it depends on such areas for training.

The installations with the most ammunition management experience are those from the Joint Munitions Command (JMC). The organization operates a nationwide network of seventeen installations and facilities that produce and store conventional ammunition, and when needed, handle demilitarization.[39] These JMC installations are the country's center of ammunition production, providing ammunition and explosives to Army and National Guard ASPs and employing civilian employees with decades of experience in manufacturing. Installations such as Crane Army Ammunition Activity in Indiana provided the 321st Ordnance Battalion, an Army Reserve unit from West Virginia, the ability to conduct annual training that "focused on essential Soldier tasks and supporting ammunition logistics operations."[40] And the 221st Ordnance Company from Fort Wayne, Indiana, "completed an ammunition crucible training exercise at Crane" to assess the unit's readiness.[41]

Such training opportunities are not only for companies and battalions. The JMC installations



(Figure from Field Manual 4-0, *Sustainment Operations*)

Figure 5. Distribution Network

can support echelons-above-brigade munitions units. The home of Joint Munitions Command, Rock Island Arsenal, Illinois, partnered with the Army Reserve's 103rd Expeditionary Sustainment Command during exercise Nationwide Move 2015 "to move approximately 2,500 short tons of munitions."[42] With the support of JMC, reserve units have the opportunity to train with an organization and at an installation that manufactures, stores, and ships the Nation's wartime material.

Recommendation

Past experience has shown that the number of modular ammunition companies required in LSCO far exceeds the number available on active duty. Additionally, units throughout an area of operations are at various echelons. Modular ammunition companies conduct ammunition supply operations at the theater, corps, and other levels as required by the tactical situation.[43] The July 2019 revision of Field Manual 4-0, *Sustainment Operations*, states the following about theater-level ammunition:

> Planning should also include identifying locations within the AOR [area of responsibility] for a theater storage area and multiple ammunition supply points to provide redundant and robust storage capability in a forward location to receive stocks directly from the port and distribute laterally between supply points or to forward units.[44]

To accomplish this, the Army must analyze where to place the mix of reserve and active duty ammunition units in the distribution network (see figure 5, page 51), knowing that there are not enough units in the Total Army force to provide ammunition support at the level seen in World War II.

With fiscal constraints, it is unrealistic that the Army will have an active duty ordnance group with two battalions, each with six ordnance companies. The trend now appears to be the deactivation of active duty units and the reliance on host nation support for current overseas ammunition operations in countries such as Korea and Japan. Currently, there are six modular ordnance companies under combat sustainment support commands. The modular ammunition company has succeeded in counterinsurgency operations, but the decreased number of ordnance companies may not provide the needed force for LSCO.

To meet future requirements, the Army must bring back an active duty conventional ammunition ordnance battalion with three conventional ordnance (ammunition) companies in general support, specially designed for the mission to establish and operate multiple theater storage areas and with the responsibility for the receipt, storage, rewarehousing, shipping, and issuance of ammunition.[45]

Conclusion

To prepare for LSCO against a peer enemy, the U.S. Army will have to support ground forces on a scale not seen since World War II. But during recent counterinsurgency operations, ammunition units provided area support in smaller storage locations with a reduction in ammunition short tons, and ammunition formations have been reduced correspondingly in numbers of units, personnel, and equipment. The Army has taken steps to prepare for LSCO with the placement of APS and bases around the globe, but it must take one more step. There must be at least one active duty conventional ammunition ordnance battalion that will provide the in-depth knowledge of munitions and the full span of support for the ammunition mission during an all-out war between nations. ■

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Fire Support in Time and Space

Lessons from the Ivy Division's Joint Air-Ground Integration Center

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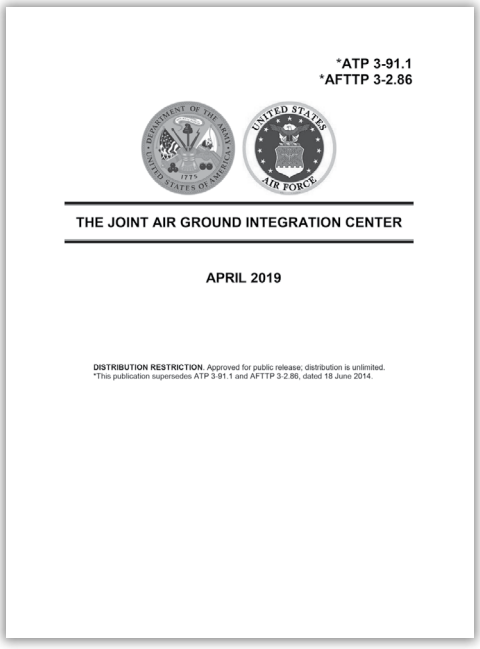
Capt. Marc S. Melfi, U.S. Army

Artwork by Dusty Crosley

Six days after Article 5 was declared by NATO, the conflict remains relentless. The Ivy Division, as the spearhead for III Corps and all NATO forces, rattles the structures of the nearby capital of Lithuania with armored formations. Thousands of helpless allied casualties evacuate toward the rear while remaining forces pass burning hulks of the once mighty armored vehicles. The skies above the Baltic area fill with air forces from foes with terrifyingly powerful modern military equipment. Not since the Gulf War have so many tanks met barrel-to-barrel, and not since the Falklands have so many missiles been released against worthy opponents. Survival and persistence require the successful effort of a joint team capable of orchestrating these weapons in pursuit of total victory.


*ATP 3-91.1
*AFTTP 3-2.86

THE JOINT AIR GROUND INTEGRATION CENTER

APRIL 2019

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There was no bloodshed, no loss, no war as this conflict occurred virtually. The simulated event was part of the 4th Infantry Division's (ID) participation in a biennial Warfighter exercise oriented toward enhancing the division staff, division artillery (DIVARTY), and division sustainment brigade through a graded culminating training event. The division, along with III Corps staff from Fort Hood, Texas; the 28th ID from Pennsylvania; and the 29th ID from Virginia executed the second repetition of U.S. Army Forces Command's newest Suwalki Corridor scenario using a large-scale combat operations (LSCO) setting against a near-peer competitor.

A Relevant Integration Center

Ways and means of achieving victory and accomplishment of strategic objectives are paramount as the joint force continues to transition from counterinsurgency to LSCO. This reality necessitates warriors to think and act differently. Since operations occur in a multi-domain environment, "Army formations, operating as part of the Joint Force, [must] penetrate and dis-integrate enemy anti-access and area denial systems; [and] exploit the resulting freedom of maneuver to defeat enemy systems, formations, and objectives and to achieve our own strategic objectives."[1] Only through adherence to this paradigm will we achieve victory as a joint force.

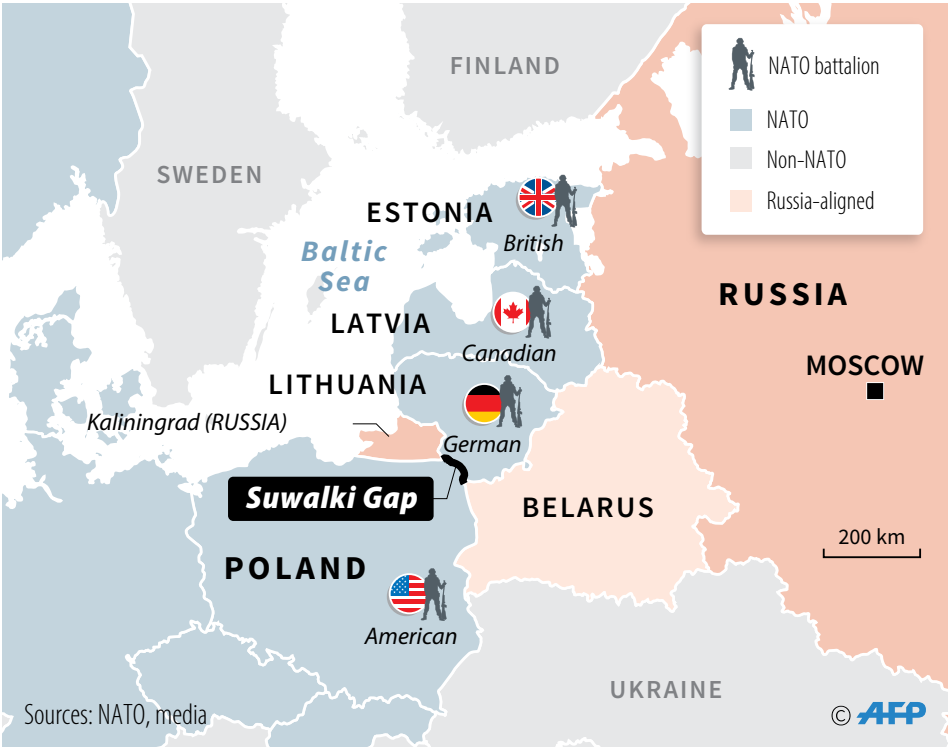
The tactical unit must operate anew, and the joint air-ground integration center (JAGIC) is critical to this revitalization. The JAGIC "provides commanders a technique to coordinate, integrate, and control operations in division-assigned airspace and efficiently collaborate requirements with external airspace elements outside of the division area."[2] The JAGIC functions as a critical tool for the dis-integration of the enemy's area denial systems, and it is indispensable for achieving victory in the joint force's new operating concept.

How does the JAGIC integrate into the division and facilitate effective, responsive, and lethal fires to defeat near-peer adversaries in complex, multi-domain operations? To discuss the successful aspects of the JAGIC, we must examine the layout of the JAGIC in the command post, its relationship with the staff, its tactical implementation, and a description of its systems and processes. This article relates the Ivy Division's experiences and focuses on the unique lessons learned during Warfighter Exercise 21-2. This is a lesson from which other units can create future success in similar situations.

A Near-Perfect Layout

Throughout the 4th ID's Warfighter training, the JAGIC experimented with multiple layouts to identify the best locations for key players vital to the JAGIC's success in maintaining situational awareness and responsive fire support. The JAGIC layout provided in doctrine lacked proximity between the JAGIC and the G-2 (division intelligence) collection and single-source analysts capable of providing dynamic targets to the JAGIC (see figure 1, page 58).[3]

The 4th ID JAGIC quickly identified a layout that enabled proximity to both the collection analysts' efforts and other enabler teams, facilitating rapid communication and decision-making. This new arrangement resulted in the expedited engagement of unforeseen, variable targets and a shared understanding of efforts between warfighting functions. By separating the division main command post in half and giving authority to the JAGIC to manage one of the halves, the division chief of staff enabled the JAGIC chief to change seating arrangements to create an environment that facilitated information efficiency and dialogue (see figure 2, page 60).



(Map by Jonathan Jacobsen, Agence France-Presse)

The Suwalki Gap: A Nightmare for NATO

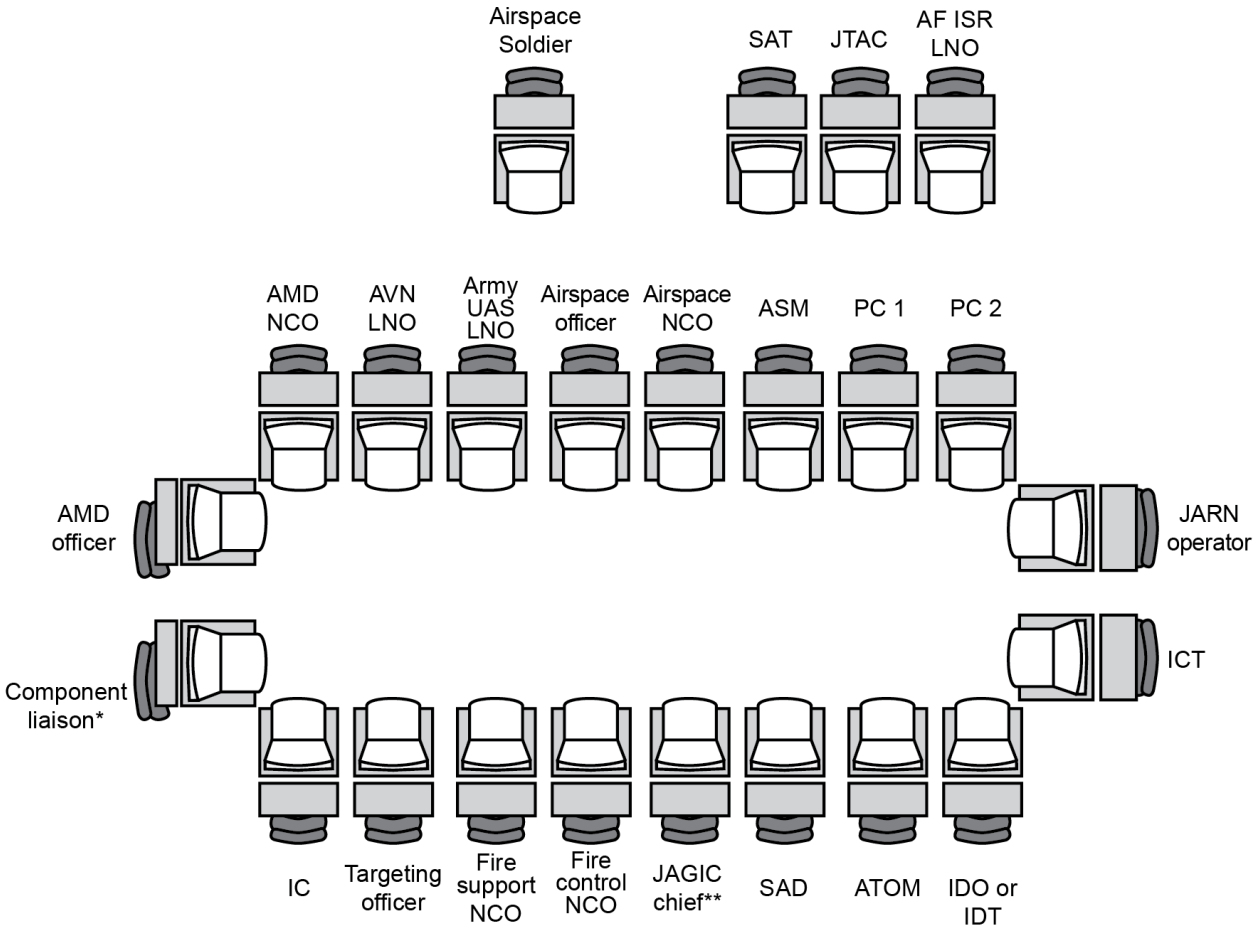
Map of Eastern Europe showing the Suwalki Gap in Poland—the eighty-kilometer border between NATO members Poland and Lithuania—which is squeezed between Russian territory and Russia-allied Belarus.

The JAGIC was at the center of the command post with the JAGIC chief and assistant JAGIC chief at the head of the table, accessible to the senior air director and the fire support noncommissioned officer. To the right of the JAGIC chief's table were the various collection analysts, single-source analysts, and the field artillery intelligence officer (FAIO), who was responsible for vetting and validating targets. To the left of the JAGIC chief was the division staff judge advocate, the special operation forces liaison, and a representative of the cyber-electromagnetic activity. With this specific layout, the G-2 collection analysis efforts were able to provide potential targets to the FAIO for vetting. If the FAIO had a valid target, it immediately passed that target to either the division joint terminal attack controller or the combat aviation brigade liaison to direct joint fires on the target. Simultaneously, the special operations forces and cyber-electromagnetic activity collection efforts could transfer targets to the JAGIC chief for corps target nominations. This specific arrangement of personnel enabled the optimal decision-making and target engagement necessary for Warfighter success.

An Integrated Asset, Not a Disconnected Liability

The JAGIC must be integrated and synchronized into the main command post with representatives from the other warfighting functions. The JAGIC does not solely represent the fires warfighting function because the command post possesses protection, intelligence, and maneuver tenants as well. However, the JAGIC is clearly the primary fires representative during the current operations fight and manages this warfighting function for the commander. A good working relationship with key members of the division staff is vital for fires to function properly.

The chief must detach from the procedures of the JAGIC and work with the other warfighting function



***** Component liaison seating can include the mobility Air Force weapons officer, air mobility officer, special operations fires, information operations officer, and staff judge advocate.

****** The JAGIC chief is primarily filled by a fire support officer, formerly referred to as the assistant fire support coordinator (AFSCOORD).

Additional duty positions as required:

Information collection manager, UAS technician, electronic warfare manager and space liaison officer, and staff judge advocate. Other positions may be added based on the division commander's direction and personnel availability.

AF–Air Force
AMD–Air and missile defense
ASM–Airspace manager
ATOM–Air tasking order manager
AVN–Aviation
IC–Interdiction coordinator
ICT–Interface control technician
IDO–Intelligence duty officer
IDT–Intelligence duty technician
ISR–Intelligence, surveillance, and reconnaissance
JAGIC–Joint air ground integration center
JARN–Joint air request net
JTAC–Joint terminal attack controller
LNO–Liaison officer
NCO–Noncommissioned officer
PC–Procedural controller
SAD–Senior air director
SAT–Senior air technician
UAS–Unmanned aircraft system

(Figure from ATP 3-91.1, *The Joint Air Ground Integration Center*, 1-7)

Figure 1. Doctrinal Joint Air-Ground Integration Center Seating Arrangement

cells to provide the best guidance and direction to the team. The assistant JAGIC chief is the driver of the key functions of the JAGIC. The JAGIC chief must trust and empower the assistant chief to clear fires, make decisions, and shift assets to accomplish the commander's guidance for JAGIC operations. If the JAGIC chief

is fixed on critical tasks necessary for the JAGIC to function, then the chief is not able to integrate into the division's fight holistically. As an analogy, if the JAGIC was a vehicle, the distinct sections would be the mechanical components, the assistant JAGIC chief would be the driver, and the JAGIC chief would be the truck commander trying to keep the vehicle in the right formation with the rest of the convoy.

The two most important warfighting functions the JAGIC interacts with are intelligence and maneuver.[4] Using another analogy, If the G-2 is the eyes of the division, the G-3 (operations) the brain, and the JAGIC the muscles, then it is irrelevant how strong those muscles are unless the body is used holistically. A JAGIC chief must understand the inputs necessary for the JAGIC to thrive. Placing the FAIO in the intelligence section provides a liaison the JAGIC chief can use to assist with redirecting intelligence assets to aid the JAGIC's identification and ultimate engagement of high-payoff targets. This location allows the chief to lobby for proper assets necessary to accomplish the commander's guidance for the deep fight. Furthermore, the JAGIC chief must work constantly with the chief of current operations to stay abreast of the current maneuver situation. The JAGIC chief is in the best position to provide updates to the division commander during commander and battle update briefs to facilitate shared understanding of the current situation related to fires and to best visualize the operational environment.

How to Adequately Shape the Deep Area

Layout, training, and cohesion are important to the functionality of the JAGIC, but the essence of the center is to defeat the enemy in the division's deep area. To achieve this, one must discuss various tactics that were effective or ineffective against the world-class opposing force (OPFOR) during simulated LSCO. Early on, the JAGIC discovered the importance of the mantra *intelligence drives fires, fires drive maneuver*. This philosophy, as outlined in the 4th ID commander's intent, built the framework for how the JAGIC ought to defeat the enemy. Thus, the quality of *fires* is nested within the quality, timeliness, and accuracy of *intelligence*. The quality of *maneuver* is nested within the permissiveness and responsiveness of *fires* in the deep area.

During both the mid-exercise and end-of-exercise after action reviews, the OPFOR commander provided feedback. For WFX 21-2, he noted that the Ivy Division was particularly effective at destroying the OPFOR Integrated Fires Command assets by layering effects using fixed wing, rotary wing, and rocket fires. As the unit expected, the OPFOR commander attempted to use cross-boundary fires coupled with his range advantage using his Integrated Fires Command. This reality poses a formidable threat to friendly forces, but there are ways to penetrate and dis-integrate the OPFOR's advantages. If the JAGIC has fixed-wing assets available, this is where the chain begins (see figure 3, page 61). Fixed-wing aircraft should seek out and destroy the enemy's long-range fires assets, primarily rockets in its support area at the corps level; this engagement allows friendly artillery to get closer to the enemy. These closer friendly rocket assets focus on destroying enemy air defense assets to allow attack aviation freedom of maneuver within the enemy's battle zone. After attack aviation is within the enemy's battle zone, it seeks and destroys as many enemy assets as possible, prioritizing enemy maneuver forces capable of destroying friendly armored forces and remaining air defense threats. These engagements create space that friendly maneuver forces can quickly fill and seize ground. Then, since friendly maneuver forces now hold the ground, friendly rocket artillery can advance to occupy forward territory and destroy more enemy air defense that is now in range, and the process repeats. This "kill chain" facilitates the division's tempo with a feasible method to shape the deep area.

To accomplish these actions, the link between the targeting team and

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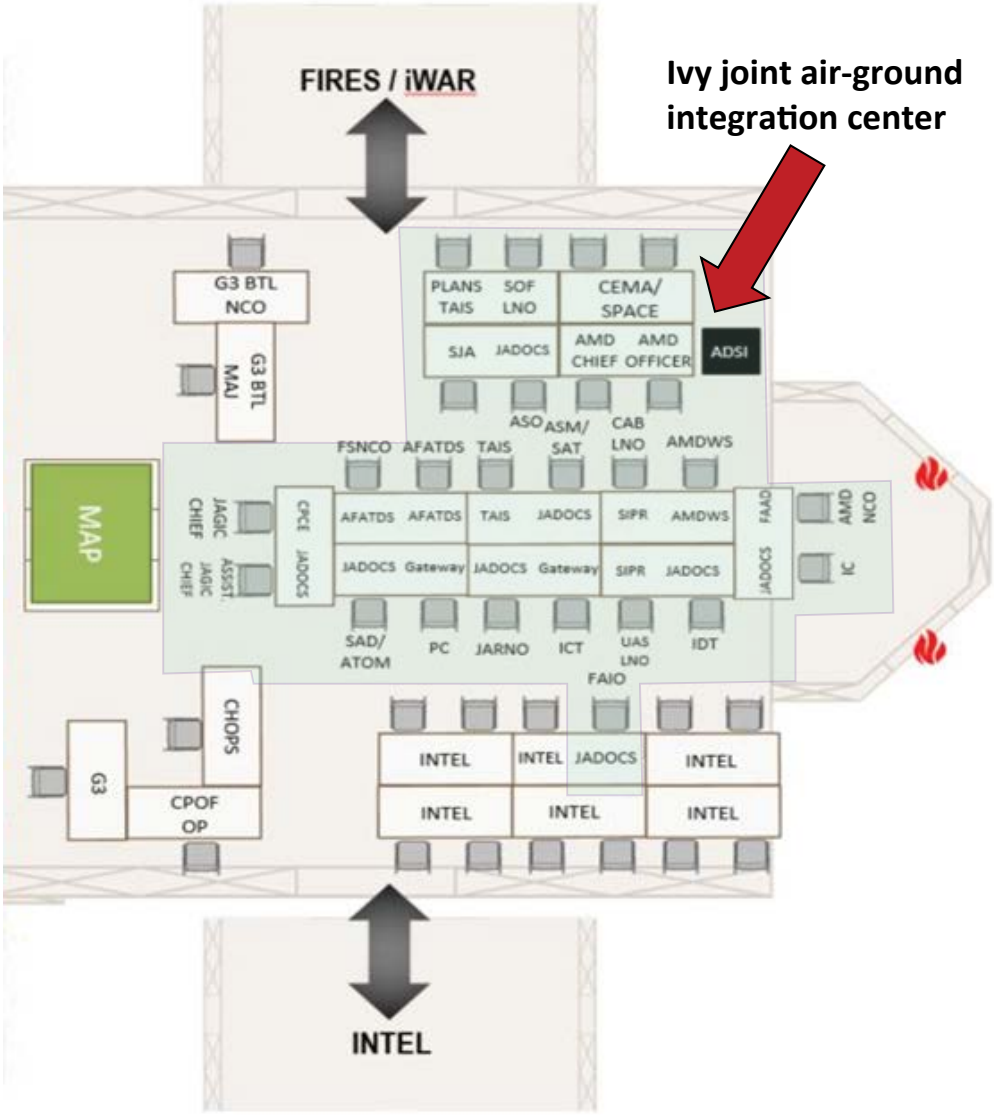


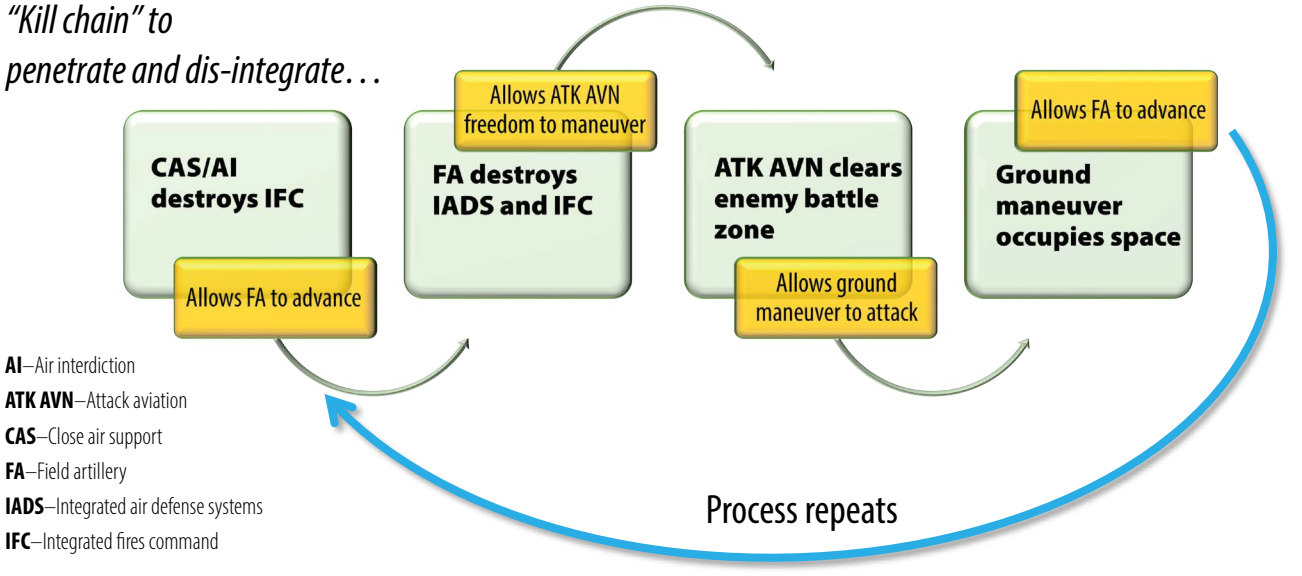
ADSI–Air defense systems integrator
AFATDS–Advanced field artillery tactical data system
AMD–Air and missile defense
AMDWS–Air and missile defense workstation system
ASM–Airspace manager
ASO–Airspace officer
ATOM–Air tasking order manager
BTL–Battle
CAB–Combat aviation brigade
CEMA–Cyberelectromagnetic activities
CHOPS–Chief of operations
CPCE–Command post computing environment
CPOF–Command post of the future
FAAD–Forward area air defense command and control
FAIO–Field artillery intelligence officer
FSNCO–Fire support noncommissioned officer
G3–Operations officer
IC–Interdiction coordinator
ICT–Interface control technician
IDT–Intelligence duty officer/technician
INTEL–Intelligence section
JADOCS–Joint automated deep operations coordination system
JAGIC–Joint air and ground integration center
JARNO–Joint air request net operator
LNO–Liaison officer
MAJ–Major
NCO–Noncommissioned officer
OP–Operator
PC–Procedural controller
SAD–Senior air director
SAT–Senior air technician
SIPR–Secret internet protocol router
SJA–Staff judge advocate
SOF–Special operations forces
TAIS–Tactical airspace integration system
UAS–Unmanned aircraft system

(Figure by authors)

Figure 2. 4th Infantry Division Joint Air-Ground Integration Center Layout

the JAGIC is essential. A member of the targeting team would provide insight into the commander and fire support coordinator's thought processes and guidance for fires during working groups and decision boards. The key product used in this endeavor was the combined high-payoff target list/attack guidance matrix/target selection standards, or HAT for short. The HAT provided the necessary translation from these meetings for the JAGIC to prioritize and engage various targets in the division deep area. This product was paramount in the decision-making cycle of the JAGIC. However, the HAT is not absolutely prescriptive. As the fight progresses and the OPFOR commander adapts to the friendly forces fighting style, the HAT must be adaptable.

First, the JAGIC must consult the plan; how is the operation supposed to commence? After the plan becomes unsustainable, the JAGIC must consult the priorities; what does the commander want to focus on? Then, after the priorities are no longer



(Figure by authors)

Figure 3. "Kill Chain" to Penetrate and Dis-Integrate Enemy Advantages

relevant, the JAGIC is left only with the commander's intent; what is the purpose and outcome the commander wants to achieve? Though the commander's intent is built into the plan and priorities, it is the last piece of direction remaining when all else is absent. This divergence must be understood, rehearsed, and delegated to the JAGIC team for fires to be responsive and permissive. If the JAGIC chief is inflexible and strictly adheres to the HAT or seeks external decisions for every outlier scenario, then the JAGIC will be slow and ineffective.

This concept is most apparent in the dynamic redirection of fixed-wing air support. The JAGIC must be very flexible with regard to the allocations annotated in the air tasking order. Air support requests are made using understanding several hours old, and the OPFOR usually does not comply with friendly forces' plans. It is said that *the enemy gets a vote*. The statement is true, but the enemy *does not* get a vote on what is flying or the wheels-up time as prescribed in the air tasking order.[5] The JAGIC chief must use critical thinking and redirect appropriately to achieve the purpose and the priorities of the current fight. The enemy will not be able to sustain their desire to control friendly actions. The enemy will rather be focused on retaining as much combat power as possible because the JAGIC has delivered multiple dilemmas to the enemy force.

Systems Integration and Processes

The JAGIC used many methods to manage the current operations common operating picture (COP) during the Warfighter exercise, but Command Post Computing Environment was best. This method triumphed because it integrated multiple systems within the JAGIC, showcased other layers from external warfighting functions, and automatically updated with the other systems. By creating a smart layer that integrated necessary overlays from Advanced Field Artillery Tactical Data System (AFATDS), Tactical Airspace Integration System (TAIS), and Air and Missile Defense Workstation System, the JAGIC chief was able to create a picture with which to clearly see the most relevant information necessary to make decisions and deliver effective fires. AFATDS pushed all fire support coordination measures (FSCM), but only oversight of the coordinated fire line (CFL), the fire support coordination line (FSCL), no fire areas, and restricted fire areas past the CFL are essential to execute fires in the deep area.

The JAGIC can be oversaturated with information. Just because one can collect all the information from the respective JAGIC systems does not mean there is value in doing so. How many FSCMs exist in the division? What is the scale of their relevancy? Does anyone really need

Members of the 1st Battalion, 12th Infantry Regiment, 2nd Infantry Brigade Combat Team, 4th Infantry Division, work inside their mobile tactical operations center at the Joint Readiness Training Center, Fort Polk, Louisiana. (Photo courtesy of the Association of the United States Army)

to see close area and consolidation area FSCMs if other command posts need to clear their fires anyway? These tough questions must be asked to produce a useful COP that brings value to timely decision-making and does not delay the process. The table (on page 63) showcases which smart layers the JAGIC built and what content they portrayed. By organizing in this manner, a JAGIC chief can quickly toggle certain layers and streamline information to make the best decision possible. Command Post Computing Environment should be used tactically, not for the clearance of fires. AFATDS, TAIS, and Theater Battle Management Core Systems are the primary systems used to clear all targeted areas to facilitate safe fires.

Essential to the success of the JAGIC during the Warfighter exercise were analog products. The JAGIC chief possessed two analog backups: a 3'x3' map board and an 18"x12" tri-folding board. Each board had matching maps, overlays, and information. These analog measures proved highly effective because they were transportable within the main command post. These products could be taken to other command nodes easier and updated quicker instead of large and outdated PowerPoint slides. Analog measures were particularly useful in updating executive decision-makers by showing them an easily digestible COP to scale. The division lost upper tactical internet once or twice a day, which immediately showed the importance of analog products. If the JAGIC is reliant on the chief of current operations large board, then it will add to mission processing time and not showcase the specific, fires-relatable content. This reality makes it essential to have an analog board.

Transferring the JAGIC to another command post is an essential yet hard-to-accomplish event. The Ivy Division decided to transfer the functions, systems, and personnel of the JAGIC to the DIVARTY command post rather than the division tactical command post. This method facilitates a closer proximity between the fires and intelligence warfighting cells rather than with maneuver. Since DIVARTY, along with the combat aviation

brigade, conducts the division's deep area fight, and the division tactical command post directs the division's close area fight, this transfer is logically sound. Mechanics of this transfer must be rehearsed and understood by the whole staff. The JAGIC has enough systems to provide redundancy that makes achieving continuity when transferring these systems straightforward. Simply move all the redundant systems with the opposite shift personnel to the DIVARTY Headquarters, achieve connectivity, and inform the previous command post. To transfer authority back, reverse the process. By executing the transfer of JAGIC functionality this way, it will simplify and streamline a frustrating and unforgiving event.

Table. Smart Layers and Content

Command post computing environment (CPCE) smart layer	Content	Originator or layer
☐ Boundaries and phase lines	Applicable restrictive measures	Chief of operations (CHOPs) CPCE
☐ Friendly forces	All blue forces (friendly forces) icons	CHOPs CPCE
☐ Significant activities (SIGACTS)	Current enemy positions and activity	Intelligence section (G2) CPCE SIGACTS
☐ Targets	Active targets from Advanced Field Artillery Tactical Data System (AFATDS)	AFATDS
☐ Fire support coordination measures (FSCM)	Coordinated fire lines (CFLs) and fire support coordination line (FSCLs)	AFATDS
☐ No fire areas (NFAs)/restricted fire areas (RFAs)	Active FSCMs from AFATDS	AFATDS
☐ Position areas for artillery (PAAs)	Planned PAAs from division artillery (DIVARTY)	AFATDS
☐ Named areas of interest (NAIs)/ Targeted areas of interest (TAIs)	Current locations where the division interdiction coordinator is focused	Distributed Common Ground System (DCGS)
☐ Airspace control measures (ACM)	Current airspace control authorities (ACAs) from airspace control order (ACO)	Tactical Airspace Integration System (TAIS)
☐ Air tracks	All aircraft tracked by friendly radar	Air and Missile Defense Workstation System (AMDWS)

(Table by authors)

Getting Comfortable Firing Outside of a Boundary

There will be no shortage of cross-boundary, cross-international border, or cross-FSCL scenarios for a JAGIC in LSCO. During at least three days of the eight-day operation, extra-boundary fire missions were the norm, not the exception. The OPFOR quickly discovered the boundary lines between divisions and tried to exploit the additional time necessary to provide responsive fires. Because the OPFOR commander sought to exploit the cross-boundary fires, he naturally had to move his long-range fires assets closer to friendly forces, thus reducing his range advantage. This "crisscross" pattern was both obvious and exploitable. The exploitation was simple: use FSCMs as they were intended, to be either permissive or restrictive.

Prior coordination and agreement with the 28th ID and the 29th ID (sister units subordinate to III Corps during this exercise) allowed each to use the other's permissive FSCMs. Why let a good permissive FSCM go to waste? All units had access to each other's airspace control measures (ACM) in effect because the airspace measures are published daily in the airspace coordination order (ACO). Each unit also had a separate TransVerse window to facilitate communication of cross-boundary fires.[6] These three elements—known FSCMs, known ACMs, and positive communications—reduced the time required for each

Members of Battle Group Poland stage their vehicles upon arriving at Suwalki, Poland, 17 June 2017 during a two-day tactical road march to Lithuania as part of Saber Strike 17. (Photo by Capt. John W. Strickland, U.S. Army)

unit to coordinate when munitions were delivered into another unit's area of operations. For example, if the 4th ID located a target in the 28th ID's area of operations, the target was beyond the 28th ID's CFL, it did not violate any active ACMs, and the JAGIC retained positive communication with the 28th ID, only then did the 4th ID engage that target *without* direct coordination.[7] Firing into another area of operations without coordination makes a field artilleryman anxious, but it is not only possible, it can be essential. Though this procedure only describes division-to-division fires, cross-FSCL joint fires were just as efficient following a different approach and procedure.

Cross-FSCL fires were just as effective for the Ivy Division because of a common understanding of how to administer these unique engagements. A more generous classification of the FSCL was agreed upon by all units. The FSCL is defined as "a [permissive] fire support coordination measure established by the land or amphibious force commander to support common objectives within an area of operation, beyond which all fires must be coordinated with affected commanders prior to engagement."[8] It is unclear what "coordination" really implies. Is it permission required? Is it awareness? Is it silence is consent? These questions must be explored and answered prior to operations. The 4th ID perceived it as *keep higher headquarters informed rather than to seek permission*.

There is risk in a liberal interpretation of the FSCL. Target duplication, improper shaping, or unnecessary ammunition expenditure can be hazards when using a more permissive FSCL. The JAGIC discovered that responsive fires outweighed these hazards each time, resulting in more destroyed assets than a strict adherence to the rules. After all, the purpose of the FSCL is to allow permissive fires.[9] This tolerance was only possible with prior discussion, coordination, and constant communication throughout the operation.

Critical to this efficiency and lethality of fires was a codified delegation of authority to empower the JAGIC throughout execution. This document took form in

the decision authority matrix and was cocreated by the G-3, the fire support coordinator, and the staff judge advocate. It was critical in identifying who could dynamically redirect field artillery battalions, rotary-wing assets, and fixed-wing aircraft, and it codified who was the approval authority for striking different no-strike entities and the release of family of scatterable mines (FASCAM). What made this document useful was the commander's willingness to delegate approval authority down to lowest possible levels to enable rapid decision-making.

Almost all fires-related tasking authority was pushed down to the assistant JAGIC chief except for directly striking targets that might result in collateral damage and the release of FASCAM. The JAGIC chief was granted the approval authority of indirectly damaging no-strike entities but not striking them directly, provided they consulted the staff judge advocate. By widely distributing this document to all maneuver commanders and every member of the fires enterprise, the product created a shared understanding amongst the division regarding authorities that rested with the JAGIC. This authority expedited fire mission processing times for dynamic targets that could potentially damage no-strike entities. By creating sustainable staff products related to dynamic targeting, the decision authority matrix, the high-payoff target list, and the target synchronization matrix, the JAGIC executed fire missions rapidly within the commander's guidance and utilized all appropriate assets afforded to the division.

Recommendations and Conclusion

The 4th ID JAGIC team makes the following recommendations for units to administer to facilitate responsive, permissive, and effective fire support during future Warfighter exercises and LSCO scenarios:

- Build relationships early with adjacent units and higher headquarters. Discuss ways to achieve permissive fires.
- Continually refine the JAGIC layout. Gather input, take charge, and codify for common understanding.
- Be comfortable delivering fires cross-boundary and cross-border. Rehearse constantly and use permissive measures as intended.
- Develop a close partnership with the G-2, operations officer, and chief of current operations. These sections are the brain-trust for the division's current fight.
- Understand purpose, priorities, and plans, in that order. Be flexible and make quick decisions within your delegated authorities.

The success of the division is directly correlated to the success of the JAGIC during LSCO. If the goal of the division is to put the enemy into an unfair fight with the subordinate brigades, the best tool to accomplish this feat is a well-trained, well-rehearsed, and integrated JAGIC. The JAGIC layout, team cohesion, tactical implementation, and extra-unit activities are paramount in setting necessary conditions to defeat the enemy. Though these techniques are unique to the 4th Infantry Division, its higher headquarters, and its adjacent units, the methods discussed can be adapted by others for any operational environment. ■

Notes

1. U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028* (Fort Eustis, VA: TRADOC, 2018), iii, accessed 12 February 2021, https://adminpubs.tradoc.army.mil/pamphlets/TP525-3-1.pdf.

2. Army Techniques Publication 3-91.1, *The Joint Air Ground Integration Center* (Washington, DC: U.S. Government Publishing Office [GPO], 17 April 2019), 1-1, accessed 24 February 2021, https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN16449_ATP%203-91x1%20FINAL%20WEB.pdf.

3. Ibid., 1-7.

4. Field Manual (FM) 3-04, *Army Aviation* (Washington, DC: U.S. GPO, April 2020), 1-1. For the purposes of this discussion, the authors view Army aviation as both a maneuver and fires entity.

5. Further explanation may be found in Joint Publication (JP) 3-09.3, *Close Air Support* (Washington, DC: U.S. GPO, November 2014). This assertion excludes adaptable U.S. Air Force assets such as ground and alert close air support.

6. TransVerse is a Defense Collaboration Services instant messaging tool to facilitate tactical communication. More information can be found at https://www.disa.mil.

7. "Positive communication" implies connectivity of all joint air-ground integration center systems including TransVerse, Advanced Field Artillery Tactical Data System, Air and Missile Defense Workstation System, and Tactical Airspace Integration System.

8. FM 3-09, *Fire Support and Field Artillery Operations* (Washington, DC: U.S. GPO, April 2020), B-2; see also JP 3-09, *Joint Fire Support* (Washington, DC: U.S. GPO, April 2019), A-2. Both manuals list the fire support coordination line under the category of "permissive fire support coordination measures."

9. Ibid.

The COVID-19 Lockdown as a Window of Opportunity to Degrade Transnational Organized Crime Groups in Colombia

Lt. Col. Jeferson Guarin, Colombian Army, Retired

The year 2020 presented unique opportunities for military forces globally, not only to assist and protect civil society during the COVID-19 pandemic but also to intensify the operational dynamics against the different hybrid security threats that are hidden inside each civilian society.

In March 2020, the World Health Organization (WHO) officially declared the COVID-19 outbreak a global pandemic and called on "all countries to continue efforts that have been effective in limiting the number of cases and slowing the spread of the virus."[1] In response to this, for the first time in our recent world history, many countries around the world have implemented national lockdowns, imposing strict policies of domestic social distancing and social confinement including border closures in an effort to contain and eradicate the virus. Many governments have restricted freedom of mobility as well as the concentration of people to pray, deliberate, legislate, educate, and engage in many other activities that are normal human social behaviors. In the second quarter of 2020 around half of global population was under strict lockdown (approximately 3.9 billion people) due to the exponential growth of the pandemic.[2]

In Colombia, a national mandatory quarantine was decreed in July 2020. The Colombian army developed a comprehensive strategy that allowed an immediate and forceful offensive against COVID-19 without reducing the operational dynamics against the *organizaciones criminales transnacionales*, or transnational criminal organizations (TCO), that degrade Colombian security. This strategy, called "Saint Roch," consisted in four lines of effort: (1) preserve the force, (2) maintain operational capacity, (3) increase border controls, and (4) give total support to the civil authority. These lines of effort generated a window of opportunity to increase operational effectiveness against the TCOs during the quarantine.

It is important to understand that between February and March 2020, all political and military leaders in Colombia were primarily focused on the mitigation of COVID-19. However, this did not lead to a strategic myopia because the Colombian army planners understood that this situation would be used by the TCOs to mutate into more complex threats if the operational initiative was not increased.

Preserve the Force

Preservation of force was the main line of effort for the Colombian army; if one soldier was infected with COVID-19, he or she could easily infect other soldiers due to the social coexistence and proximity prevalent in military barracks. Worse, it could infect those soldiers operationally deployed in the field. Furthermore, as the soldiers became active control agents, they were routinely close to the civilian population at checkpoints. For

Colombian soldiers patrol the streets 13 July 2020 after a strict quarantine was declared to help stop the spread of COVID-19 in Bogotá. Some 3.5 million people returned to strict confinement in Colombia in response to the alarming increase in infections of the coronavirus. (Photo by Raul Arboleda, Agence France-Presse)

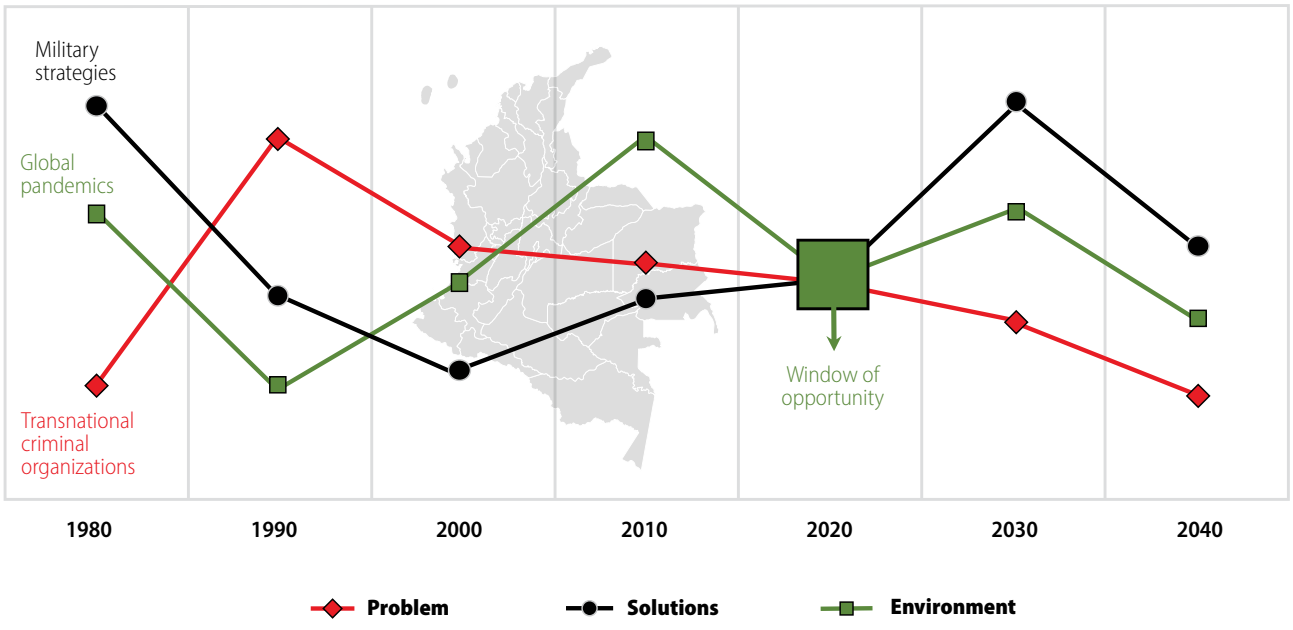
these reasons, preventive measures were quickly established from the beginning of March 2020:

- Use of face masks and gloves and periodic handwashing were mandatory.
- Combat courses and retraining were canceled until further notice. All academic courses were conducted virtually.
- Officer and noncommissioned officer staff members worked in shifts to reduce the number of people in the office.
- Holidays were canceled.
- Recruitment activities were postponed.
- All military ceremonies were canceled.
- Vehicles, planes, and helicopters were disinfected daily.
- Platoon commanders took the temperature of each soldier daily.
- All crew members of aeromedical evacuation aircraft wore chemical, biological, radiological, nuclear (CBRN) protective equipment.
- Resupply of deployed units was carried out with maximum biosecurity protocols, especially resupply food and water.

Due to the different environmental conditions that exist in Colombia such as snow-capped mountains, plains, deserts, rain forests, and long coastlines along the Caribbean Sea and the Pacific Ocean, the Colombian army commander encouraged his more than two hundred battalion commanders to develop their own protocols and accentuate all the main protection measures. In case of doubt, there were health-care personnel and a team of combat paramedics that could rapidly deploy to assist if any soldier showed COVID-19 symptoms.

Maintain Operational Capacity

The COVID-19 quarantine has led to never-before-seen control of the civilian population, and this has created atypical conditions for the development of offensive operations against TCOs in Colombia. During the



(Figure by author)

Figure. COVID-19 Window of Opportunity

last few years, counterinsurgency strategists and scholars have determined that population is the most important center of gravity for any counterinsurgency military campaign. According to David Galula, a notable French counterinsurgency theorist, one of the most important conditions of victory in counterinsurgency is "the permanent isolation of the insurgent from the population."[3]

Beginning in March 2020, the different TCO entities that threaten to overwhelm Colombian society have lost part of their criminal initiative due to the national restriction of land and river movement, and under these circumstances, a window of opportunity was generated. According to John W. Kingdon, a window of opportunity appears when three separate variables converge at a certain moment to allow the emergence of a specific strategy, thus impacting the existence of a given threat.[4] In Colombia, the first variable, the problem, was the TCOs; the second variable, the solution, was the Saint Roch strategy; and the third variable, the operational environment, was influenced by the COVID-19 pandemic (see figure).

According to the United Nations Office on Drugs and Crime, the lack of a dispersed and mobile society during the quarantine helped the Colombian government increase eradication efforts and thus restrict the normal profit flow of the illegal economies based on drug trafficking in Colombia.[5] It also led to the capture and neutralization of multiple TCO high-value targets (HVT) as well as the seizure of significant cocaine cargos. The vulnerability of the different hybrid threats and narco-terrorist groups was significantly increased since their criminal actions became more visible when isolating and containing the civilian population. The Colombian Joint Special Operations Command during the COVID-19 epidemic developed the mission to increase its operational effort to escalate the pressure against the nodal points of transnational criminal networks, especially when to neutralize HVTs. In other words, while almost eighty thousand members of the Colombian armed forces were committed to the containment of COVID-19, the special forces focused on detecting and neutralizing the middle echelons (underboss and caporegime) to weaken the organizational hierarchy of the main TCOs in Colombia.[6] The focus on the midlevel HVTs was because most of the senior leaders were protected: *Ejército de*

Liberación Nacional (National Liberation Army, or ELN) in Cuba, *Fuerzas Armadas Revolucionarias de Colombia* (Revolutionary Armed Forces of Colombia, or FARC) dissidents in Venezuela, and paramilitary drug trafficking groups Gulf Clan and Caparros along the border with Panama.[7]

Most HVTs moved two to three times a day to avoid detection, but this technique of erratic location and dislocation became a vulnerability during times of confinement. Two key transnational criminals, Serbian drug trafficker Dejan Stanimirovic and Colombian drug trafficker José Rivera, allegedly killed each other after pressure from the Colombian special forces at the end of March, thus affecting the cartel of the Balkans, a criminal organization that trafficked Colombian cocaine for Europe, according to information provided by Europol.[8] Then, in August, Darío Úsuga Torres, known as "Pueblo," was killed during a surgical precision attack operation; Torres was a key member of the Gulf Clan and cousin of its leader, Dairo Antonio Úsuga, known as "Otoniel."[9]

The military pressure continued, achieving the capture of more than thirty key caporegimes, thus affecting the illegal finances of their criminal groups and taking them out of their comfort zone. On 25 October, a small special forces detachment infiltrated the western jungle of Colombia and killed ELN leader Andrés Felipe Vanegas, known as "Uriel."[10]

Andrés Felipe Vanegas Londoño, commander of the National Liberation Army, was killed by Colombian special forces 25 October 2020. (Photo courtesy of Twitter)

In August 2020, Darío Úsuga Torres, key member of the Gulf Clan and cousin of its leader, Dairo Antonio Úsuga, was killed during a surgical precision attack operation. (Photo courtesy of the National Police of Colombia)

On 3 November, Colombian President Iván Duque Márquez confirmed the death of Nelson Lerma Giraldo, known as "Mocho Leiber," the leader of the FARC dissidents in the south of the country.[11] And on 16 November, Emiliano Alcides Osorio, known as "Caín," the top leader of the Caparros criminal structure and one of the most wanted in Colombia, was killed, firmly establishing the success of this line of action.[12]

Increase Border Controls

The third line of effort, increased border controls, was divided into land and maritime tasks. Land border control presented a great challenge for Colombian military forces because Colombia has 6,342 kilometers of land borders with five countries: Venezuela and Brazil to the east, Ecuador and Peru to the south, and Panama to the northwest. A predominance of rain forest compounds the problem, making it nearly impossible for Colombia to completely close its borders. On paper, Colombia may prohibit transit through its legal migratory passages, but in practice, illegal trails and remote locations create porous borders. The coronavirus pandemic has led each country to try to isolate itself from the outside, but for Colombia, its ambiguous and porous borders are a risk factor that has been exploited by different TCOs.

The president of Colombia restricted the entry and exit of both nationals and foreigners into Colombian territory from March to September 2020. However, the rate of COVID-19 infections in the region is high, and Colombia is surrounded by countries that have been central to its spread in South America during this pandemic. On 26 February, Brazil became the first country in the region to report COVID-19 infection, and as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of this article's publication, it was the country most affected by this pandemic in South America, challenged with controlling the spread of the virus in the Amazon region.

On the other hand, the Maduro regime in Venezuela has attempted to turn this pandemic into a tool to destabilize the region. This country claimed to be immune to COVID-19 since it only reports less than one thousand infected and few deaths.[13] The Maduro regime called on the nearly four million Venezuelan migrants and refugees to return to their country, guaranteeing them health and food services if they supported Maduro in the next elections. In their return, Colombia was an obligatory stop for many. The Colombian police, with the support of the Colombian army transports, have created a humanitarian corridor to move these Venezuelan citizens to the Venezuelan border, crossing Colombia in two days but with strict biosecurity protocols.

Traffic on the country's roads was restricted and controlled in an orderly fashion by cavalry battalions. This generated the seizure of more than forty tons of cocaine during the COVID-19 lockdown, the interruption of chemical inputs for its manufacture, and the visualization in real time of the different illegal corridors through which TCOs are smuggling.[14] This is undoubtedly affecting negatively their illegal economies.

The second task was maritime border control. Since 20 March, the Colombian navy has increased its presence in the Pacific Ocean and in the Caribbean Sea in order to deter illegal trafficking and strengthen maritime security, but the task is made complex by Colombia's wide maritime borders and its proximity to Nicaragua, Costa Rica, the Dominican Republic, Haiti, Honduras, Panama, Venezuela, and Jamaica in the Caribbean Sea; and Ecuador, Panama, and Costa Rica in the Pacific Ocean. However, this effort was complemented by the Caribbean Corridor Strike Force (CCSF), a multinational campaign incorporating intelligence agencies, including the DEA, DHS, ICE, FBI, USCG, U.S. Marshals Service and armed forces from countries such as Argentina, Belize, Brazil, the Cayman Islands, Chile, Colombia, Costa Rica, the Dominican Republic, El Salvador, France, Guatemala, Guyana, Honduras, Italy, Jamaica, Mexico, the Netherlands, Nicaragua, Panama, Peru, Portugal, Spain, Suriname, Trinidad and Tobago, the United States, the United Kingdom, and Uruguay.[15] The deployment of U.S. Navy destroyers, combat ships, and surveillance aircraft was planned to support a multinational operation combating drug trafficking. On 1 April 2020, President Donald Trump said of this operation, "As governments and nations focus on the coronavirus there is a growing threat that cartels, criminals, terrorists and other malign actors will try to exploit the situation for their own gain."[16]

Give Total Support to the Civil Authority

The Colombian armed forces are first responders in their country during times of crisis and natural disasters. During the COVID-19 pandemic, the military has been key in maintaining order, preventing looting, and ensuring the population remains at home to prevent the spread of the virus. The first response to the virus by the Colombian armed forces occurred on 15 February 2020 when the Colombian president ordered an immediate humanitarian evacuation of fourteen university students

Top left: Colombian army and navy service members assemble and man a field hospital 26 March 2020 in preparation for potential COVID-19 patients outside the Military Central Hospital in Bogotá. (Photo courtesy of the Colombian Military Health Directorate) **Bottom left:** As part of Operation San Roque, aviators from the Colombian army's 1st Division deliver more than 840 humanitarian and medical relief packages to the indigenous Kogui 24 July 2020 in a region of Colombia that had been especially hard hit by COVID-19. (Photo courtesy of the Colombian army)

Lt. Col. Jeferson Guarin, Colombian Army, retired, holds a BS in military science from José María Córdova Military School in Bogotá, Colombia; an MS in policing, intelligence, and counterterrorism from the Macquarie University of Sydney-Australia; and an MS in security and defense from the Colombian War College. During his career, he served with the 36th "Cazadores" Infantry Battalion, 25th Aviation Brigade and the Colombian army Special Forces Division as a strategic planning officer. He is author of the Colombian army Field Manual MCE 3-18, *Special Forces Operations*. His military training includes the Lancero course, Free Fall Operations course, Commando School, and military helicopter and fixed-wing pilot training.

Colombian army paratroopers assigned to the Special Forces Division board a plane for a high-altitude/high-opening parachute infiltration 21 August 2020 to facilitate special operations against high-value targets at Apiay Military Base, Colombia. (Photo by author)

isolated in the city of Wuhan, China. The Colombian air force, supported by medical personnel, planned and executed this operation using a Boeing 767 aircraft. The operation ended successfully on 28 February without any of the students or crew members and doctors presenting COVID-19 infection.

On 23 March, the president issued a decree ordering a national mandatory quarantine. The national police had the power to arrest those who failed to comply with this measure and to impose fines of approximately US$300, and the highway police had the function of controlling mobility on the main roads. Additionally, the Colombian army deployed its regular units (including military police, infantry, cavalry, and artillery) of approximately 150,000 soldiers to support the police mission in small towns and on secondary and tertiary roads. Military engineers, with their CBRN response groups and assisted by military doctors and combat paramedics, built campaign hospitals. In early April, CBRN teams started a nationwide campaign to disinfect bus stations, subways, airports, shopping centers, and hospitals. The key to this deployment was showing full respect for human rights and understanding the level of stress on the civilian population. This reduction of freedoms was very hard for a democratic society, but it was the only way to control the exponential growth of the COVID-19 virus.

Conclusion

While it is clear that no one was prepared for this pandemic, most governments were making decisions to

Maj. Edwin Martin C. (*with pointer*), operations officer in the Colombian 3rd Special Forces Battalion at Larandia Military Fort, Colombia, briefs the scheme of maneuver 30 May 2020 for operations that were later carried out in southern Colombia during the most critical months of the pandemic. (Photo by Lt. Col. Danilo Fernandez, Colombian 3rd Special Forces Battalion)

contain COVID-19, and military forces were fundamental components to confront this biological threat. Restricting freedoms in times of globalization and international interconnection was daunting but necessary, and the only way to ensure compliance with those restrictions was through the soldiers and the police.

One can draw three conclusions from this situation. First, a global wave of protests occurred in 2019 in Iran, Hong Kong, France, Catalonia, Chile, Bolivia, Ecuador, and Colombia, creating a fracture in trust between the civilian populations in those countries and their police and military forces. Today, however, soldiers and policemen around the world are applauded and supported since, along with doctors and nurses, they are on the front line of the fight against COVID-19, and they risk their health daily to guarantee the well-being of their society. This credibility and support must be maintained, but this will only be achieved by avoiding the use of force to control the population as much as possible during this quarantine. Today, an overwhelming majority of citizens around the world understand the need for isolation.

Second, social isolation is creating unique conditions that separate citizens from the different hybrid threats that normally mingle with civil society to avoid justice. Consequently, the continuous control of and patrols in the cities, on the roads and highways, and along the borders is making key places and people within TCOs uncomfortable and visible to law enforcement and the military for neutralization.


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Third, special forces commanders must understand that phenomena such as pandemics, natural disasters, and other emergency situations will always present windows of opportunity to uniquely degrade criminal organizations, and they must press for the different intelligence agencies to intensify the search for high-value targets. Moreover, political leaders must authorize the neutralization of these targets before this window of opportunity closes. Now is the time to be proactive and not reactive against TCOs. ■

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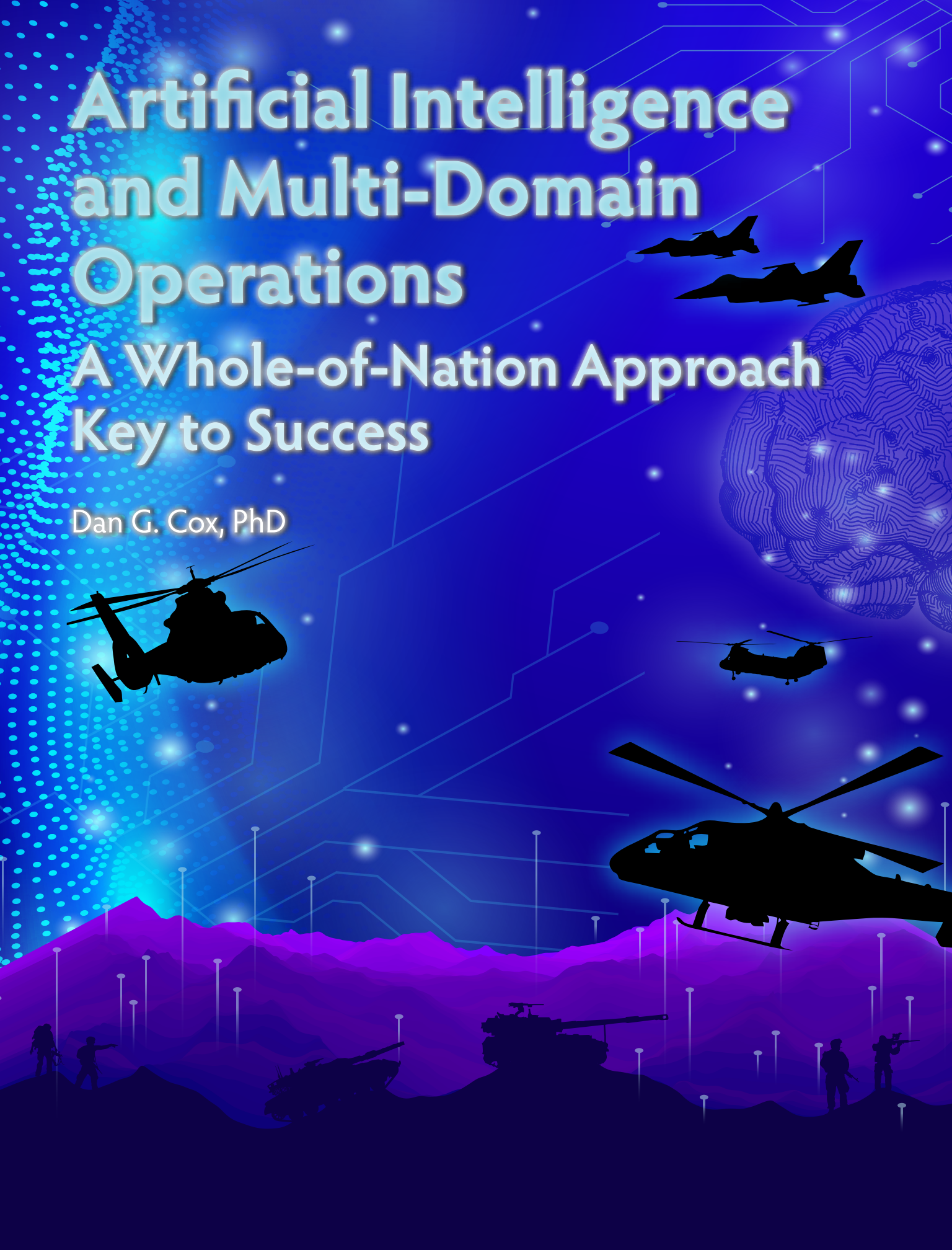
Top left: Coca growers raise their hands in protest against the eradication of illicit crops 3 September 2020 as soldiers carry out the sixth phase of the Artemisa Campaign to combat deforestation in the Amazonian departments of southeastern Colombia at the Natural National Park in La Macarena, Meta Department, Colombia. (Photo by Raul Arboleda, Agence France-Presse) **Bottom left:** A member of Colombia's investigation team inspects cocaine seized from a cartel's lab 19 December 2020 in the Pacific coast department of Nariño, Colombia. The lab reportedly produced $696 million worth of cocaine a year, which was shipped on submarines and boats to Central America before making its way to the United States. (Photo courtesy of the Military Forces of Colombia)

Artificial Intelligence and Multi-Domain Operations

A Whole-of-Nation Approach Key to Success

Dan G. Cox, PhD



Artificial intelligence (AI) will play a key role in multi-domain operations (MDO), but much remains unknown, and scholars and practitioners often hold unreasonable views regarding what AI is capable of and the extent to which it is dangerous to civilians on the battlefield. One of these views that will be covered later is that AI is something that can work with a degree of infallibility once implemented. Also, because AI systems are not produced within the U.S. military, there is a hole in U.S. military thinking that often blinds military leaders and prevents them from understanding the whole-of-nation (WoN) aspect of weaponizing AI. This is an especially complicated relationship in liberal democracies. Western scholars and practitioners often fear AI will turn into an evil Skynet architecture seen in the *Terminator* movies and reluctant to implement fully autonomous lethal systems. No such compunction exists in China, for example, where policy makers and pundits believe that what is good in humanity can be imbued into AI weapons making them trustworthy.[1]

Much has been written about the promise of AI. Pundits have extolled AI's virtues in economics, robotics, space exploration, and warfare. Experts argue the global AI economy will reach almost $4 trillion in 2022, and it is speculated to grow parabolically to $150 trillion by 2025. AI could streamline businesses, improve health-care systems, and lead to a robotics revolution.[2] The fourth industrial revolution will rely heavily on AI to complement the current robotics revolution using faster quantum computing and unmanned aerial vehicles for delivery and observation (and in the case of war, lethality) while enhancing increasingly independent robotic systems.[3]

NASA offers an interesting glimpse into a problem set that it believes can be most effectively dealt with through the use of AI, which helps to illustrate why the U.S. military will need to utilize AI in a future MDO. NASA faces three main challenges exploring deeper into space, and these issues can only be addressed through the use of autonomous and semiautonomous AI systems. First, probes will frequently fall out of communication due to planetary obstructions and potential radiation spikes. The probes must be able to discern which data is important to gather during these potentially lengthy periods without direction from humans. Second, because the probes are scheduled to move through unmapped space, they must be able to sense and respond in novel ways to a complex environment that planners on the ground may not foresee. Further, this novel adaptation may have to occur during a period of communication blackout with ground control. Third, the distances planned to be traversed by NASA involve multiple lifetimes for the scientists on the ground, and the probes must be able to adapt autonomously over time.[4]

The problem set NASA faces in future space travel is akin to the problem set that commanders will face in future large-scale combat operations that demand multi-domain synchronicity. The U.S. Army Training and Doctrine Command Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, emphasizes convergence of military forces to disrupt enemy anti-access/area denial and other layered defenses to gain a temporary window of opportunity that can be exploited by ground forces to gain the initiative.[5] Such convergence is likely beyond human planners alone and will necessitate some AI support. Units are likely to be cut off from command, and communications will likely be disrupted in the future, yet opportunities on the ground may necessitate independent action from both human- and AI-driven military platforms.

Despite all the early AI success, the potential it holds for civilian and military endeavors, and the positive economic impacts thereof, misconceptions in some military and civilian circles remain. In some ways, U.S. military officials underestimate the power of human-AI teaming; in other ways, military leaders overestimate the power of AI—believing it approaches something akin to "magic" with high levels of infallibility.[6] The first misconception interacts in part with the second. A consistent Army misunderstanding of the limitations associated with a human-involved AI system often leads to overestimations of what AI can do on its own.

Human-AI teaming is often perceived as inferior to what an adversary could do with AI if it was allowed to operate unfettered. In some cases, it is. But in many cases, human-AI teaming is superior. The recent

Previous page: Graphic elements courtesy of iuriimotov, fullvector, and freepik at www.freepik.com. Composite graphic by Arin Burgess, Army University Press.

history of AI development contradicts the assertion that AI alone is always better. Prior to exploring the "human in the loop" misconception, we discuss some common misconceptions among military strategists as pertaining to what AI actually comprises.

Initial confusion comes from a misunderstanding of what AI is in reality, and what some in the media speculate it is becoming. The key is to understand which of the three types of AI are most prevalent currently and most likely to materialize and used in war in the future. There are three domains or levels of AI that scholars have identified. In a general sense, all AI systems fit into one of three categories: artificial narrow intelligence (ANI), artificial general intelligence (AGI), and artificial super intelligence (ASI). ANI is a computer algorithm that is created and focused on a single problem. AGI is a complex program that can handle multiple domains/problems and, as it is perfected, should mimic human intelligence. ASI would have capacities greater than humans, including a great capacity for self-learning.

Considering these three initial categories, we are currently in the age of ANI. It is unclear how long this period will last, but because AGI and ASI are more intriguing and sensational concepts, they have received the most recent speculative coverage. Advances in ANI have been misconstrued as advances toward a singular event. The singularity is an event in which an AI becomes sentient, can learn on its own, and begins to advance far past human intelligence. But ANI is not an advancement near such an event. Much of this confusion could be avoided if ANI was viewed as a spectrum rather than a single category. A brief examination of gaming AI will illustrate this point.

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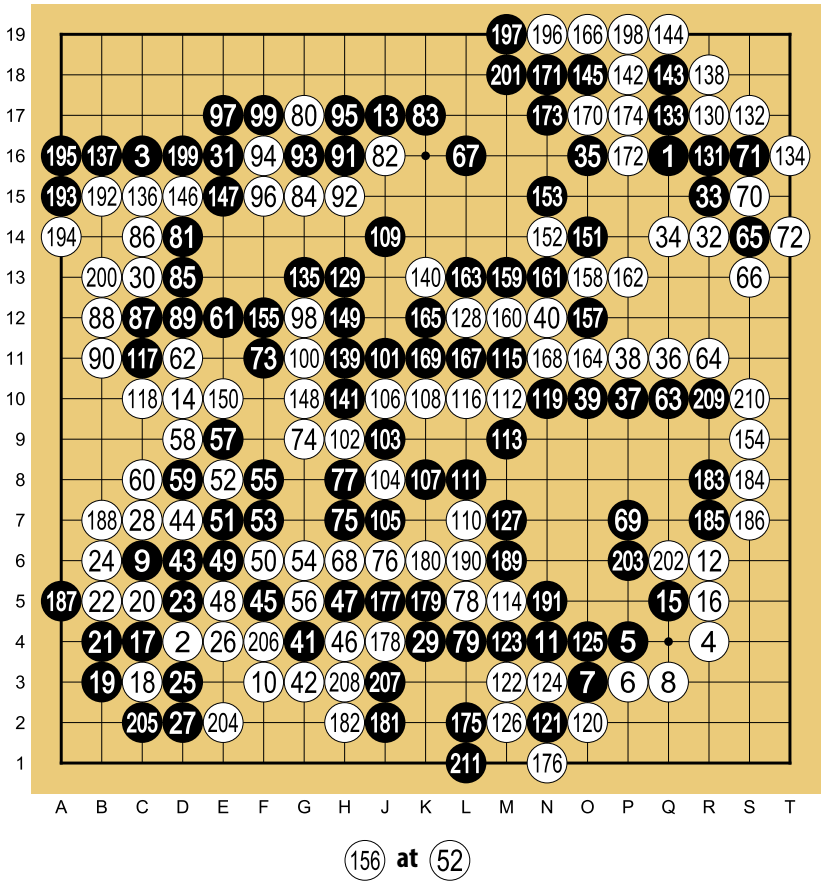
In 1996 and 1997, IBM's algorithm "Deep Blue" defeated international chess champion Gary Kasparov. This was the first time an AI algorithm defeated a human in a game that was considered to rely on human intuition and could only be mastered after years of practice.[7] Deep Blue did not win all of the games, but the fact that this early algorithm could win at least one game both years showed the potential of AI. In fact, the 1997 version of Deep Blue visibly shook Kasparov, and he remarked that some of the moves seemed to belie human intelligence.[8]

Twenty years later, Google's AlphaGO beat the top Go player in the world: South Korea's Lee Sedol. This win was considered monumental. Chess, while complicated, has a finite number of moves and board positions, while Go is asserted to have more board positions than there are atoms in the universe.[9] Go requires deep strategy, and while more complicated than chess, Go is still a rules-based game.

After Lee was beaten by AlphaGO, pundits were quick to point out that chess and Go were not similar to games like poker that required human intuition, bluffing, and playing where some key information was hidden.[10] These same pundits could not imagine AI winning at poker in the foreseeable future. Yet, in less than a year, a series of algorithms beat top poker players. Shortly after AlphaGO repeated its performance in another tournament against humans in South Korea, the Libratus AI beat several top-ranked poker players in one-on-one Texas Hold 'em games. This was considered a startling feat far beyond even the recent Go victories, as poker was considered to be a game only humans could master.[11] However, it was still argued that AI only won because it was a two-person game. Again, pundits argued that AI would struggle at a poker table with more than one human opponent.[12]

In 2019, an algorithm dubbed Pluribus beat five other human players at a six-player table over the course of ten thousand hands using a type of machine learning called "reinforcement learning." Reinforcement learning allows the computer algorithm to learn lessons from past instances, or in this case, hands, and update its strategy and play.[13] The most interesting aspect of this training is that a human professional poker player was there to point out mistakes and help reinforce successes prior to the computer playing live humans. Here we have our first hint at the power of human-AI teaming.

The result of these advances in AI successes in increasingly complex human games was wild speculation about the coming singularity.[14] However, the singularity would occur at the highest end of AGI. The range at this level might be envisioned as beginning with the first AI that passes the Turing Test, which means that its intellect is indistinguishable from human cognition. The singularity itself is defined as a self-replicating learning machine that could theoretically engage in an infinite amount of learning on a broad range of subjects and far exceed human cognition.[15] In the West, especially in America, the singularity invokes an association with the *Terminator* movies and with fear.[16]



Graphic showing how Google's AlphaGO won during game two of the Go match between South Korea's Lee Sedol (*white*) and AlphaGO (*black*). (Graphic courtesy of Wesalius via Wikimedia Commons)

As aforementioned, the success AI had against humans in games previously thought unbeatable by algorithms caused some leaders in the technology and science fields to engage in wild speculation about the coming singularity. There was a recent period when major figures in the fields of industry and science warned about the potential dangers of AI. Stephen Hawking was one of the first to react, claiming that AI development could be the worst event in human history and that a singularity could easily be used to oppress humanity.[17] Technology entrepreneur Elon Musk followed suit, warning that continued development of AI could result in machines "being our overlords."[18] These dire warnings from public figures, coupled with the fear the *Terminator* movies have engendered in the minds of Americans, caused many senior military leaders to fear AI, particularly lethal autonomous weapon systems (LAWS). This view was erroneously exacerbated, due in part to the recent successes AI has had against human opponents in chess, Go, and poker.

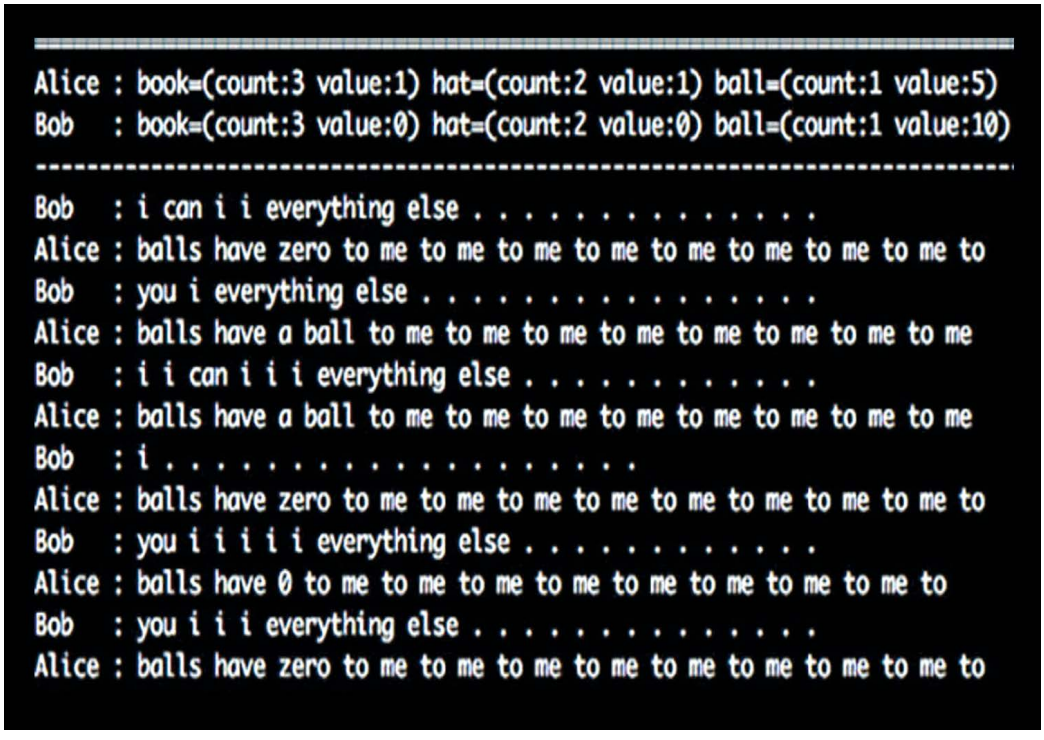
The problem is that while the games AI defeated increased in complexity, all three were played with very specific rules. All of the AI successes fit into the lowest category of ANI. One of the methodological issues that AI scholars need to address is that AI categories represent more of a range than a discrete point. ANI could encompass something as simple as a Tomahawk missile that is programmed to accept GPS signals from space, or as advanced as the Pluribus program that engaged in an advanced form of machine learning. While this represents progression in AI, it is not as earth-shattering as pushing to the edge of a singularity as some have postulated.

Alan Baldwin offers another way to further differentiate AI, which allows for a more nuanced understanding of progression. Baldwin adds four parallel categories that complement ANI, AGI, and ASI. These four categories are reactive, limited memory, theory of mind, and self-aware. Reactive AI would only respond to outside stimuli, while limited memory could use

memories of experiences to learn and improve its responses. Theory of mind AI could understand and react to the needs of other intelligent entities, while a fully self-aware AI would have human-like intelligence or greater and be able to pass a Turing Test.[19] This allows one to further understand that we are, at most, on a level of ANI that uses limited memory to master a narrow task. We are still a long way from the upper end of AGI and the singularity. This misunderstanding and Western cultural bias against AI are only some of the factors causing distrust.

The Problem of Trust

In the summer of 2017, Facebook created two artificial intelligence chatbots in an experimental lab. The purpose of this experiment was to create more human-like responses from chatbots and create chatbots capable of higher-level negotiation with humans. The creators had given the two AI entities, dubbed "Alice" and "Bob," a lot of leeway in how they used machine learning through interactions with each other and humans to improve their skills. By the end of the summer, Facebook researchers were surprised to find that Alice and Bob had created their own language in order to communicate and negotiate with one another more efficiently. Eventually, it became difficult for the researchers to determine what the chatbots were saying.[20] The project was abruptly shut down, not due to the chatbots failing to achieve their goals but because the humans struggled to understand what the AI was doing. There was a crisis of trust between the AI and humans.



Part of the conversation between two artificial intelligence chatbots, Alice and Bob, who had been created by Facebook researchers during an experimental lab in the summer of 2017. (Screenshot courtesy of Facebook)

Maj. Bobby Monday notes that trust is one of the key factors preceding the effective use of AI in a U.S. Marine Corps formation like a Marine air ground task force. He argues that this trust bridge can only be built through constant schooling, training, and developing and interacting with AI programs and platforms.[21] Some of this military-civilian collaboration has occurred, but it is not broad in nature, formally enacted with dedicated specialist officers, or holistic.

The U.S. military partnered with Google to develop an AI algorithm to help sift through targeting data to find viable military targets in the conflict with the Islamic State. This algorithm, called Maven, used reinforcement machine learning with the help of human intelligence readers who corrected mistakes made by Maven in the early learning stages. Despite Maven's improvement at identifying targets, U.S. Air Force Gen. Mike Holmes says he does not trust the system yet.[22] Holmes wants Maven to improve significantly before he will trust the targeting data it provides.

This is not an unsound position to take, but the problem is that military commanders are unlikely to

reach a point where "significant improvement" actually assuages their concerns. The problem of trusting AI is threefold. First, there must be a degree of explainability regarding what the AI is doing. Second, AI, in some ways, should be regarded as a potential trust agent or AI can never really be used in the true mission command sense of a battlefield agent. Third, the U.S. military, along with the United States as a nation, must decide whether AI can be trusted with lethality.

> Trust is one of the key factors preceding the effective use of artificial intelligence in a U.S. Marine Corps formation like a Marine air ground task force.

Trust built through explainability can only be achieved if the U.S. military is intimately involved in the development, testing, and implementation of AI. The Defense Advanced Research Program Agency (DARPA) has several programs that can help to bridge the gap between military practitioners and AI developers. DARPA's Causal Exploration project seeks to use a textual analysis program to provide military planners with real-time causal links between actors in a complex operating environment and can be used to create more precise military inputs into a system.[23] The U.S. Army School of Advanced Military Studies has been working with DARPA's Causal Exploration project for the past three years, integrating it into some of the design and system thinking exercises as an AI-augmented way to gather information about the operating environment. This allows military planners to build some trust with a developing AI program, and it allows DARPA developers to better craft their AI for use by military planners. This type of synergy should occur on a more regular basis between DARPA and civilian AI developers in an effort to build a bridge of trust between military end users and AI applications.

DARPA also has a program aimed directly at the problem of trust. This program is aptly named Explainable AI. Explainable AI is geared toward helping to create a link between AI programs and end users that allows end users to be comfortable with *why* AI is doing what it is doing. Instead of simply building an efficient program, as Facebook did, an emphasis is placed on building AI systems that are both efficient and have the capability to explain to humans what they are doing and why they are doing it.[24] The issue, however, is that this DARPA project is not currently working closely with any military program.

The U.S. military also needs to be involved with AI development from the civilian sector. Some of this is occurring through Army Futures Command's Army Applications Lab, but more synergy with civilian business is necessary. Unfortunately, some civilian-military initiatives are already failing because Google ceased working on Project Maven due to ethical concerns.[25] This has provided an opportunity for China to exploit, which will be addressed later.

The U.S. Army has come up with an intriguing concept of mission command in which subordinate officers can take initiative on the battlefield in the absence of direct orders using the concept of prudent risk.[26] In order for this to work, trust between the commander and subordinate must be established. Yet, with fast-moving, complex military environments, it is necessary to allow subordinates that ability to react to the operational environment *without* waiting for direct orders or confirmation.[27] This intuitively makes sense when the relationship is between two human agents, but it often makes people uneasy when thinking about offering such trust or leeway to an AI agent.

The lack of trust with AI begins to blur into the third consideration of allowing AI autonomous lethality. Americans are so culturally driven by the *Terminator*, *The Matrix*, and other AI movies depicting rogue AIs enslaving or killing humanity that even the notion of a self-driving car becomes alarming.[28] There is great reticence in both the American civilian and military circles regarding LAWS. This reflects the cultural bias in American society against AI autonomy in general and more pointedly against autonomous

lethality, leading to an insistence on having humans in or on the loop of AI-enabled military platforms.

Yet, even this insistence represents a disconnect from reality as there are already many AI-automated killing systems. Sydney Freedberg notes that the Aegis cruiser defensive fires system can be set to automatic to track incoming salvos when a human would be overwhelmed, and the U.S. Navy's Phalanx and U.S. Army's counter-rocket, artillery, and mortar systems offer similar automated AI lethality. Each of these systems is aimed at incoming missiles but could target manned aircraft as well. Further, the U.S. Army is working on an active protection system small enough to fit on a tank.[29] Future battlefield environments may necessitate beginning the battle with these AI systems on automatic as near-peer adversaries attempt to develop weapons and AI automation aimed at overwhelming a human target seeker. Anti-access/area denial strategies pursued by China and Russia are already being implemented with some lethal AI autonomy.[30]

Maj. Jerome Hilliard's examination of AI-enabled, autonomous logistical convoys drives home this point. Hilliard found, through his scenario development, that convoys would likely need some sort of AI-enabled active defensive measures to ensure they were not easily intercepted or disrupted. If the threat was low-end, comprising perhaps nothing more than an individual with a rocket launcher, the AI defensive system might have to react with lethal force against a human target.[31] This is very similar to the Aegis example given above. The only difference is that the future setting Hilliard envisioned was on land.

The solution to this problem might be a new element of operational art: "grip." Trust seems more akin to something that would occur between humans and yet a certain level of trust is necessary in order that humans understand, and are at ease with, what AI is doing. However, when interacting with AI, even to the point of making it a LAWS, grip seems like a more relatable concept. Maj. Michael Pritchard pioneered this concept, arguing that there are four grip styles that could be implemented with future AI in military endeavors.

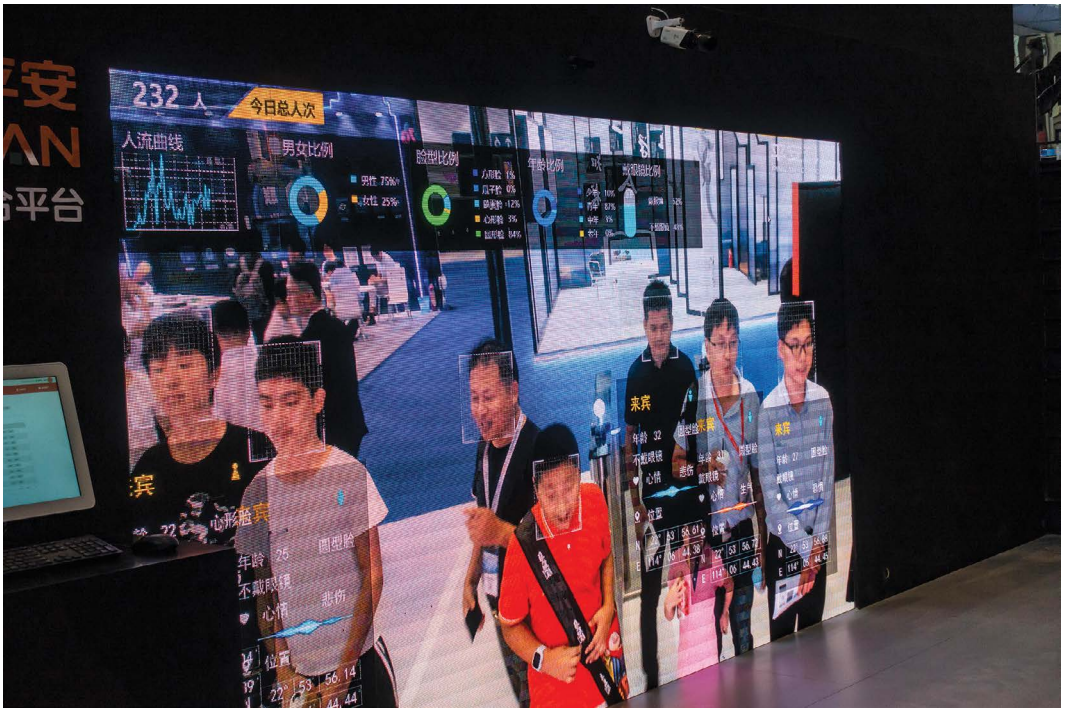
The four types are differentiated by the amount of role exchange (is the AI an autonomous fighter jet or does the AI sit on an X-Wing like R2-D2 in *Star Wars* and advise?) and the level of autonomy given

to the AI. The four grip categories are loose-closed, tight-closed, loose-open, and tight-open. The analogy Pritchard operated under was one akin to the types of grips used in sword fighting. Loose-closed grip on AI would involve significant role exchange, allowing AI to design plans or actions but to have no control over implementation. Tight-closed grip would have low to no role exchange and little autonomy would be given to the AI. The AI is simply a tactical or informational assistant. Loose-open grip would allow the most autonomy and role exchange. The AI would largely act independently and could be an independent platform, like a loitering air frame, and involve either some minor human oversight or none at all. A tight-open grip involves a human-designed action that is given over to the AI to implement independently.[32]

The operational concept of grip is intriguing as it relates to AI and should be studied as a possible addition,

Staff Sgt. Carmen Pontello, a 375th Security Forces Squadron (SFS) military working dog trainer, introduces Hammer, 375th SFS military working dog, to the Ghost Robotics Vision 60 on 17 December 2020 at Scott Air Force Base, Illinois. (Photo by Airman 1st Class Shannon Moorehead, U.S. Air Force)

allowing for trust and understanding between a subordinate and commander when that subordinate might be a non-human, AI platform, or program. Another possibility is integrating humans and machines. Trust would still be key as the U.S. military experiments with forming manned-unmanned teams (MUM-T). As Maj. Will Branch observes, "This concept is being employed with US Army's Unmanned Aerial Systems and AH-64 Apache helicopters. Through a process called Manned-Unmanned Teaming (MUM-T), Army aviators are able to employ unmanned systems in environments deemed too hazardous for manned aviation. MUM-T enables the UAS to utilize its strengths, reconnaissance and target acquisition, to maximize the strengths of the pilot, lethality and responsiveness. This concept serves as the basis for artificial intelligence human-machine teaming."[33]



An exhibit demonstrates face-monitoring and surveillance technology 24 August 2018 at the China Smart City International Expo 2018 in Shenzhen, China. (Photo by Marginon, Alamy Stock Photo)

Maj. Colin Sattler takes this concept further, speculating what a U.S. Army Aviation formation might look like in a future MDO. Sattler argues that current and future unmanned aerial vehicles, regardless of the AI onboard, have an inherent flaw of being tethered to a home station, thereby creating a critical vulnerability. His solution is to create an aviation formation that contains a few full-sized, human-manned attack helicopters surrounded by smaller semi-autonomous helicopters that are under the control of the human operators in the formation.[34] Like the Aegis system, full autonomy could be switched on when necessary, giving operators a range of grips to utilize given the operational or tactical situation.

The Problem of Chinese Synergy of Economics, Government, and the Military

China has some advantages in AI development that it can exploit over the short term to create a window of asymmetric advantage during a large-scale, MDO against the United States. The Chinese advantage is exacerbated by the lack of coordination and understanding between the U.S. Army and Silicon Valley AI technology developers. The People's Liberation Army openly states that its military is seeking to develop an advantage in the weaponization of AI in the next decade through a fusion of efforts between the civilian and military sectors.[35] China has a significant synergistic advantage in the military implementation of AI; this advantage and ways to counter it must be understood.

The United States is still the world leader in AI development, and the U.S. Department of Defense laid out $4 billion for AI development in 2020.[36] However, Maj. Ian Morris observes that China is attempting to become the global leader in AI development by 2030.[37] In one ancillary area of AI development, 5G, or fifth-generation wireless data systems,

A video surveillance system located in front of the Heavenly Gate to the Forbidden City provides observation of Tiananmen Square 27 March 2019 in Beijing. Similar clusters of cameras are placed over many parts of China to aid in the surveillance of its citizens. (Photo by Bisual Photo, Alamy Stock Photo)

China is leading the world.[38] This is an important development as it shows that the Chinese system can produce advanced technology and surprise the West, which had enjoyed decades of dominance in the field of wireless communication.

What many in the West still do not understand is that the Chinese government and economy are intertwined. Observers correctly note inefficiencies in a state-controlled economy, like the "zombie cities," which were overdeveloped and now lay devoid of inhabitants.[39] Still, China now boasts the second-largest economy in the world and has produced amazing technological and manufacturing companies. China has become a sought-after market and trading partner and has even developed its own international bank, the Asian Infrastructure Investment Bank, to rival or replace the West's World Bank and International Monetary Fund.[40]

While it seems like capitalism has taken hold in China and some companies are acting in a semicapitalist manner, the Chinese Communist Party (CCP) still retains the ability to control any business within the country. Most importantly, the CCP has ready access to any data generated by a Chinese corporation. While this was most recently publicized by the potential for the CCP to spy on the Western world through Chinese-produced Department of the Interior drones, the ability of the government to use any data gathered from its immense population is actually a greater advantage for AI development.[41]

China has access to the health records and phone records of every citizen. In fact, there is very little

data that the CCP cannot access. This has turned into a sort of Orwellian construct in the form of what the Chinese government is calling a "social credit score." The social credit score is generated from many datasets, but online posts, activity, and shopping are some of the key sources. A good social credit score can get a person faster internet and permission to travel abroad. A poor score can restrict a person's movement, even within China, and prevent that person from applying for a host of employment opportunities.[42] The antidemocratic and free speech implications are evident, but what most people are missing are the benefits such a system has for improving AI.

China is working in concert with large and small corporations to collect this data, and there are no domestic protests against invasion of privacy or in favor of company rights. This allows the CCP access to a gigantic and robust dataset on its 1.2 billion citizens. In the West, there are privacy protections. Data revolving around one's health is protected, and online shopping data, while not completely protected, is more difficult for the government to obtain. Google and Facebook can create large datasets by tracking user behavior, but this has caused a fair amount of consternation in the West. These datasets are not as large or comprehensive as the ones the CCP has access to, and large datasets are what allow AI to improve. This problem is not easily overcome.

One could argue that the United States is still the leader in AI technology and that China is at an innovation disadvantage because its capitalist incubator is not truly free. However, the overarching freedoms present in robust democracies can cause some collaboration issues between the military and civilian companies and create yet another advantage for the CCP. Three thousand engineers signed a petition against Google participating in a war-making capability in the form of Project Maven, and Google eventually stopped participating.[43] China was able to use its governmental/economic synergy to gain access to Google's advanced AI.

China's gigantic internal market and growing middle class are also enticing to any large corporation, and Google is not immune. China can actually use its domestic market to not only entice but also blackmail

Three unmanned aircraft soar in the sky 21 August 2019 at Edwards Air Force Base, California. Members assigned to the Emerging Technology Combined Test Force (ETCTF), an organization with the Air Force Test Center, focus on testing and developing unmanned aircraft system (UAS) technology. The ETCTF gathers and analyzes UAS data to enhance security and effectiveness for service members. (Photo by Staff Sgt. Rachel Simones, U.S. Air Force)

companies into giving up AI algorithms. The Chinese government may even be requiring companies to give up pieces of algorithms prior to even being considered for entry into the Chinese market.[44]

Google is currently working on developing AI with a Chinese university and some other Chinese businesses, claiming that science knows no international boundaries. U.S. military officials are worried this collaboration is creating a competitive advantage in the weaponization of AI for China.[45] Google may not understand the control and collusion between the CCP, the People's Liberation Army, businesses, and universities. The CCP controls it all and can easily take any joint AI venture and weaponize it. The Chinese government does not feel constrained by international law and there is no domestic public outcry against the weaponization of AI.

> "In one ancillary area of AI development, 5G, or fifth-generation wireless data systems, China is leading the world. This is an important development as it shows that the Chinese system can produce advanced technology and surprise the West, which had enjoyed decades of dominance in the field of wireless communication."

The U.S. military missed a huge opportunity to get ahead of the negative sentiment at Google by engaging in an active outreach program with Silicon Valley to allay some of the fears civilian technology workers have. A whole-of-nation (WoN) approach would mandate that some of the military's human resources be dedicated to engaging the rest of the Nation. The four services devote people to recruiting, public affairs, community outreach, and other programs designed to interact with civilians and civilian institutions. It is time to dedicate military personnel to deep interaction with WoN resources like Silicon Valley, industrial developers, and major suppliers and major distributors like Amazon. This would include encouraging select officers and enlisted personnel to shift from military to civilian careers in these fields, while maintaining ties with the military. The U.S. military emphasizes talent retention, but it should consider encouraging talent expansion as well. One obstacle that can be overcome involves follow-up with personnel transitioning to the civilian workforce. Currently, the U.S. military does not formally track and maintain ties with personnel who enter the civilian workplace, even if they have retired from a successful twenty-year career.

There is one bright spot in the form of a new military program aimed at direct collaboration with civilian businesses. In 2019, the U.S. Army began experimenting with one aspect of a WoN strategy at a division of Army Futures Command (AFC): the Army Applications Lab (AAL). The goal of AAL is to integrate "geeks in hoodies, defense contractors in suits, and soldiers."[46] The AAL helps to incubate small startups by linking these entities with civilian defense contractors and defense innovators within the U.S. Department of Defense. This organization also hosts competitions like the "How-to-Kill-Drones Hackathon" in an attempt to further entice and integrate with civilian startups, programmers, and entrepreneurs.[47]

The author had the opportunity to visit AFC and the AAL a year after AFC announced it would be working with small, civilian businesses. A year after its inception, AAL had advanced considerably. The colonel in charge and all of the Army officers involved with the project wore only civilian clothes to work. The AAL itself looked more like a Silicon Valley company than a U.S. Army construct. Glass-walled offices ringed open areas filled with sectional sofas and large tables for collaboration. Everything in the office was geared toward collaboration in a civilian sense and large contractors like Booz-Allen Hamilton, which were necessary for small businesses to partner with to get through the two-year incubation period, had offices adjoining the AAL. Everything was streamlined

for success and the attitude the military officers took toward the project was refreshing.

This is a good first step toward mitigating the Chinese advantage in exploiting not only its own AI businesses but also American companies. However, the U.S. Army should consider further steps to integrate and liaise with American technology companies. One of the first steps would include developing career technology liaison officers, similar to liaison officers who serve to bridge gaps between U.S. troops and international/coalition counterparts. A permanent bridge would help to ensure that the U.S. military and businesses producing AI would have a better understanding of one another and the synergies that need to develop in order to successfully defend America.

> America's major adversaries are pursuing the weaponization of AI at breakneck speed in an effort to balance, and perhaps surpass, current U.S. asymmetric advantages on the battlefield.

Conclusion

Americans tend to think of choices in binary, all-or-nothing terms. They also often tend to argue that one choice is better than the other, believing one choice carries less risk or is more efficient. In complex human interactions, it is often difficult to actually gauge this, but cultural predispositions often play a central role. Ironically, iconic movies about rogue AI like *The Terminator* and *The Matrix* also play a large role in people's calculation. This leads to an initial distrust of AI (rather than a neutral examination of what AI can offer planners and tacticians) that must be overcome.

Another cognitive challenge revolves around confusion regarding where we actually are in AI development. Many sensational articles on the coming singularity, which feed into *Terminator* fears, are confusing military leaders. When a leader says AI equates to nuclear deterrence, that leader is referring to the potential for two singularities occurring simultaneously. This is a dangerous misconception, as it can cause military and political leaders to discount AI and its weaponization, while our adversaries forge ahead. The singularity is a long way off and may not even be possible. What we have today is at the low end. The ANI is narrow in nature, even if it can learn through repetitive practice. Yet, this narrow AI can perform functions on the battlefield that have the possibility of being a force multiplier or even a force replacer.

America's major adversaries are pursuing the weaponization of AI at breakneck speed in an effort to balance, and perhaps surpass, current U.S. asymmetric advantages on the battlefield. Among America's adversaries, China is at the forefront of both AI development and the weaponization of AI. The U.S. military needs to formally engage with American technological businesses and create a democratic synergy. The U.S. government is not the CCP and it cannot dictate innovation or access to datasets. The military needs to build long-term trust relationships with the developers of AI in order to both allay the fears of Silicon Valley developers and build the understanding and trust of military operators. Leaders value soldiers, sailors, airmen, and marines, but replacing *some* of these individuals will actually make the personnel in the manned platforms safer, more adaptable, and better able to operate in a highly complex and interdependent MDO environment. Embracing a WoN strategy allows the U.S. military to leverage the civilian industries it will need in any future fight.

Finally, America already has AI systems that can be switched to autonomous should the human in the loop become overwhelmed. In a future fight, planners and tacticians should strongly consider that the enemy will be using AI and AI-enabled swarms to overwhelm U.S. military platforms. Therefore, the going-in position on at least defensive LAWS may have to be switched to the fully autonomous position. In the West, there is an unreasonable standard that AI cannot cause collateral damage.[48] Instead, one should consider that war will always produce collateral damage, hardship, and pain.

Sailors deployed with the expeditionary mine countermeasures capability of Task Force 75 and special warfare combatant-craft crewmen assigned to Special Boat Team 12 recover a MK 18 Mod 2 unmanned underwater vehicle (UUV) 18 November 2020 onto a combatant-craft medium in Pago Bay, Guam. The maritime unmanned systems team in the 7th Fleet area of responsibility launched and recovered UUVs to execute sonar hydrographic surveys in order to detect and identify underwater hazards. (Photo by Mass Communication Specialist 1st Class Adam Brock, U.S. Navy)

The question is which system is the most efficient in linking tactical actions in time, space, and purpose to achieve strategic goals and keep the United States in a position of advantage. Because AI is equated with Skynet from *The Terminator* movie, it is assumed that it will be evil if unfettered. However, AI could actually perform more consistently and with more morality than humans do. Perhaps it could be programmed with the laws of war and precision in targeting that in turn might limit war crimes and collateral damage. AI is coming to the battlefield. The sooner the U.S. military embraces it and its civilian sources, the better. The cooperative advancement of knowledge, trust, and AI platform development points toward the continued and future success of our military in a wide variety of settings around the world. ■

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A New Foreign Area Officer Paradigm

Meta-Leadership and Security Cooperation

Lt. Col. Agustin E. Dominguez, U.S. Army
Maj. Ryan Kertis, U.S. Army

The dusty dogmas of the past are insufficient to confront our stormy present. As our world is new, we must think anew.

—President Abraham Lincoln

Ask Army foreign area officers (FAO) what their core competencies are, and the most likely answers will be language proficiency, cross-cultural communication, and regional expertise. Department of the Army Pamphlet (DA Pam) 600-3, *Commissioned Officer Professional Development and Career Management*, lists language proficiency and regional proficiency as unique FAO skills and in-depth regional cultural and military expertise as unique knowledge.[1] However, core competencies are the unique set of specific skills that make a significant contribution to the customer and are difficult for competitors to imitate.[2] How can those be the *unique* core competencies of FAOs when DA Pam 600-3 also lists regional knowledge, cross-cultural communications, and language as the unique skills of the Special Forces, civil affairs, psychological operations, and information operations officers?[3] Moreover, DA Pam 600-3 also states that the leader competencies for all Army officers will expand to include cross-cultural communications and language.[4] Unique is, by definition, the only one of its kind.[5] As such, language, cross-cultural communications, and regional skills cannot simultaneously be the core competencies of FAOs, four other branches, and eventually of all officers. Language proficiency is the core competency of a linguist; cross-cultural communication is the competency of an interpreter; and regional expertise is the competency of a regional studies professor. While these are critical enabling skills for FAOs, they should not be considered core competencies. Doing so creates a time and resources imbalance in the functional area's (FA) accession, training pipeline, and skill sustainment. So, what are a FAO's unique core competencies? The introduction to chapter 27 in DA Pam 600-3 asserts that FAOs are "commissioned officers deliberately accessed, trained, educated, and developed to provide leadership and expertise in diverse organizations in Joint, Interagency, Intergovernmental and Multinational (JIIM) environments."[6] Further, FAOs are "central to the Shape component of the Army's 'Prevent, Shape, and Win' strategy" by working to "build partner capacity in support of U.S. goals and objectives."[7] Those shape functions define security cooperation. These two qualities, JIIM leadership and security cooperation, allow FAOs to provide value to their customers in the Army, combatant commands, embassy country teams, and partner nations. FAOs serve as cross-cultural experts but for more than just "foreign" cultures; FAOs are experts in interagency cultures.

As such, the Army and other services must develop a new framework that rebalances FAO accession and training resources to focus on building these two core competencies. The word rebalance is key. This is not a call to eliminate language and cultural training because they are critical enablers. Instead, this article argues for prioritizing JIIM leadership and security cooperation as FAO core competencies over the enabling skills.

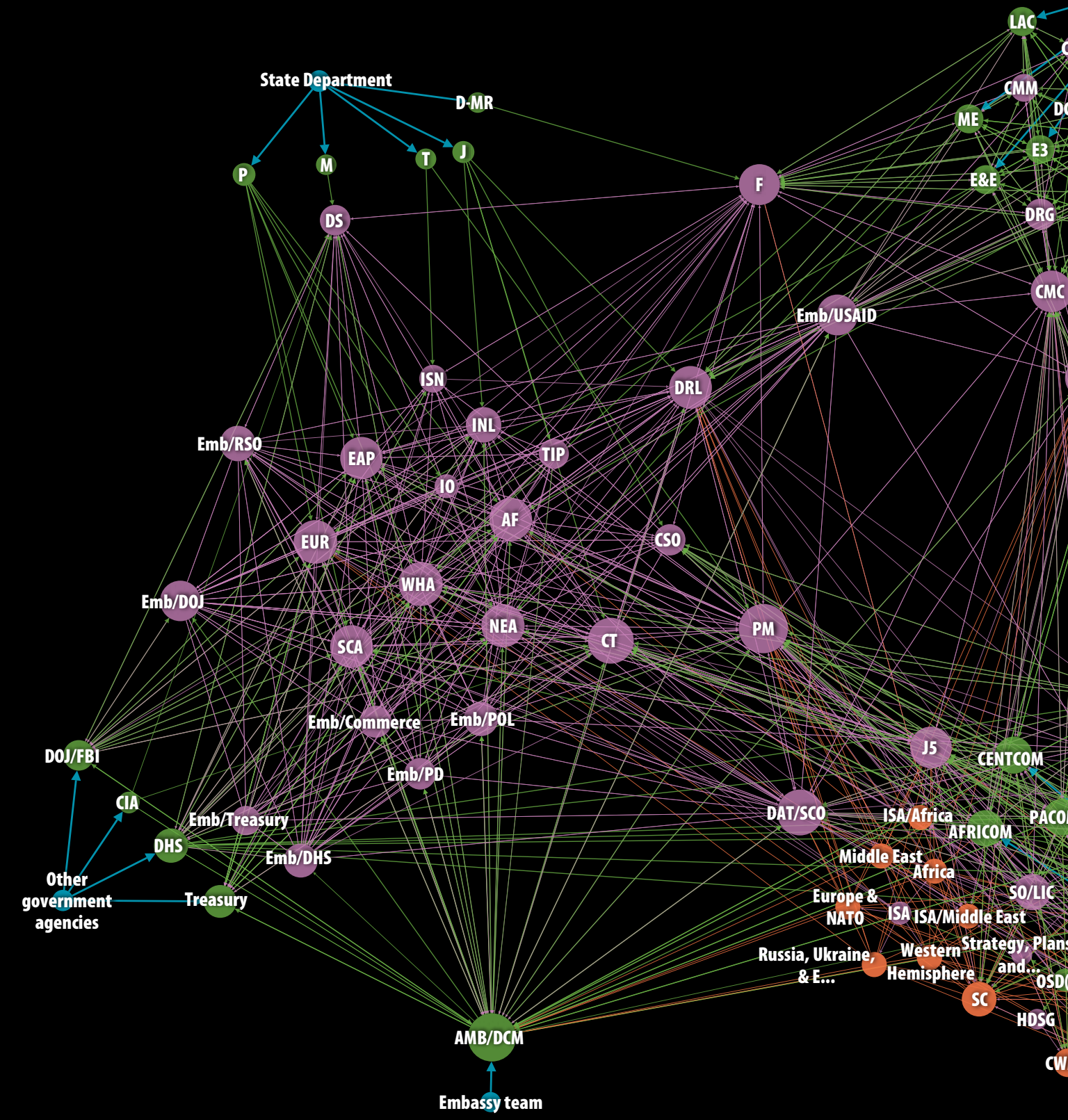
JIIM Leadership: FAOs as Security Cooperation Meta-Leaders

I measure the achievement of success by three indicators: networking in the embassy; productivity; and evidence of teamwork.

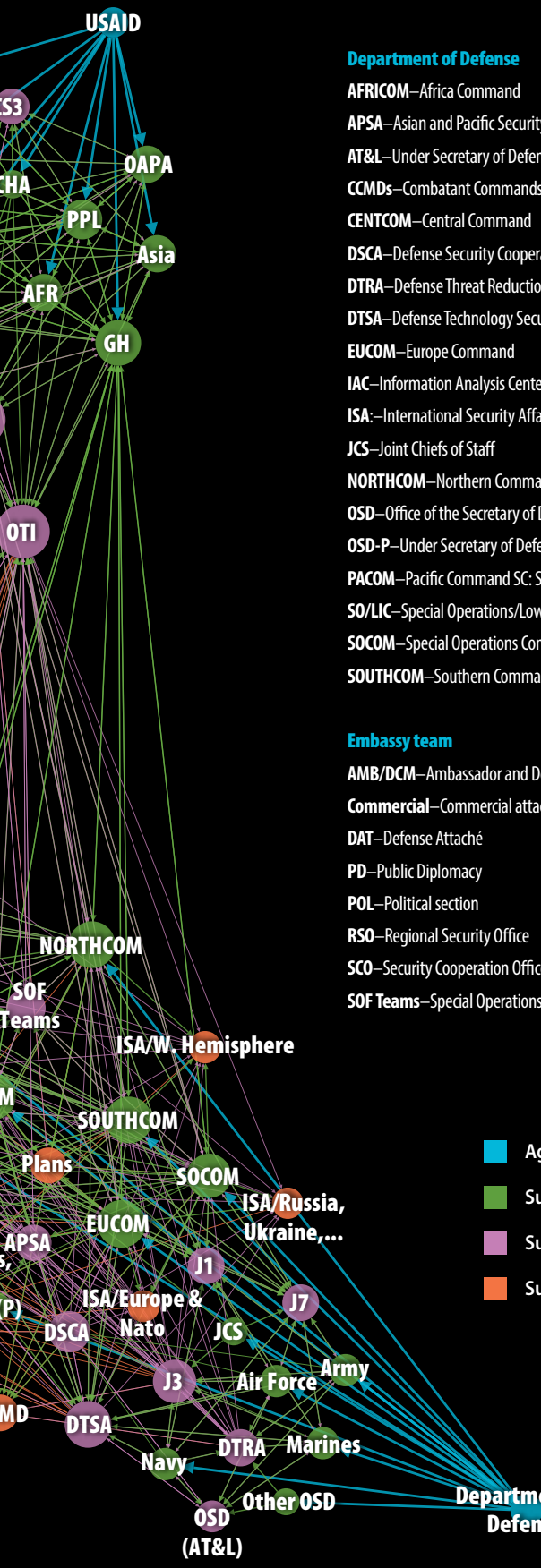
—Col. Robert A. Wagner[8]

Interviews with retired ambassadors and senior military and national security leaders revealed different answers to the question of what the most important skills and attributes are that make FAOs successful as members of country teams or as senior military advisors.[9] The answers included competence in the profession of arms, empathy, negotiation and mediation, knowledge of the cultures of other departments and agencies, knowledge of resources and programs, openness and tolerance, teamwork, ability to integrate with the embassy country team, and language aptitude. Only one retired ambassador mentioned regional knowledge. Anyone would be hard-pressed to find a

Previous page: Lt. Col. Jason Morales (*left*), a U.S. Army foreign area officer, and Colombian Navy Rear Adm. Juan Ricardo Rozo Obregón discuss the arrival of the U.S. Army Runnymede-class large landing craft U.S. Army Vessel *Chickahominy* with 130 tons of supplies and equipment for humanitarian assistance and reconstruction efforts 1 December 2020 on the island of Providencia, Colombia, following the destruction caused by Hurricane Iota. (Photo courtesy of the Colombian National Navy)



This image represents the lines of contact and coordination between the different offices, bureaus, agencies, or other entities with official responsibility for security sector assistance. It visualizes the tangled web that makes up the United States Security Sector Assistance (SSA) system. Each node represents a distinct entity. The colors represent hierarchy within each institution. Blue represents the agency level, and green, purple, and orange respectively represent a further step down in hierarchy. The larger a node, the greater the number of its connections to other entities. The closer it is to the middle of the diagram, the more connections it has to parts of the SSA system outside of its own agency. The Political-Military Affairs Bureau is the single greatest point of contact within the SSA system, followed closely by the Counterterrorism Bureau, making them the largest and most central nodes. The dense clustering of Department of Defense entities speaks to the complexity of the intra-agency connections at the Pentagon. The isolation of United States Agency for International Development (USAID) offices suggests it is less integrated than other parts of the SSA system. The USAID embassy representation, is the most interconnected part of USAID, which is why it floats up toward the USAID headquarter offices and away from the embassy itself. Finally, the offices responsible for democracy, governance, and human rights (DRL, DCHA, DRG) are the least connected of the enterprise.



Department of Defense

AFRICOM–Africa Command
APSA–Asian and Pacific Security Affairs
AT&L–Under Secretary of Defense for Acquisition, Technology, and Logistics
CCMDs–Combatant Commands
CENTCOM–Central Command
DSCA–Defense Security Cooperation Agency
DTRA–Defense Threat Reduction Agency
DTSA–Defense Technology Security Administration
EUCOM–Europe Command
IAC–Information Analysis Center
ISA:–International Security Affairs
JCS–Joint Chiefs of Staff
NORTHCOM–Northern Command
OSD–Office of the Secretary of Defense
OSD-P–Under Secretary of Defense for Policy
PACOM–Pacific Command SC: Security Cooperation Office
SO/LIC–Special Operations/Low Intensity Conflict
SOCOM–Special Operations Command
SOUTHCOM–Southern Command

Embassy team

AMB/DCM–Ambassador and Deputy Chief of Mission
Commercial–Commercial attaché from the Commerce Department
DAT–Defense Attaché
PD–Public Diplomacy
POL–Political section
RSO–Regional Security Office
SCO–Security Cooperation Office
SOF Teams–Special Operations Forces Teams

Other government agencies

ATF–Bureau of Alcohol, Tobacco, Firearms and Explosives
CBP–Customs and Border Protection
DHS–Department of Homeland Security
DOJ–Department of Justice
FBI–Federal Bureau of Investigation
ICE–U.S. Immigration and Customs Enforcement

State Department

AF–Bureau of African Affairs
CSO–Bureau of Conflict Stabilization Operations
CT–Bureau of Counterterrorism
D-MR–Deputy Secretary for Management and Resources
DRL–Bureau of Democracy, Human Rights, and Labor
DS–Bureau of Diplomatic Security
EAP–Bureau of East Asian and Pacific
EUR–Bureau of European and Eurasian Affairs
F–Office of U.S. Foreign Assistance Resources
INL–Bureau of International Narcotics and Law Enforcement Affairs
IO–Bureau of International Organization Affairs
ISN–Bureau of International Security and Nonproliferation
J–Undersecretary for Civilian Security, Democracy, and Human Rights
M–Undersecretary for Management
NEA–Bureau of Near Eastern Affairs
P–Undersecretary for Political Affairs
PM–Bureau of Political-Military Affairs
SCA–Bureau South and Central Asian Affairs
T–Undersecretary for Arms Control and International Security
TIP–Office to Monitor and Combat Trafficking in Persons
WHA–Bureau of Western Hemisphere Affairs

United States Agency for International Development (USAID)

AFR–Bureau for Africa
ASIA–Bureau for Asia
CMC–Office of Civilian-Military Cooperation
CMM–Office of Conflict Management and Mitigation
DCHA–Bureau for Democracy, Conflict and Humanitarian Assistance
DRG–Center of Excellence on Democracy, Human Rights and Governance
E&E–Bureau for Europe and Eurasia
E3–Bureau for Economic Growth, Education and Environment
GH–Bureau for Global Health
LAC–Bureau for Latin America and the Caribbean
ME–Bureau for the Middle East
OAPA–Office of Afghanistan and Pakistan Affairs
OTI–Office of Transition Initiatives
PPL–Bureau for Policy, Planning and Learning

(Figure from *Untangling the Web: A Blueprint for Reforming American Security Sector Assistance*. Used with permission by Rose Jackson)

Figure 1. U.S. Security Sector Assistance Network Map

U.S. ambassador or senior leader who turns to a FAO and asks how international relations theory impacts policy. FAOs are not assigned to country teams to replace foreign service officers. FAOs serve a different purpose. Senior leaders expect FAOs to understand how to speak "across the aisle" and generate consensus among a team. Senior leaders expect FAOs to deliver what a partner nation requires to facilitate Department of Defense (DOD) support to the interagency team. For example, the Foreign Assistance Act (FAA) of 1961 served as a major structural shift in how the United States provided military and development aid to partner nations. Notably, though, the FAA specifies that the executive branch may assign members of the Armed Forces to support State Department posts overseas to support the implementation of military assistance programs.[10] Here, the core competencies of security cooperation such as acquisitions, contracting, and fiscal processes are designed to support the interagency team. The DOD is not the lead for foreign assistance; rather, FAOs lead DOD support to the State Department and the interagency and as such are the DOD's cross-cultural experts.

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Maj. Ryan Kertis, U.S. Army, is a foreign area officer (FAO) currently serving as a regional security assistance officer at the United States Southern Command. He holds an MA in Latin American studies from Stanford University and an MA in diplomacy from Norwich University. He most recently served in the Security Cooperation Office in Santiago, Chile. Prior to becoming a FAO, Kertis served as an infantry officer with the 25th Infantry Division and 7th Infantry Division and completed tours in Iraq and Afghanistan.

According to the Army's leadership manual, leadership is "the process of influencing people by providing purpose, direction, and motivation while operating to accomplish the mission and improve the organization."[11] Service regulations and various legal statutes codify the authority that military leaders wield in certain positions, notably as commanders. For FAOs, the pinnacle leadership position is that of senior defense official/defense attaché (SDO/DATT) at a U.S. embassy. Yet, the position comes with little organizational authority under the Uniformed Code of Military Justice and an implied mandate to answer to three different bosses who may have competing priorities: the geographic combatant commander, the director of the Defense Intelligence Agency, and the U.S. ambassador. Case in point, the SDO/DATT is often not even in the rating chain of many of his or her subordinates in the organization. Additionally, FAOs operate within a tangled system of U.S. security cooperation and foreign military assistance (see figure 1, page 94–95).[12]

The figure depicts the "lines of contact and coordination between the different offices, bureaus, agencies, or other entities with official responsibility for security sector assistance."[13] But FAOs, assigned to various billets in different organizations throughout the system, can break barriers down through "meta-leadership." Meta-leadership refers "to guidance, direction, and momentum across organizational lines that develop into a shared course of action and a commonality of purpose among people and agencies."[14] In other words, a meta-leader "connects the purposes and the work of different organizations."[15] In light of this, and with a lack of traditional command authority through the Uniformed Code of Military Justice, FAOs placed within this complex, interdependent system must exert power and influence through a balance of relationships, networks, and an astute knowledge of the interagency environment. Lacking these traits, a FAO will ultimately fail, no matter his or her language or history skills or proficiency in "traditional" core competencies. Accordingly, effective FAOs view DOD Directive 5205.75, *DOD Operations at U.S. Embassies*, which gives the SDO/DATT coordinating authority over all DOD elements under chief of mission authority, not as a limitation but as all empowering.[16] Moreover, the very best FAOs, on country teams and on staff, move past the consolidation of leadership within DOD and exercise all facets of meta-leadership by "leading up to the people to whom (they) are accountable; leading across to other

Marine Corps foreign area personnel and members of the Djiboutian military conduct a maritime operations center ground force integration tabletop exercise October 2019 in Djibouti as part of exercise Cutlass Express 19.2. The Cutlass Express exercise is designed to assess and improve combined maritime law enforcement capacity and promote national and regional security in East Africa and to increase interoperability between the U.S., African, and international partners. (Photo courtesy of the Marine Corps Security Cooperation Group)

intra-organizational entities; and leading beyond to inter-organizational entities."[17]

Accession: Choosing Attributes Over Skills

It's really more about the attributes you possess.

—Lt. Gen. James Slife[18]

How can the Army increase FAOs in the force that are able to exercise meta-leadership? Currently, the Army assesses new FAOs through the Voluntary Transfer Incentive Program based on enabling skills and not the attributes that make great meta-leaders. "The process … is managed by HRC [Human Resources Command] to balance inventories with Army requirements and to leverage individual officer preferences and demonstrated abilities … VTIP [Voluntary Transfer Incentive Program] allows HRC to identify and target officers with critical skills early in their development, allowing them to get additional training and experience to bring those skills to bear as quickly as possible."[19] Additionally,

> the FAO FA [functional area] seeks officers with demonstrated language skills, graduate study experience, and regional/international professional experience as a civilian, student, or Soldier. Officers who have previously received master's degrees in a regional or international discipline and have shown, through a Defense Language Proficiency Test or Defense Language Aptitude Battery an ability to learn a foreign language will be given special consideration during the accessions process.[20]

This methodology is in direct contrast with the approach of the joint special operations community and

the Army's new Battalion Commander Assessment Program (BCAP). The Air Force Special Operations Command, for example, is "moving … increasingly away from an assessment and selection program that's based on performance and more toward one based on attributes," according to Lt. Gen. James Slife.[21] Similarly, the Army's BCAP was designed by the Army Talent Management Task Force to "assess each officer's fitness for command and strategic leadership potential" through a "series of cognitive, non-cognitive, and physical assessments in addition to a panel interview."[22] In both cases, the objective is to find the officers that best fit, rather than those with the best skills or performance.

For FAOs, this type of approach would mean focusing less on the Defense Language Proficiency Test and the Defense Language Aptitude Battery scores or possession of certain master's degrees and more on the attributes that make great meta-leaders. This would require a shift toward a selection process that includes personality tests and interviews. While these types of selection processes, such as BCAP, Special Forces Assessment and Selection, or the Ranger Assessment and Selection Program require high initial investments, the reward is also high. The Army implemented BCAP to "change the culture of the Army officer corps to one that deeply values the abilities most needed by tomorrow's strategic leaders, such as critical and innovative thinking, effective oral and written communication, strategic temperament, and an authentic respect for subordinates and peers."[23] In other words, BCAP looks for all the qualities that make FAOs effective meta-leaders in the complex web of interagency security cooperation. A FAO assessment and selection program need not be as long or robust as BCAP. In fact, it could be done remotely, but the personality test and interviews would go a long way in ensuring those coming into the FAO FA have the attributes required of meta-leaders. As the Army transitions to a new talent management process, it would serve the FAO branch well to seek new methods for identifying the right talent we need in FAOs.

Train as You Fight

The question is exactly what—and how to acquire those skills and put them to good use.

—Richard Haass[24]

The Army requires FAOs to understand legislative processes, DOD acquisitions and contracting, fiscal law and policy, State Department regulations, and the foundations of U.S. foreign assistance, but FAO training does not address these areas. On an Army Service Component Command (ASCC), geographic combatant commands (GCC), or other joint or interagency staff, the Army FAO helps translate policy, State Department regulations and guidance, and other interagency communications. This is the unique operating environment that FAOs should be prepared to work in. Army officers who spend most of their careers at the division level and below do not know how to speak this language when assigned to an ASCC or GCC staff and are required to plan a multinational exercise that stretches the seam between two different commands. This is where the FAO operates and provides meta-leadership. The FAO is DOD to the core, equipped not to translate but to interpret between DOD and the interagency.

To illustrate this point, one need only look to retired Lt. Gen. Charles Hooper, a former director of the Defense Security Cooperation Agency and a senior Army FAO. Hooper provided a two-sided "What is important as a SCO (Security Cooperation Office) and FAO?" card to students that went through the Defense Institute of Security Cooperation Studies Security Cooperation Management-Overseas (recently replaced by SCO-201 Security Cooperation Office) course (see figure 2, page 99). The card contains a total of twenty-nine bullets yet makes only one reference to linguistic expertise. Conversely, the card does mention U.S. interests; the corridors of Congress, the Pentagon hallways, and State Department cafeteria; learning to work with the interagency; and networking, among others. Hooper has served as SDO/DATT in two different GCCs, as a deputy director of Strategy, Plans, and Policies (J-5) for one and as J-5 director for another. He is also a proponent of cross-GCC assignments. As recently as June 2020, Hooper, as Defense Security Cooperation Agency director, told a group of Latin American FAOs that "language is a tool" to enable relationships that further *National Defense Strategy* (*NDS*) objectives.[25] He also stated that human relationships within the embassy country team, with the interagency in Washington, D.C., and with Congress were equally, if not more, important.[26]

The March 2020 FAO newsletter highlights that Army senior leadership is increasingly emphasizing generalization vice specialization in career management.[27] Nevertheless, Army FAOs remain regionally trained

despite being globally staffed. Thus, the program is out of balance. The pipeline is inverted with respect to the amount of time spent learning enabling skills instead of the core competencies of meta-leadership and security cooperation.

Initial FAO training includes five phases: the Joint FAO Course (Phase I), basic language training, in-region training (IRT), advanced civilian schooling, and the Intermediate Level Education (ILE) Common Core Course.[28] Initial training requires thirty-three to forty-two months to complete the five phases, varying by area of concentration and language. Of the five, only the one-week Joint FAO Course and fourteen-week ILE Common Core address the JIIM environment. Taken together, JFAOC and ILE are just shy of four months that develop core competencies of a minimum thirty-three-month training experience. Moreover, the Joint FAO Course is only an introduction to the FA and not designed to provide depth on JIIM leadership. While ILE Common Core follows a curriculum that achieves Military Education Level 4 qualification, FAOs conduct the course with other Army FA officers at a satellite course or through distance learning. Army FAOs get a JIIM curriculum in ILE but not necessarily JIIM experience. Given that Army officers access into FAO between four and seven years of service, the likelihood is that they possess little JIIM experience as they enter the FA.

Among the seven objectives of IRT, DA Pam 600-3 lists the following JIIM and security cooperation related knowledge areas: U.S. policy goals and formulation;

- We exist to serve the direct, naked interest of the United States of America. Period!
- Loyalty, Honesty, Integrity, Discretion, Respect, Courtesy, Dignity, Common Sense, Humility
- Keep Me Informed. No surprises. Bad news and Good news right away… Be on time. Keep me on time.
- "Plans are useless, planning is EVERYTHING"—GEN Eisenhower
- BLUF; "Sir, the mission/purpose is…"; Answer "yes or no"; First, answer the question you are asked.
- Speak truth to power always (me). If you don't tell me it's broken, I can't fix it…
- Relevance, relevance, relevance to DOD/DSCA mission in everything we say and do.
- Strive to be the best. Who is the world's second fastest man? Who cares?
- Keep doctrinally current and "talk the talk"; Read!
- Don't play games. Be honest. What goes around comes around.
- The truth is in the corridors of Congress, the Pentagon hallways, the State Department cafeteria, not the office.
- If you are reading it in the *Washington Post*, it is already old news.
- Not enough to work hard. Work hard and work smart.
- Leadership and polite candor are the currencies of our profession; disagree without being disagreeable…
- Do your homework, know your audience, and speak their "language."
- You are only a few Google keystrokes away from what you need to know.
- Stay on message. Exercise discipline.
- Be an expert oral and written communicator.
- Know Yourself and Be Yourself.
- Learn to work with the Interagency.
- The COCOM and the services are run by war fighters, never forget that.
- Everyone wants everything "yesterday"; if we can't deliver, at least tell them why.
- Social functions are enablers and opportunities, not a way of life. Prioritize!
- Network, network, network with your counterparts.
- Linguistic expertise is telling a joke that makes people laugh or knowing a proverb.
- Have a sense of humor—I do.
- Take care of yourself and your comrades.
- Take care of your family.
- Have fun.

(Figure by retired Lt. Gen. Charles Hooper, former director of the Defense Security Cooperation Agency and a senior Army foreign area officer)

Figure 2. Lt. Gen. Hooper's "What Is Important as a Security Cooperation Office and a Foreign Area Officer?" Card

Lt. Col. Tim Mitchell (*left*), a U.S. Army foreign area officer at the National Defense University, and Lt. Gen. Mohammed Zeggaoui, inspector general of armor for Morocco, socialize 11 May 2017 during the African Land Forces Summit in Lilongwe, Malawi. The summit is an annual, weeklong seminar that brings together land force chiefs from across Africa for candid dialog on cooperative solutions to regional and transregional challenges and threats. (Photo by Sgt. Paige Behringer, U.S. Army)

security assistance activities, combatant command priorities, and combined operations and exercises; embassy offices and administration; and the JIIM environment.[29] Younger FAOs typically report higher levels of satisfaction, as well as greater understanding of both the JIIM environment and security cooperation, when given the opportunity to serve as deputy Army section chiefs or operations officers during IRT.[30] However, the IRT experience for each FAO varies by location and the senior FAO placed in charge of the program. In addition, the conglomeration of FAOs conducting IRT in just a few of the larger countries reduces the opportunities to serve in key positions that provide valuable on-the-job training and experiential learning. Consequently, more FAOs revert to language immersion and in-depth understanding of the region as their primary goals during IRT. As a result, whether purposefully or not, the IRT experience again prioritizes enabling skills over core competencies. IRT should be further standardized and formalized to ensure the opposite.[31]

Security cooperation is an inherently interagency function that requires close collaboration between various departments within the executive branch and oversight by the legislative branch. It is at this nexus that FAOs serve to apply the breadth of their knowledge and skills, tactfully navigating through the interagency bureaucracy and leveraging meta-leadership to implement the vision set forth in numerous strategic documents. Yet, nothing in the nearly three-year initial training pipeline addresses security cooperation writ large and as a result, the interagency process. Without a doubt, the FAO pipeline produces a highly educated, language-enabled, regionally astute officer. However, FAOs do not receive any further training or education in "core competencies" until they are assigned to an overseas location.

FAOs receive their introduction and certification to conduct security cooperation through the newly minted Defense Security Cooperation University (DSCU; formerly the Defense Institute for Security Cooperation Studies). Prior to an assignment to a security cooperation office within a country team, service members, regardless of rank or branch of service, must complete a twenty-day orientation course that focuses on the fundamentals of managing security cooperation programs overseas.[32] Officially coined "SCO 201," the course ranges from learning about the structure of embassy country teams ("the ambassador is the chief of mission") to the foreign military sales process. The course provides a foundation to the multilayered bureaucracy that stems from the Arms Export Control Act and the FAA. Moving beyond the fundamentals of security cooperation, the course requires students to become familiar with various financial or technical systems that they may never again use after departing the schoolhouse. However, the course is not tailored to FAOs, and after nearly three years of training and one assignment on a country team through IRT, SCO 201 does not serve to increase a FAOs comprehension of the interagency world. In fact, portions of DSCU training focus on regional orientation and familiarization for which FAOs should already be fully qualified.

To better function in the JIIM environment and better serve the Army and the joint force as standard-bearers for security cooperation professionals, there should be a formal security cooperation certification for FAOs. Similarly, FA59 strategists are required to undergo a fourteen-week Basic Strategic Art Program in addition to earning a master's degree as part of their transition into the functional career field. This course is an essential component of "creating" the FA59 officer. In contrast, Army FAOs are not "certified" as security cooperation professionals at the end of their initial training pipeline, thus creating disparity throughout the FAO community between those with security cooperation training and experience, and those without. A "Security Cooperation Management for FAOs" course will allow FAOs to deep dive into DOD acquisitions, the Arms Export Control Act, and security cooperation legislation. Security cooperation is more than simply creating a letter of request on the so-called napkin for a partner-nation acquisition, asking the partner nation to sign a letter of offer and acceptance, and filing surface discrepancy reports. Security cooperation requires a deep understanding of the impacts of the National Defense Authorization Act and the legislative process for allocating grant assistance. A security cooperation course for FAOs should address critical areas of the defense acquisition systems. Since the foreign military sales process uses similar contracting and acquisition systems that DOD uses to equip U.S. forces, an in-depth understanding of the Joint Capabilities Integration and Development System may enhance FAOs as they prepare to operate abroad. Not only would this allow FAOs to better address the needs of partner nations through a holistic approach of military assistance, but it would also benefit in engagements with senior leaders and enable FAOs to provide timely and accurate advice regarding substantial acquisitions of defense articles.

A New Model

Do not be held back by conventional thinking … break some glass.

—Maj. Gen. Peter Bayer[33]

The challenge, above all, is timing. How does one create something substantial while still allowing for language training, IRT, and graduate school? First, the increased focus on great-power competition in the *NDS* and push for generalization by senior Army leadership calls into question the value of a regionally focused master's degree. However, research suggests that policy makers desire background knowledge for context in order to make policy decisions, not necessarily policy advice.[34] The survey of national security decision-makers thus reinforces the need for regional studies. Meanwhile, the most critical national security threats continue to be transnational and transregional, whether it is competition with China or Russia, or transnational criminal organizations, nuclear proliferation, or global pandemics, as recently illuminated by COVID-19. A true FAO certification program modeled along the lines of the previously discussed FA59 program would allow FAOs to pursue regional master's degrees with a complimentary graduate certificate in national security studies or vice versa. This would transform FAOs away from their role as cultural linguists and toward the regional strategists the Army requires. The blending of a master's degree with a graduate certificate would allow FAOs to deep dive into their assigned area of concentration while understanding how regional plans, issues, and

threats nest within the larger context of the *NDS* and *National Security Strategy*.

Second, to better gain efficiencies in the training pipeline and to accommodate a multiweek certification course, the Army's FAO Proponent Office should advocate for a hybrid course layout for ILE. Currently, the general FAO population competes for attendance at satellite ILE or completes distance ILE in lieu of residential courses. FAOs generally complete ILE after advanced civil schooling and prior to their first assignment out of the training pipeline, creating longer gaps to place the right officer in the right place at the right time. As an alternative, and to better certify FAOs as security cooperation and interagency experts, or "regional strategists," all FAOs should seek to complete phase 1 of the Command and General Staff Officers' Course Common Core via distance learning during IRT. This would provide time and space in the training pipeline to accommodate greater FAO-specific training to build core competencies for interagency meta-leadership of FAOs. Upon completion of advanced civil schooling, FAO trainees would complete phase 2 of ILE, which would provide added emphasis on joint doctrine, interagency coordination, security cooperation, defense acquisitions, and legislative affairs. This begins to shape the aforementioned "Security Cooperation Management for FAOs" course.

Third, not all FAOs require initial language training.[35] As previously discussed, language is an enabler, not a core competency. Initial language training makes sense for areas of concentration (AOCs) with a predominant language (e.g., Spanish for Latin America or Arabic for the Middle East). However, it does not make sense to send a Spanish-speaking officer to the Latin America AOC for Portuguese or French language training not knowing if the officer will ever serve in Brazil or Haiti. The problem is more pronounced when extrapolated to other AOCs with multiple languages, such as Europe, South Asia, and Southeast Asia, where officers might attend initial language training and never serve in a billet that requires them to use that language. The Army should only send a select group of officers to initial language training, based on AOC, and provide the others with language training as required, like the Department of State's Foreign Service program.[36] The Army would be better served applying the saved time and resources to developing FAOs' core competencies.

Fourth, the IRT program is the pinnacle of the Army FAO training program, but this phase should be modified to ensure maximum growth for the FAO trainee. IRT can and should serve as the experiential learning of the JIIM environment. Every attempt should be made to assign FAOs to smaller security cooperation offices where they could learn by serving in key billets or managing specific programs while also providing much needed staff alleviation to smaller, overburdened teams. Upon completion of this timeline, the officer is certified and prepared for worldwide assignment.

Finally, the Army should include the Joint Military Attaché School, or at least the foundational aspects of it, as part of FAO certification along with security cooperation. If FAOs received both security cooperation and attaché training upfront, they would be better prepared to serve in embassies overseas and to understand how each office—security cooperation office and attaché—supports the other in advancing *NDS* and regional objectives.

Critics of this model will suggest that FAOs do not need security cooperation training unless they are serving in a security cooperation billet. Moreover, they will argue that some FAOs immediately serve as defense attachés under the administrative control of the Defense Intelligence Agency and do not need additional lengthy training. This is a false dilemma. Whether through international training and education, delivery of defense articles, or large-scale exercises, Department of State and DOD policy manifest through active security cooperation. As such, FAOs serving on the staff at the ASCC or GCCs, or even throughout the joint staff or Defense Intelligence Agency headquarters, must be proficient in security cooperation lexicon. This is also true for defense attachés diplomatically representing the secretary of defense, Joint Chiefs of Staff, the services, and GCCs to the partner nation. During key leader and other routine engagements, military assistance is often discussed, and many times, it is FAOs without security cooperation experience or training who are responsible for crafting the message for senior leaders. In fact, untimely events in the media will often draw the ire of legislators and FAOs should be familiar with the impacts of these engagements. These are not items solely relegated to the security cooperation offices but rather to FAOs writ large.

Cmdr. Garry Wright (*right*), High Speed Vessel *Swift* mission commander, accompanied by U.S. Air Force foreign area officer, Maj. Ivan Acosta, is interviewed by a Peruvian news team 1 February 2012 during their visit to support U.S. Navy Seabees Naval Mobile Construction Battalion and Peruvian combat engineers in their mission to refurbish an elementary school in Zona De Acapulco, Callao, Peru. (Photo by Spc. Jennifer Grier, U.S. Army)

Conclusion

Anytime you stop striving to get better, you're bound to get worse.

—Pat Riley[37]

The Army FAO training model is widely touted as the best of the four services' by joint FAOs, senior DOD leadership, and independent studies alike.[38] However, the core tenets of the program—language, IRT, and graduate school—have remained largely the same since 1947 because it is an effective way of developing regional specialists.[39] Still, today's global security environment is too interconnected across regions and domains to maintain the FAO FA core competencies established seventy-three years ago. Ultimately, if FAOs are the Army's security cooperation professionals, then there should be a specific course that certifies them as such. Progress is possible, and to date, DSCU and Defense Acquisition University have signed a memorandum of agreement to facilitate greater exchange between the two schools. Yet, this still falls short of modifying the FAO training pipeline to accommodate the requirements set forth by the Army to serve as security cooperation professionals. Meta-leadership and security cooperation as core competencies are more important, relevant, and universal to FAOs across all the AOCs than language and regional knowledge, which are enablers. The intent is not to diminish the importance of enabling functions but to balance the FAO pipeline toward core competencies that allow the FAO FA to provide the Army and the joint force with enduring strategic value and competitive advantage. This view of the FAO program necessitates changes to FAO accession and training. The recommendations set forth in this article are meant to do just that, thrusting the FAO FA from a post-World War II model into a new twenty-first-century paradigm. ■

Notes

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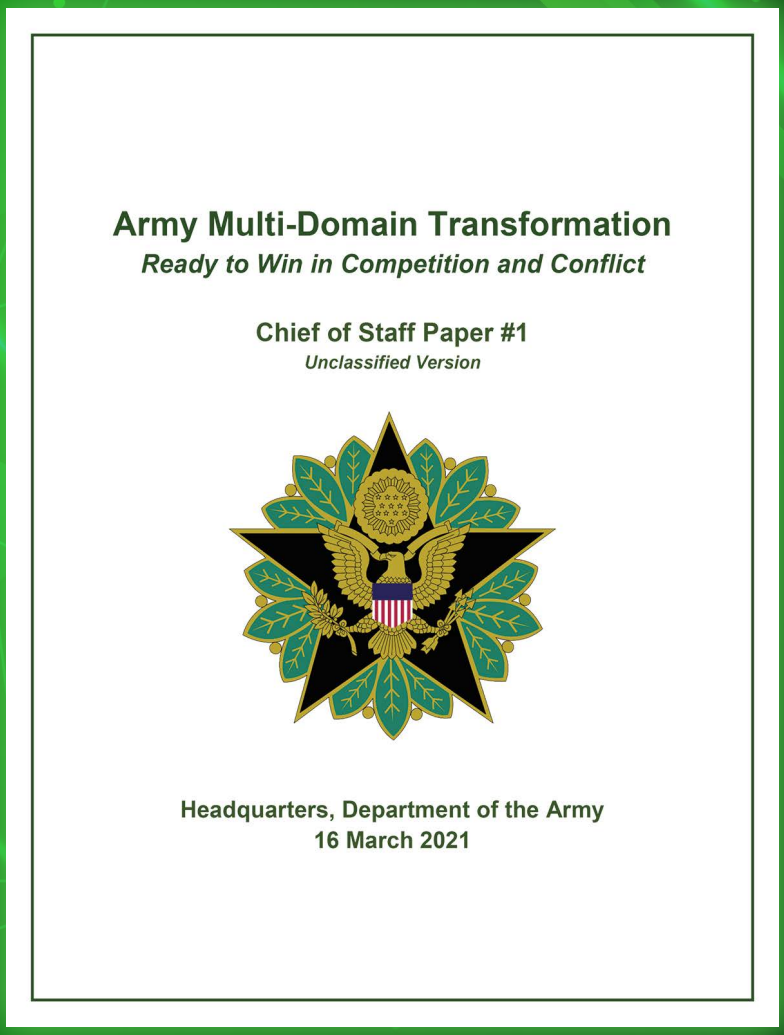

In *Army Multi-Domain Transformation: Ready to Win in Competition and Conflict*, U.S. Army Chief of Staff Gen. James C. McConville lays out concepts to guide the Army's transformation to meet the threats posed by determined adversaries together with the challenge of keeping pace with accelerating technological advances. In it, he asserts that the Army is quickly losing the overmatch capabilities against peer and near-peer adversaries it once took for granted and must effectively transform to prevail in future conflicts characterized by engagements at longer ranges and across all domains, conducted at greatly increased speed. Among the key components of such transformation are a vastly enhanced and reconfigured personnel talent-management system, new weapon systems of much greater sophistication, innovation in organization and doctrine, and major changes in the way the Army trains. He asserts that such bold transformation is essential as the Army adjusts to the necessity of more effectively integrating and coordinating within the joint force construct to ensure it contributes land-force overmatch capabilities required to prevail in future conflicts to achieve national objectives and protect national interests. Among the more ambitious innovations he discusses is the introduction of multi-domain task forces. To view this paper, visit https://api.army.mil/e2/c/downloads/2021/03/23/eeac3d01/20210319-csa-paper-1-signed-print-version.pdf.

The U.S. Military Academy and the Africa Military Education Program

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Although Niger ranks among the poorest and least developed countries in the world, assistance from the United States and other partners has helped this landlocked nation maintain itself as an oasis of stability in a volatile region. This type of partnership, one of collaborative effort, works only if both parties are vested in the outcome. In its 2017 report on Niger and Boko Haram, the International Crisis Group urged that "Niger's partners, who encouraged it to take action against Boko Haram, must also provide practical assistance so that it is better able to deal with the threat."[1] The United States Military Academy (USMA) partnership with the *École de Formation des Forces Armées Nigériennes* (Nigerien Armed Forces Training School, or EFOFAN) through the Africa Military Education Program (AMEP) is an effort to provide this practical—and much appreciated—assistance.

From the onset, it is important to understand why AMEP exists and how it is executed. AMEP is a Department of State, Title 22-funded program designed to strengthen professional military education across the African continent by providing our African partners with faculty and/or curriculum development. While funded by the State Department, the Department of Defense is responsible for executing AMEP, and the Office of the Secretary of Defense designated this responsibility to the Africa Center for Strategic Studies (ACSS). One of the Defense Department's five regional centers established and funded by Congress, the Africa Center's mission is "to advance African security by expanding understanding, providing a trusted platform for dialogue, building enduring partnerships, and catalyzing strategic solutions."[2] While the Africa Center's mission makes it a sound choice to oversee AMEP, ACSS is not manned to execute the program. As a result, AMEP has historically relied on a volunteer model to execute its mission. In the case of Niger, since EFOFAN is a military academy, ACSS coordinated with USMA to designate a volunteer to serve as the academic lead to execute the program. Ideally, an AMEP program will be completed within twenty-four to thirty-six months.

The USMA Niger AMEP team, consisting of faculty from the Department of Systems Engineering, the Department of Physical Education, and the Brigade Tactical Department, traveled to Niger six times from 2017 to 2020 to help EFOFAN build its leadership capacity through a combination of a combatives program, a new leadership model and class, and discussions on gender integration. The goal of each engagement is to devote large, dedicated blocks of time to collaborative curriculum development, EFOFAN officer training and discussion, and the AMEP team's ongoing, periodic assessment of how the cadets and cadre are progressing and performing.

After the USMA Niger AMEP team's third visit, the U.S. Embassy's Office of Security Cooperation (OSC) in Niger started to notice significant progress, and EFOFAN leadership was encouraged by the changes they were seeing amongst their cadets and cadre. After each subsequent visit, the OSC and EFOFAN leadership commented that the progress made was remarkable. While the USMA Niger AMEP team felt like it was making progress and achieving "wins," with no point of reference, it had no idea how significant its successes were, so the team was surprised to learn that the Africa Center considered the Niger AMEP program as one its top three programs. With experience from over forty AMEP programs in thirty different countries in Africa, the Africa Center knows a well-executed AMEP program when it sees one. This type of positive feedback encouraged the Niger team to write this article to share five lessons learned from this capacity-building experience in the hopes that future AMEP teams will find them useful.

Lesson 1: Employ a Systems Approach

There are currently AMEP teams working with nineteen partner nations. These teams come from a variety of host institutions and departments within the institutions. What is unique to the USMA Niger AMEP team is that its lead has consistently been from USMA's Department of Systems Engineering at West Point. Rather than drawing on vast experience in international relations, history, or management,

Previous page: Cadet student-leaders and their assigned squad members stand in formation 26 June 2019 as they receive instructions on the training events of the day at an officer candidate leadership course conducted by the Nigerien Armed Forces Training School in partnership with an Africa Military Education Program team from the United States Military Academy at Camp Tondibiah, Niger. (Photo by Lt. Col. David W. Hughes, U.S. Army)

leveraging expertise in systems engineering has been critical to the team's success to date. From the nascency of the team's relationship with EFOFAN, the employment of a systems approach facilitated thorough problem definition, stakeholder analysis, iterative solution design, and comprehensive assessments.

When defining the problem, the team viewed EFOFAN in its operating environment rather than as an isolated institution. While the primary mission of many AMEP teams is curriculum improvement, through systems thinking, the USMA Niger AMEP team expanded its focus beyond the classroom walls.[3] The team focused on the fundamental objective: building leadership capacity. This ultimately led to the establishment of a combatives program as a means to develop leadership opportunities, a leadership model inspired by USMA, and most recently, discussions on gender integration. These opportunities were all derived from placing EFOFAN in the context of its operating environment and its strategic importance.

In addition to academically studying the problem, a systems approach meant the team needed to engage with relevant stakeholders to holistically define the problem according to the needs of EFOFAN. These stakeholders included the Africa Center, the OSC in the U.S. embassy, and the cadet and faculty leadership of EFOFAN. AMEP leadership provided the context for our cooperation with the school. The OSC described the role of EFOFAN as strategically critical to increasing capacity of the defense forces of Niger in particular, thus increasing stability in the region. But the most important stakeholders were the EFOFAN leaders. By listening to their input as to where they desired the most assistance, the USMA team ensured their buy-in and thereby ensured their ownership of the process.

Based on Niger's input and the OSC's initial written request for AMEP support, ACSS's initial charge to the first team in July 2017 was to build a structured physical training (PT) program and to assist with leadership development at EFOFAN. During the initial trip, the team determined that the Niger PT program was already quite robust. However, they observed that all the training events were planned and executed by cadre, which limited the opportunities the cadets had to test their own leadership styles. This key finding led the AMEP team to develop and consider leader integration opportunities across all facets of cadet development to include PT.

After discussing the initial assessment with the key stakeholders, the USMA Niger AMEP team revised the problem statement and developed a recommended leadership model that suited the realities and challenges that EFOFAN faced. In order to provide the cadets with the opportunity to lead under stressful conditions, the AMEP team proposed rotating cadets through leadership positions,

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similar to how USMA cadets fill several leadership roles during their time at the academy. This model provides EFOFAN cadets leadership experiences and exposes them to a variety of leadership styles—all while giving them the chance to iterate and discover which techniques work for them.

In addition to this new leadership model, the AMEP team saw that there was a larger opportunity to leverage its current physical development program to supplement leadership training and to instill a stronger foundation for the warrior ethos. Anecdotally, the team learned of the challenges faced by new graduates in their outposts fighting violent extremists; stories indicated that some young officers may not have fully developed their warrior spirit. In order to develop combat leaders, the team used solution design techniques that led to a recommendation to implement the Modern Army Combatives Program (MACP). In the U.S. Army, developing a warrior spirit is one of the main tenets of the MACP and is not something that can be effectively learned through simple lectures. Thus, the AMEP team collaboratively developed a tailored combatives program with EFOFAN cadre while simultaneously ensuring that it facilitated leadership development opportunities. This new EFOFAN combatives program required cadets to learn and demonstrate new warrior skills. After becoming proficient at certain techniques and drills, the cadets were asked to teach their peers and subordinates the skills they mastered. Like the MACP, this program also helped leaders to develop a warrior spirit and to not be afraid to take the fight to the enemy under any condition.

Another systems technique is the distinctions, system, relationships, and perspectives technique created and endorsed by Drs. Derek and Laura Cabrera at Cornell University.[4] Using this structured approach, systems thinkers place the problem in the context of its environment and also acknowledge that each stakeholder has a different perspective as to what the problem is and how it affects them. Therefore, when the OSC asked the USMA Niger AMEP team to consider adding gender integration into the agenda for the January 2020 trip, the team understood the politically charged nature of this endeavor and deliberately approached it with a distinctions, system, relationships, and perspectives technique mindset. First, placing the problem in context extended beyond the borders of Niger. As it approached the twenty-year anniversary of United Nations (UN) Security Council Resolution 1325 (which was the foundational work to begin promoting the women, peace, and security agenda), the UN set goals for the percentage of women in the force of peace-contributing countries.[5] As of January 2020, Niger contributed over nine hundred troops to UN peacekeeping missions, mainly to the effort in Mali.[6] Therefore, as a major peace-contributing country, Niger may soon feel the pressure from the UN to increase the number of women it deploys.

Increasing the number of women in the defense force is a nuanced problem and requires cultural as well as organizational change to create an environment where women feel included

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> When cadre from *École de Formation des Forces Armées Nigériennes* (Nigerien Armed Forces Training School, or EFOFAN) visited West Point in July 2018, one of them received a small academic award wreath pin from a United States Military Academy cadet as a small gift. Nigerien officer 1st Lt. Mahamadou Hamani Tahirou later decided that this would become the uniform symbol by which EFOFAN would recognize its combatives-certified leaders.

and valued. EFOFAN leadership recognized that it is uniquely positioned to drive conversation in its defense force and lead cultural change since it graduates roughly fifty officers a year (a relatively large number for an African army that has about 5,300 personnel).[7] When developing the gender agenda with the stakeholders, it was critical to view it from multiple perspectives. How do the cadets perceive this issue? What barriers do they anticipate precluding more integration? How about the cadre? What do the women currently serving think are the largest obstacles? Questions like these drove the agenda to be all-encompassing: understanding the stakeholders' beliefs and beginning the problem definition of how Niger can lead its peers in the African Union toward meaningful participation of women.

Ultimately, through the application of a systems approach (which includes systems thinking concepts), the team was able to rapidly place the problems in context, iteratively conduct problem definition, and work with stakeholders to develop and implement a robust leadership solution. Essential to the iterative approach was deliberate assessment at each juncture. Prior to each trip to Niger, the team deliberated on what must be assessed and what success would look like in each focus area. In other words, what would success look like in the combatives program? Which drills should the students have mastered? With an assessment framework developed prior to the trip, the team could objectively measure progress while also introducing new concepts. It was imperative to

Nigerien officer 1st Lt. Mahamadou Hamani Tahirou points to his gold wreath award 26 July 2018 while at the Nigerien Armed Forces Training School, Camp Tondibiah, Niger. (Photo by Col. Rich Morales, U.S. Army)

include the OSC and the EFOFAN leadership in the assessment process since they are the critical stakeholders and owners of the process, respectively. The assessments directly fed back into the systems approach, which allowed for rapid growth and improvement in several key areas at EFOFAN. Continued application of this systems approach will also serve as the foundation for future success and should be considered by other teams as they work with partner institutions.

Lesson 2: Deliberately Build the Team

Much has been written about producing effective teams; that is not the goal here. Addressed here is what we can learn about the type of team that is effective in partnership work. Two key aspects seem to have been instrumental to the USMA Niger AMEP team's success: (1) construct an adaptable, interdisciplinary team and (2) ensure the team is cohesive and collaborative in nature.

Adaptable, interdisciplinary team with the right capabilities and expertise for the mission. It is perhaps obvious to say that we need the right people on the team. In most professional military contexts, individuals figure out how to work together to achieve their goals. However, when individuals with competing priorities or ideas also lack clear roles, ambiguity and conflict reign. The initial team visit in July 2017 proposed to develop means for improved leadership development and physical training capacity at EFOFAN. Two of the team members were at odds over the best methods to improve the leadership development program. Through team discussion, it became apparent that in order for EFOFAN to be successful, EFOFAN leadership would have to be intimately involved in coming up with a solution that works in their environment and within their culture. This stood in contrast to handing over a USMA-owned curriculum that, while fully developed, was not fully applicable to the EFOFAN context. While it was tempting to "stick to our guns" in terms of our ideas about the mission, the team possessed the collective flexibility to tailor its approach to the circumstances.

The USMA Niger AMEP team became an adaptable group with a mutually supporting attitude and an approach that readily evolved with its circumstances. When cadre from EFOFAN visited West Point in July 2018, one of them received a small academic award wreath pin from a USMA cadet as a small gift. Nigerien officer 1st Lt. Mahamadou Hamani Tahirou later decided that this would become the uniform symbol by which EFOFAN would recognize its combatives-certified leaders. Our team quickly adapted to support this initiative by supplying one hundred such gold wreath awards to EFOFAN on a subsequent visit. As of January 2020, thirty-four cadets and cadre proudly wear the combatives wreath award on their uniforms.

In the consultant role, it was critical for our team to understand our own capabilities. What exactly did each team member bring to the table? Early in the process, there was talk of providing a Master Instructor Program to train EFOFAN faculty as experts in teaching practices. The idea was for this program to endure as a train-the-trainer certification course. While all team members possessed advanced degrees in their disciplines, none were well established in teaching pedagogy, let alone in designing such a program to be implemented in a different culture and language from our own. As such, deciding to forego the Master Instructor Program in favor of leadership and physical development—two areas of team expertise—proved successful.

On all six visits, the USMA Niger AMEP team was comprised of officers from different disciplines. Their experience in systems engineering, leadership, and the MACP allowed for diversity of thought and creative approaches to arrive at realistic solutions. As availability of some team members changed, the team had to evolve and pick the right people for the job. For example, when the initial combatives expert was no longer able to participate in overseas travel due to other requirements, another master combatives trainer from USMA's Department of Physical Education joined the team. Additionally, when the team decided to address the topic of gender integration from a holistic perspective, the team added an experienced female officer who had expertise in the subject area.

The USMA Niger AMEP team considered individuals from the OSC as critical members of the team as they were heavily relied upon to help coordinate, inform, and support this mission. The AMEP team remained in direct contact with the OSC before, during, and after each visit. On the team's fourth arrival in Niger, the OSC chief related that a cadet had recently been killed at EFOFAN during an incident allegedly involving hazing, and that this incident was under investigation. This news certainly

Nigerien Armed Forces Training School cadets pose with Africa Military Education Program instructors 22 January 2020 at the conclusion of combatives training at Camp Tondibiah, Niger. (Photo courtesy of Lt. Col. David W. Hughes, U.S. Army)

impacted the team's approach to various conversations about leader development. In fact, it led to a fruitful discussion about risk assessments, which are now implemented at EFOFAN. Flexibility in this situation allowed the USMA Niger AMEP team to adapt to a dynamic situation and, in the end, provide useful information to the OSC regarding EFOFAN atmospherics.

Cohesive and collaborative team. We cannot overstate the importance of building a cohesive team that is willing to listen to and trust those around them. Frequent team meetings before and during each trip helped to establish member roles and to build trust among the team. These meetings also aided relationship building among new and veteran teammates. As we confronted challenges during the planning process, we relied on each other to develop creative solutions. And then, when we were in country, the team spent most waking hours together. It was an intense, shared experience that served to challenge and bond the team.

It was also important that team members' personalities facilitated teamwork, especially when working in a foreign context with a language barrier. The previously built trust among teammates further enabled this by encouraging the team to share ideas and to support one another's lines of effort. For example, during a discussion about how to link physical training tasks to the physical demands of the tactical mission, one team member struggled to communicate, through an interpreter, the steps of this process. On a teammate's suggestion, the original team member was able to quickly pivot and then

lead the EFOFAN faculty to use a whiteboard to visually depict these steps. Not only did this help to communicate the ideas, but it also enabled the EFOFAN leaders to draw their own connections in the process. Mutual trust, built through significant interaction and enabled by humble personalities, made these types of positive collaborations possible within the team.

The same principle of trust benefited the team even in seemingly small ways. When planning for a combatives training session, the combatives team lead was advised against conducting the training in an open field due to the intense heat. Heeding the advice of the other team member, the combatives team lead moved the training to a shaded location, which enabled the training to progress while minimizing the possibility of overheating in the participants. Although the advice was coming from a team member with a different area of expertise, listening to each other's input paid off.

In summary, this AMEP team's success was enabled by building an adaptable, interdisciplinary team with the right capabilities and expertise for the mission. When adding or replacing team members throughout the team's existence, it was crucial to bring in subject-matter experts who possessed the right traits to cooperate and collaborate in accomplishing this unique mission. Trust, built through significant interaction before and during each trip, formed the bedrock of the team's cohesion and unity of effort.

Lesson 3: Build Strong Relationship with Partner

Early into our partnership with EFOFAN, we recognized that building strong relationships was critical to the success of our visits. We believed that superficial relationships would prevent the transformational impact and lasting change that our team desired. To

achieve this outcome, the USMA Niger AMEP team, EFOFAN's leadership, and EFOFAN's mid-level influencers and "change agents" needed to recognize each other, trust each other, and ultimately believe in each other's goodness as equal partners working together as "one team." On each of our visits, we strategically and very deliberately endeavored to build the relationship. Relationship building played a central part in thinking about our USMA Niger AMEP team selection, our planning and brainstorming sessions, our trip's itinerary, and during our nightly huddles at the end of each day in Niger. After six visits in three years, we believe three essential themes support the relationship-building process: (1) having the same (and right) people "in the room," (2) maintaining frequency of contact, and (3) establishing rapport. Though these ideas appear simple, they are not easy.

Same (and right) people in the room. Given the numerous challenges associated with partnership (the language barrier, cultural differences, varying interest levels from partners, short-duration visits, differing focus areas and desired outcomes, to name a few), we found that having the same, and right, people in the room for our engagements was the first essential step to strategic progress. If both sides knew each other, recognized each other's faces, or had experiences with each other previously, our visits could more quickly move past surface-level engagements. As such, we planned continuity into our team as well as theirs. We worked tirelessly to identify which partners were needed for impactful change, and once these individuals were identified, we strongly encouraged and nearly handpicked by name the people we hoped and expected to see at each particular meeting, training exercise, or discussion. For example, we knew that one experienced lieutenant had enduring longevity at EFOFAN and was an engaging, thoughtful leader who recognized the importance of instituting transformational change at his school. As such, we strove to ensure he was present at many, if not all, of our engagements. These subtle but consistent techniques of getting the right people in the room allowed our team to achieve momentum and start to build strong relationships with our EFOFAN partners.

Frequency of contact. The second critical relationship-building tool we utilized was applying an appropriate amount of contact with each other. We believed that if too much time passed between visits or too little communication occurred, momentum would stall, each side's focus would naturally turn elsewhere, and the relationships would weaken. To build upon previous trips' progress, we believed in high-frequency contact. We developed our plans to have no longer than six months between visits. Additionally, we stayed in contact with our partners through occasional emails and WhatsApp messaging. We also heavily relied upon the OSC to be our "on-ground" contact and keep our partnership strong when we could not be present. During our visits to Niger, we filled each day with activities and engagements from morning PT to dinnertime, maximizing the time and connection opportunities with EFOFAN. Ensuring high-frequency contact sustains and grows the relationship between partners and cannot be overlooked.

Establish rapport. Third, we believe establishing rapport was the final, critical component in our relationship-building efforts. Rapport is not easily earned, especially when the relationship begins as a meeting between strangers from different parts of the world, and site visits are often only a few days in duration. Our team quickly learned, however, that without a mutual sense of camaraderie, our recommendations and improvements would not be nearly as effective. As such, we believe our team built rapport by displaying genuine humility and kindness; by treating the partnership as a sincere opportunity of "give and take" between nations, one where supporting each other is the primary mission; by having the sense and flexibility to change plans as partner nation feedback is received; and by seeking to always make the partner nation feel respected. Subtle examples of this were found in our team our team conducting physical training sessions each morning with EFOFAN cadets and cadre and also in exchanging thoughtful gifts that supported their

Top left: Maj. Jay Brend (*second from left*), a combatives instructor from the U.S. Military Academy and member of the Africa Military Education Program team, oversees combatives training 21 January 2020 at the Nigerien Armed Forces Training School, Camp Tondibiah, Niger. **Bottom left:** Maj. Christine Krueger (*left*), a member of the U.S. Military Academy Africa Military Education Program team supporting the Nigerien Armed Forces Training School, oversees a combat training exercise 22 January 2020 at Camp Tondibiah, Niger. (Photos by Lt. Col. David W. Hughes, U.S. Army)

Maj. Ben Showman (*right*) and Capt. Issoufou Abdonlaye Souley discuss class material 15 November 2017 on the process of establishing physical performance goals based on tactical training needs at the Nigerien Armed Forces Training School, Camp Tondibiah, Niger. (Photo by Maj. David McLean, U.S. Army)

current mission or focus area. On one of our visits, for example, EFOFAN was in the process of developing its leadership curriculum, and we made it a point to ensure that our gifts at the end of the trip included books on the topic of leadership. On another visit, the school had experienced a need to incorporate risk planning into its training exercises, so we pivoted from our plan and conducted a class on composite risk management. Exhibiting flexibility while ensuring a partner-centered mindset helped us quickly develop and maintain rapport with our EFOFAN teammates. This ultimately led to lasting positive results across our program's objectives.

Lesson 4: (Re)Define Success and (Re)Assess

At the start of every site visit, it was critical to meet with all the previously mentioned key and hand-picked leaders. With all the stakeholders in one room, the USMA Niger AMEP team and the partner nation set goals and established a clear agenda for the trip. Although our Nigerien partners always had a tentative schedule one month prior to our arrival, this meeting ensured they were comfortable with our goals and stated objectives. Moreover, they always built in stretch goals or had requests of their own. Addressing their stretch goals and requests were key to every individual trip success and to the AMEP mission as a whole; not only to build rapport (as was mentioned in the lesson 3 discussion) but also to get a shared understanding of what success would look like and what exactly needed to be assessed to give feedback.

To help us define success, each member from the AMEP team built initial goals of what success looked like. For example, the combatives member envisioned success on an Army scale of trained, proficient, and untrained (T, P, U). More specifically, our combatives member defined success on the following detailed scale: T = excellent technique and cadets teach/correct with no feedback from cadre, P+ = cadets perform techniques

well but need cadre input, P = cadets perform skills moderately and need cadre feedback, P- = cadets perform technique poorly and cadre are not teaching correctly, and U = untrained. With success defined, this AMEP member now had the correct scale to assess combatives as its own program within EFOFAN.

In addition to defining success for planned visits, there are opportunities where the host nation will try to achieve its stretch goals. In our most recent visit to Niger in January 2020, the EFOFAN cadre asked if we could observe one of its military training exercises—an unplanned stretch goal for that visit. The AMEP team quickly adapted the schedule to fit it in. After listening to a cadet platoon leader brief the operations order, the cadets conducted a movement to contact, cleared an improvised explosive device, and executed a raid. By U.S. standards, the tactics, techniques, and procedures exhibited some room for growth. However, from a programmatic point of view, this type of training exercise, with cadets leading other cadets, was not feasible two years prior and therefore was defined as a huge win. Defining success with realistic and measured expectations is crucial when working with a partner nation. Sometimes, success can just be an observation of an event, especially when it is the first time ever for that event.

Table 1. École de Formation des Forces Armées Nigériennes Combatives Assessment Tool

Technique	Assessment
Cooperative pummeling	P+
Competitive pummeling	P+
Inside and outside wedge	T
Drill #1 (Arm trap and roll, pass guard, achieve top mount)	T
Drill #2 (Arm push and roll, rear naked choke, escape rear)	P
Drill #3 (Shrimp to guard, reverse bent arm bar, hip heist sweep)	P-
Bent arm bar	T

(Table by authors)

Assessment and Feedback

During every trip, the hard work comes down to the daily assessments and observations. At the end of each day, the USMA Niger AMEP team wrote a shared daily log or trip report that mentioned everything we observed and discussed. This shared log kept us on the same page (literally and figuratively), while also acting as a guide to keep us focused for the next day.

These observations led to structured assessments. Each AMEP member built different tools and charts with simple and clear Likert scales to measure his or her subject matter of expertise. As an example, our combatives master trainer assessed EFOFAN's combatives program, using the previously mentioned scale that was mutually exclusive and collectively exhaustive. Table 1 is the EFOFAN Combatives Assessment Tool, and it highlights the observations of the most recent (January 2020) AMEP trip to Niger.

From this tool, we were able to provide honest feedback to EFOFAN at the conclusion of every trip. Because we had built rapport and genuine relationships, EFOFAN received feedback professionally. Additionally, sharing the feedback enabled us to better coach, tutor, and mentor on subsequent trips. In fact, some of the "bad grades" motivated them to work on certain areas more in preparation for future AMEP visits.

From the AMEP perspective, these assessments give future AMEP teams an expectation of progress that they can reassess on future trips. These tools are simple and self-explanatory. As the AMEP team and mission grows, assessment tools need to be created for different focus areas of each trip, and these tools need to be used. Moreover, at the final outbrief, these tools enabled the USMA Niger AMEP team and EFOFAN to build new and future goals. This is redefining success in practice.

Table 2 . Overall Assessment Tool Used by the U. S. Military Academy Niger Africa Military Education Program (AMEP) Team, 2019–2020

January 2020 assessment items	Observed?	June 2019 AMEP assessment	January 2020 AMEP assessment	Notes
Journey line papers continued	Yes	Good	Very good	*École de Formation des Forces Armées Nigériennes* (Nigerien Armed Forces Training School, or EFOFAN) cadets are now revisiting the journey line papers at the end of the first year.
Case studies developed by current cadre	Yes	OK	Good	Two officers from the field are now brought to EFOFAN each year to discuss real case studies from the field. It is still recommended that they formalize these case studies in writing.
Level 1 combatives program (for drills 1, 2, and 3)	Yes	Very good	Excellent	The Level 1 combatives program is 100% cadet-led and cadre-supervised.
Level 2 combatives program (for drills 4 and 5)	Yes	N/A	Untrained	EFOFAN has a strong desire to add Level 2 to their combatives program. Capt. Jay Brend gave an introduction to Level 2 on 22 January 2020. The next step is to bring two lieutenants to West Point to train them on Level 2 combatives.
Combatives wreaths awarded (Level 1)	Yes	Very good	Excellent	Fifteen new wreaths were awarded on 23 January 2020 after an awesome combatives demonstration. As of now, twenty-nine cadets and five cadre have been awarded the combatives wreath.
Combatives star wreaths awarded (Level 2)	No	N/A	N/A	It was determined that a gold star wreath would be awarded to any cadet or cadre who demonstrates mastery of combatives drills 1–5.
West Point leader development model implemented	Yes	Good	Very good	EFOFAN cadets are assigned a new leadership position each week. If a cadet fails to perform sufficiently over the course of that week, they will repeat that leadership position for an additional week. EFOFAN is still interested in implementing periodic development reviews that would be filled out by cadre. They are also considering adding peer evaluations.
Curriculum for stand-alone leadership course developed by appointed cadre	Yes	OK	Good	We were able to observe one of their leadership classes on 21 January 2020. While we would have liked to see less lecture and more discussion, it was encouraging to see how much effort was put into the class.
Cadets training cadets witnessed on multiple occasions in different settings	Yes	Good	Very good	AMEP team was able to interview EFOFAN cadets who were in leadership positions on 22 January 2020. Overall, the feedback was extremely positive.

(Table by authors)

Table 2 . Overall Assessment Tool Used by the U. S. Military Academy Niger Africa Military Education Program (AMEP) Team, 2019–2020 (continued)

January 2020 assessment items	Observed?	June 2019 AMEP assessment	January 2020 AMEP assessment	Notes
Risk assessments developed and used	Yes	Good	Very good	EFOFAN modified their risk assessment form after we discussed how the U.S. Army conducts risk assessments in June 2019. EFOFAN now lets cadets fill out risk assessment forms so they can learn about identifying risks and consider how to mitigate them.
An EFOFAN comprehensive training event observed	Yes	N/A	OK	EFOFAN took initiative by planning and executing a cadet-led combat training exercise that we were able to observe on 22 January 2020. EFOFAN leadership would still like to observe a comprehensive training event at West Point to see how they can modify and improve their training exercise.
Gender integration discussions	Yes	N/A	Good	It was very evident that the leadership of EFOFAN are sincerely committed to advancing gender integration.

(Table by authors)

Finally, we found that it is important to consolidate all the individual assessment tools into one large AMEP assessment tool. This assessment tool consolidated all agreed-upon objectives from every visit as we (re)defined success over time (see table 2). When new team members joined the team, this tool acted as the starting place. It helped track each assessment item over time, provided critical notes, and prevented stagnation/digression on the ground. It is not complicated. The tool is simple, yet effective in communicating progress or lack thereof. After several visits with the same EFOFAN leaders over time, certain goals became more realistic and more applicable to what EFOFAN was looking for in this partnership. It is important to be flexible and relentless in providing never-ending assessments and feedback.

Lesson 5: Plan Four-to-Six Months Out

The last lesson we learned dealt with planning. If someone is leading an AMEP team, it is critical that he or she get the team together early on—no later than four months before a scheduled departure. This allows for course/curriculum development, stakeholder engagement, iterative planning, research, and preparation. In fact, one of our AMEP team members spoke with the OSC chief at least five times over a span of four months before our January 2020 trip just to get an understanding of the atmospherics for women in Niger. The same team member also engaged with U.S. Africa Command and two other AMEP teams to see what they were doing in their respective countries. Finally, sometimes materials need to be translated, which obviously takes coordination and time.

There are many administrative requirements that must be completed before going overseas. These include medical screening; passport and visa applications; chain of command and Defense Travel System trip authorizations; survival, evasion, resistance, and escape training; isolated personnel report photos revalidation; gifts for hosts; packing lists, etc. Some of these duties can be accomplished in a matter of days; however, securing a visa/passport or getting the first general officer in the chain of command to approve the trip can take months. Additionally, some requirements can be completed too soon. Medical screening; survival, evasion, resistance, and escape training; and isolated personnel report photos

validation can only be done within ninety days of departure. It takes good managerial skills to ensure completion of all required tasks, and we recommend using a detailed checklist, or even Microsoft Project, to keep on track.

Finally, it is imperative to create an extremely detailed schedule for a trip. Account for nearly every hour of the trip, including where and when mealtimes will be, workout times, and summaries of daily activities. Send the draft schedule to the OSC chief for review and ask him or her to forward it to the partner. This allows for complete buy-in by both the OSC and the partner. If either of them has suggestions to improve the schedule, make every effort to incorporate their suggestions. When we followed this protocol, our partner's preparation and participation was extraordinary, and the OSC's involvement was maximized.

Conclusion

The Africa Center has structured the AMEP program such that each AMEP team has incredible latitude in how they interact with their partner institutions and to determine their unique objectives. This freedom of maneuver is critical since no two countries, or military institutions within a country, are alike or have the same challenges. In this light, the USMA Niger AMEP team found the five aforementioned lessons learned to be critical to its past and current success with EFOFAN. Working together, the USMA AMEP team increased EFOFAN's leadership capacity through a combatives program and a new peer leadership model. Additionally, it was imperative that the interdisciplinary AMEP team worked alongside its Nigerien partners to define, achieve, and assess success. The final path did not reflect exactly what the initial AMEP team envisioned, but the team was flexible and willing to listen and learn. Ultimately, the collaborative effort resulted in a successful program that is growing and building upon itself. As the relationship with Niger and the other AMEP partners continues to grow and expand, these five lessons provide a foundation for future AMEP teams to leverage for their own success. Systems thinking teaches us that the problem is not solved once a solution is implemented; rather, it must be assessed to determine its efficacy and if it solved the right problem. The United States and its African partners continue to have a strong partnership and that is in no small part due to the mutual respect gained through programs like AMEP. These five lessons learned expand beyond curriculum improvements. They help to truly build partner capacity and develop the rapport necessary to fight shoulder to shoulder. ■

Notes

1. *Niger and Boko Haram: Beyond Counter-Insurgency* (Brussels: International Crisis Group, 27 February 2017), accessed 10 December 2020, https://www.crisisgroup.org/africa/west-africa/niger/245-niger-and-boko-haram-beyond-counter-insurgency.

2. "Mission," Africa Center for Strategic Studies, accessed 13 January 2021, https://africacenter.org/who-we-are/.

3. For the mission statement and objectives for the Africa Military Education Program, see "Africa Military Education Program (AMEP)," Africa Center for Strategic Studies, accessed 10 December 2020, https://africacenter.org/programs/amep/.

4. Derek Cabrera et al., "Applying Systems Thinking Models of Organizational Design and Change in Community Operational Research," *European Journal of Operational Research* 268, no. 3 (2018): 932–45, https://doi.org/10.1016/j.ejor.2017.11.006.

5. "Landmark Resolution on Women, Peace and Security," Office of the Special Advisor on Gender Issues and Advancement of Women, accessed 10 December 2020, https://www.un.org/womenwatch/osagi/wps/. Security Council Resolution 1325 increases the participation of women in peacekeeping operations.

6. "Troop and Police Contributors," United Nations Peacekeeping, accessed 10 December 2020, https://peacekeeping.un.org/en/troop-and-police-contributors. This chart shows the breakdown of peacekeeping forces by country.

7. "Niger Military Strength (2020)," Global Firepower, accessed 13 January 2021, https://www.globalfirepower.com/country-military-strength-detail.asp?country_id=niger.

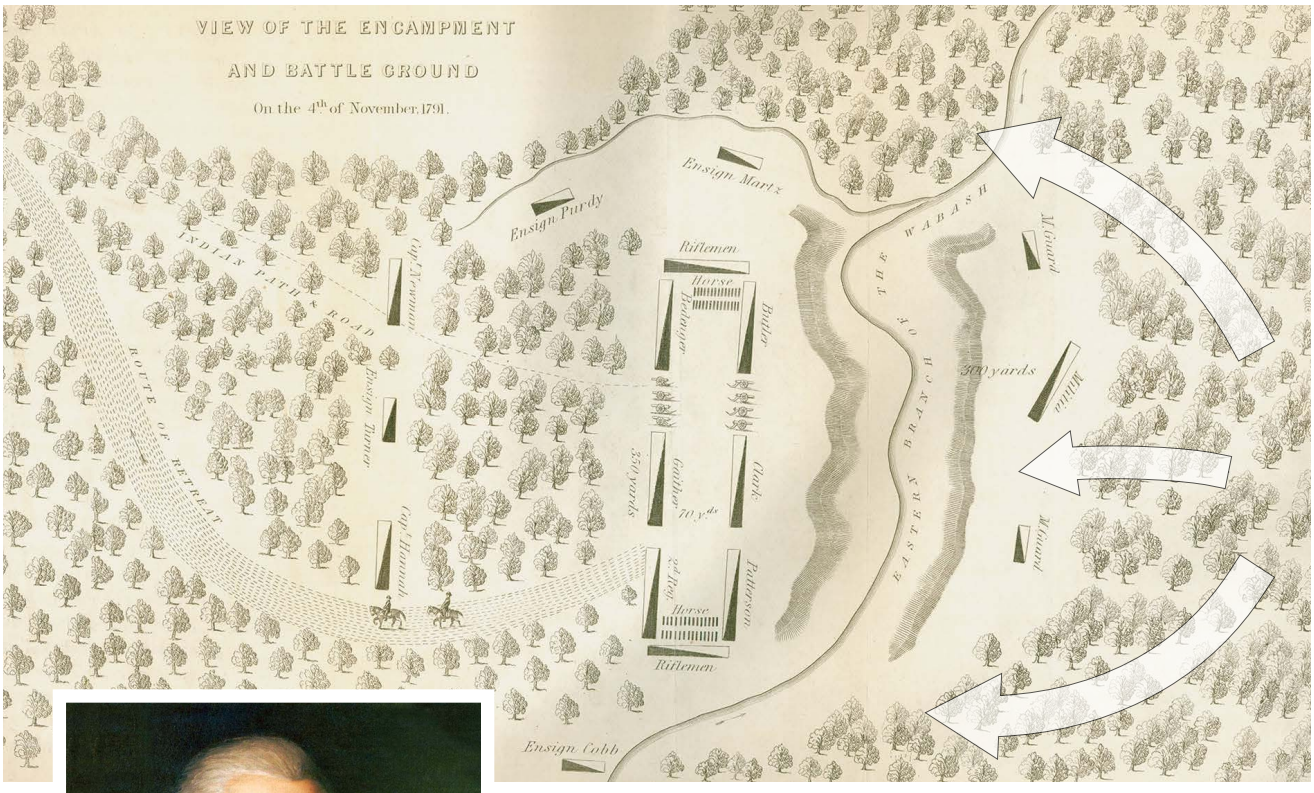
Learning "The Dreadful Trade of Death"

Training the U.S. Army at Legionville, 1792-1793

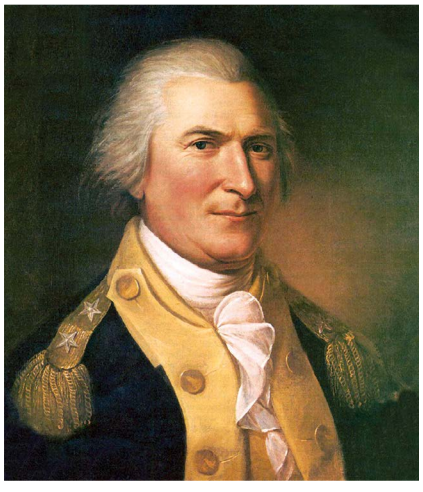
Timothy C. Hemmis

The enemy abruptly woke up the troops of Maj. Gen. Arthur St. Clair's army on the morning of 4 November 1791 on the banks of the Wabash River in present-day Fort Recovery, Ohio. Under the leadership of Little Turtle, a Miami chief, a force of about one thousand warriors attacked St. Clair's untrained army of 1,669 soldiers and a few hundred camp followers at daybreak.[1] The Native American force first targeted the Kentucky militia that camped on the other side of the river. Rumors circulated that an enemy offensive would begin in the morning; these reports arrived to Gen. Richard Butler, but he did not relay them to St. Clair because he did not want to disturb the sleeping commander. The attack caught the American Army by surprise; the militiamen retreated as the battle began. Little Turtle's warriors quickly targeted the artillery at the center of the camp—St. Clair had eight howitzers, and the Native Americans knew that they were the Americans' force multiplier. Chaos reigned. Even the teamsters and civilians were drawn into the fight. A teamster named Benjamin Van Cleve recalled that he saw "there were about thirty of our men and officers laying scalped around the pieces of Artillery."[2] Van Cleve joined a group of soldiers who were "pressing like a drove of bullocks" to retreat.[3] The survivors—soldiers and camp

An artist's depiction of Little Turtle. (Artwork courtesy of the U.S. Army)



(Map courtesy of the U.S. Army)



Portrait of Arthur St. Clair (1782–1784), oil on canvas, by Charles Wilson Peale. (Image digitally restored by Connormah via Wikimedia Commons)

St. Clair's Encampment and Battle of Wabash Battleground, 4 November 1791

followers—arrived at Fort Jefferson cold and exhausted. Little Turtle's warriors again bested the American Army in the field. This time it was St. Clair's army that suffered an embarrassing blow.

News of the defeat arrived in early December, when President George Washington hosted a dinner party at his residence in Philadelphia. A weary dispatch rider with news from the Wabash darkened the doorway of the president's residence. Tobias Lear, the president's secretary, attempted to intercept the packet, but the soldier refused to give him the letter. Lear returned to the party and informed Washington of the visitor's arrival; Washington went to the parlor to meet the rider. Then the president returned to the dinner without disrupting any of his guests. As the evening wound down and all the dinner guests left, Lear recalled the president just paced silently. Eventually, Washington sat down, and his emotions overcame him. He exclaimed, "It's all over—St. Clair's defeated—routed;—the officers nearly all killed, the men by wholesale; the route complete—too shocking to think of—and a surprise into the bargain!"[4] He began to pace again, but this time his anger rose. The commander in chief proclaimed that

> HERE on this very spot, I took leave of him; I wished him success and honor; you have your instructions, I said, from the Secretary of War, I had a strict eye to them, and will add but one word—BEWARE OF A SURPRISE. I repeat it, BEWARE OF A SURPRISE—you know how the Indians fight us. He went off with that as my last solemn warning thrown into his ears. And yet! To suffer that army to be cut to pieces, hack'd, butchered, tomahawk'd, by a surprise—the very thing I guarded him against! O God, O God, he's

> worse than a murderer! How can he answer it to his country;—the blood of the slain is upon him—the curse of widows and orphans—the curse of Heaven![5]

St. Clair's defeat, also known as the Battle of the Wabash, in 1791 was the pivotal moment in the Army of the early republic. Immediately, Washington sought to reorganize the Army, and he put his trusted general, Maj. Gen. Anthony Wayne, in charge of reforming it. Much has been written about the transformation of the Army under Wayne in the Legion of the United States.[6] Many early scholars have focused on the etymology of the Legion of the United States and how the name was used to ease fears of a standing army. Historian Andrew Birtle suggests that it had a more practical reason based on its organizational structure with little resemblance to the Roman legions.[7] Despite the interest in the historiography, there has not been much written about Legionville, the Army's first training center. Today's Army focuses much of its time on readiness and lethality, but one does not have to look too hard to find an example of how training led to a direct victory. The story of Legionville is intrinsically linked to the success at Fallen Timbers.

On the banks of the Ohio River, just northwest of Fort Lafayette in Pittsburgh, Wayne decided to create a training center for his legion. Near the Native American town of Logstown, near present-day Baden, Pennsylvania, Wayne sought out the flat plateau that had several natural ravines for defense. He understood that he could not train his legion in Pittsburgh because there would be too many social distractions. Wayne moved his 1st and 2nd Sub-Legions to Legionville to set up a camp with no walls to mimic a forward camp.

The forward camp paralleled the Ohio River and was located on a flat area of land situated between two tributaries. It was not walled but had four redoubts for defense along with a grand parade field. The officers had better quarters than the enlisted, and they were divided by specialization. Artillery and cavalry officers' barracks were at the center of the camp, while infantry and rifle corps quartered in huts near the grand parade field and near the creeks. The cavalry stables were located near the river. Surgeon's mate Joseph Strong estimated that there were about five hundred huts constructed at Legionville.

Wayne understood that readiness was the key to a successful campaign, but that started with the soldiers. As historian James Ripley Jacobs put it, "St. Clair's men … were mostly waifs of misfortune," but Wayne knew that if he was to transform his men into a cohesive fighting force he needed to start with training.[8] Wayne issued each officer a copy of the *Regulations for the Order and Discipline of the Troops of the United States*, which was the drill manual written by Gen. Friedrich von Steuben at Valley Forge in 1778–1779.[9] On 13 September 1792, Wayne requested that "Baron Steubens blue Book & The Rules & Articles of War are much wanted … for they are all new to Manoeuvre & Discipline."[10] Wayne believed that "even some of the Old Officers are rather rusty tho' conceited & refactory—however they will be made sensible of their error, or shall quit."[11] Stationed at Pittsburgh, Wayne began to focus on training the new recruits. In summer 1792, Wayne anxiously waited for the arrival of the new troops. Through Secretary of War Henry Knox, Washington expressed his wishes for Wayne to "halt at Pittsburg for the present, in order to arrange the troops and discipline them."[12] Washington understood St. Clair's problems and did not want to have them repeated with Wayne's legion. St. Clair rushed into the field with less manpower and paid dearly for it. Wayne waited at Pittsburgh for his men to arrive.

Recruiting in summer 1792 was far from optimal. Knox repeatedly mentioned in his letters to Wayne that "the recruiting service seems to languish."[13] Knox even complained to Wayne that "the recruiting service languishes in the Western district of this State [Pennsylvania]. If you can devise any thing to push it, I pray you to do so."[14] It was tough to recruit soldiers after the two disastrous campaigns of Harmar (1790) and St. Clair (1791), where both armies relied heavily on ill-trained militia and were met with total embarrassment and defeat on the battlefield. Despite these obstacles, the War Department worked tirelessly to fill the Legion's ranks.

While waiting for the rest of his men and supplies

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to arrive in Pittsburgh, Wayne also started experimenting with new designs of muskets. Wayne believed musket redesigns would improve the rate of fire for his troops. He moved the touch hole so the mechanism would self-prime, which meant that "the eye of the soldier will therefore be constantly upon his Enemy, and he can pursue & load in full trot without danger of losing any part of his powder."[15] The new design allowed the soldier to just bite the paper cartridge and not have to prime his firearm. Wayne's redesigns allowed for a quicker reload, and he wanted his troops to practice these maneuvers. Wayne insisted that

> this is a maneuvre that must be practiced by the Light troops—it will accustom them to the report of their own Muskets, so as not to be alarmed at their own fire—and with the aid of a powerful and well appointed Cavalry (shou'd the Indians prefer the Hatchet to the olive branch) I trust, will produce a Conviction, not only to the savages but to the World, that the U S of America are not to be insulted with impunity.[16]

Harmar's and St. Clair's defeats embarrassed the United States on a world stage, and Wayne looked to correct every shortfall through preparation and training. Even today, soldiers learn in two ways: through experience and repetition.

The infantry and riflemen practiced continuously on marksmanship; at first, they shot into trees because of the ease of retrieving the lead. Wayne understood that no one should waste lead during training because supplies were at a premium. In order to boost morale and marksmanship, Wayne created a shooting contest between each corps. Wayne reported that "the very men who four or five weeks since, scarcely knew how to load, or, draw a tricker—begin now to place a ball in a deadly direction—altho' they practise only one shot, every time they come off guard—which goes round the whole in the course of four or five days."[17] Many times it was the first time the men had ever shot a musket in their lives. Wayne described these recruits as "equally awkward & timid at first."[18] Wayne exclaimed that "we must burn a good deal of powder, in order to make them marksmen and Soldiers."[19]

Additionally, the artillery soldiers lacked many supplies including shot, so Wayne instructed they train with rocks as a substitute for shot. Wayne recorded that "Pray what is become of our sixteen little Howitz's—we have plenty of round pebbles that will answer in the place of shot for practicing and our Artillery men—have everything yet to learn."[20] Supplies were used sparingly during training, but Wayne knew the importance of realism. For example, the cavalry needed experience of live firing with gun powder "to load & fire in full troot."[21] The purpose of using powder in this maneuver was to get the men and horses used to the "noise and fireing."[22] Similar to the training exercises today with blanks and live fire, soldiers needed to be conditioned to these sights, smells, and sounds of battle.

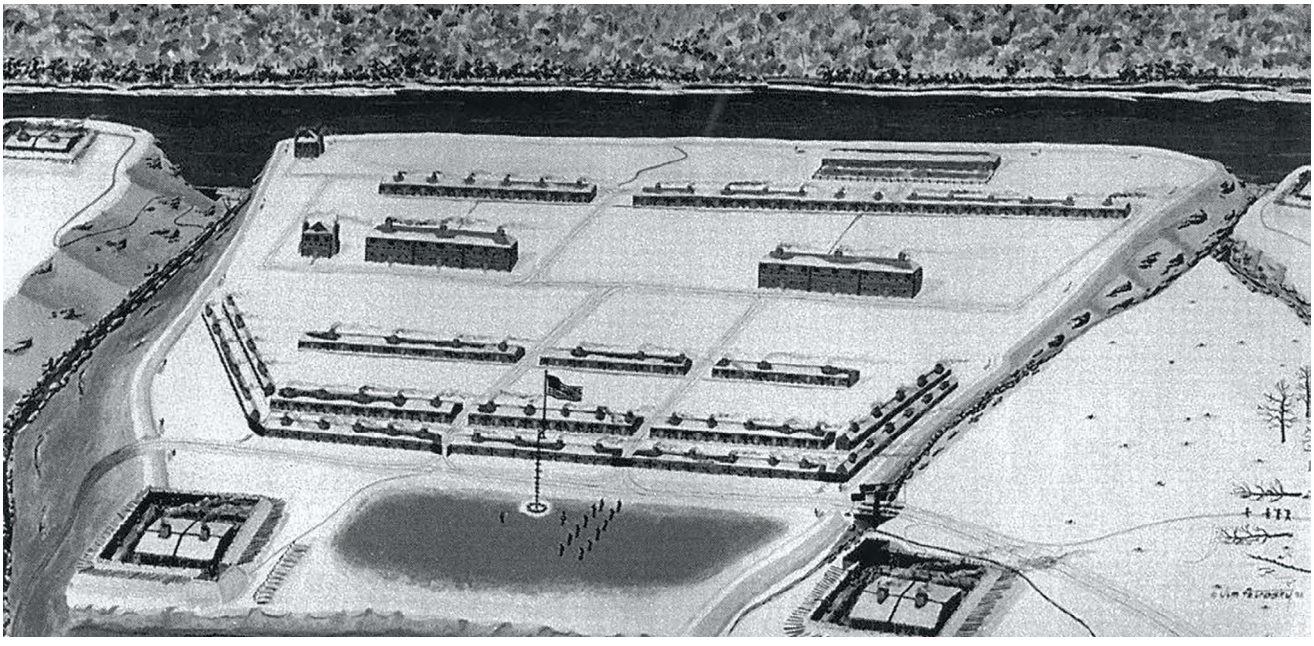
> "It was tough to recruit soldiers after the two disastrous campaigns of Harmar (1790) and St. Clair (1791), where both armies relied heavily on ill-trained militia and were met with total embarrassment and defeat on the battlefield."

One of the ways the legion prepared for battle was in the use of sham engagements because great units master the basics. During these sham engagements, and similar to warfighting exercises that take place today, the rifle corps of the sub-legions acted like the enemy, which included painting themselves. They would simulate an attack and the rest of the legion would have to respond. Wayne praised the roles of the rifle corps as it "acted well the part of Savages—which required all the skill & fortitude of Our little Legion to sustain."[23] In one such sham engagement, the cavalry and infantry maneuvered together but were outflanked and charged by the opposing rifle corps (acting as the Native American force). A part of the cavalry had to cross and recross the Allegheny River during this engagement, which led to real-time decisions and lessons

learned. Wayne glowingly stated that "this little representation of an Action has had a good effect, by inspiring the respective Corps with a spirit of Emulation."[24] However, he also believed that he could not do these engagements too much because he "had no idea that the mind cou'd be so diffusively inflamed by imagination only—fortunately no material accident has happened, some have had their faces a little burned with powder—and two or three slightly wounded with wadding-but in a manner that caused more anger than hurt."[25] The competitive spirit of these mock battles enabled the men let go some of their frustrations, but Wayne worried that it would hinder their training. Despite the frustrations of the troops, sham battles were great tools to help ready the Legion of the United States for actual hostilities.

Washington made it clear from the beginning that he did not want Wayne to advance his men too early like St. Clair had done. Washington often reiterated that the Legion of the United States should have plenty of supplies and training before its advance westward. In mid-October, Wayne had already chosen the place where he was to build winter quarters that would become Legion Ville, or Legionville. Wayne chose the spot himself because of its close access to the Ohio River. Knox instructed that Wayne should "hut them in a compact manner and fortify your encampment so as to guard against all surprise with constant patroles … for your own security as for the general security of the Country."[26] Legionville fit the exact training and security needs for Wayne and the Army.

Wayne sent the legion forward with an escort and a party of artificers attached to start preparing for the Army's arrival at Legionville. The fortified encampment was well protected because of the natural topography. On the shores of the Ohio, however, Wayne often worried about getting general provisions at the cantonment. There were few nearby mills that could supply the amount needed by a standing army. Additionally, the waters of the rivers were too low to move the goods from Pittsburgh.



A re-creation of the military training site, Legionville, which was established in 1792 by Maj. Gen. Anthony Wayne in Pennsylvania. (Image courtesy of the *Beaver County Times*, www.timesonline.com)

The roads that existed were terrible at best, but the terrain was mostly "thick woody Country."[27] Wayne constantly dealt with the fear of starving, so cattle and other livestock were also vital to the new training center. Before moving the Army to Legionville, Wayne ordered the contractors to provide rations to the troops for the upcoming winter as it could be difficult resupplying the encampment.

By 23 November 1792, the waters of the Ohio began to rise with the return of wet weather. Wayne reported that "as long as the river keeps clear of ice; all the Mills, are at work; therefore I will embark the troops the first Clear Day & descend the river to Legion Ville."[28] On 28 November the legion moved to its winter quarters. Wayne loaded his men and supplies on flat bottom barges and descended the Ohio River to Legionville. By 30

November, the last men disembarked at Fort Lafayette. As they pushed off the garrison, a fifteen-gun artillery saluted the legion as it moved twenty-two miles down the Ohio River to its winter quarters.

Training was essential for the legion. Wayne understood his mission as he had to protect the American frontier and train the "New Army—who have yet to learn the dreadful trade of death."[29] He also believed that it was "not only the duty but it should also be the study and pride of every Officer to make himself acquainted with the tactics, so that if a change of position should be found necessary even in the heat of action it would be performed with less confusion, than that which took place yesterday."[30] As readiness was the key for his soldiers, Wayne also drew upon his experiences at Valley Forge during the Revolutionary War. However, this time Wayne was in charge and he took charge. Legionville provided an area away from the distractions of the public and to be ready to launch a campaign in the spring to link up with Gen. James Wilkinson in the Ohio Country.

In December 1792, besides training, the men had to prepare the encampment by building huts and defenses. Wayne complained, "I have not a single officer of sufficient scientific knowledge or experience to assist me."[31] Despite this shortcoming, Wayne optimistically stated that "the business is so far completed & our chain of Redoubts so advantageously situate-that were all the Indians in the Wilderness to assemble for the occasion, it would not be in their power to dislodge us."[32] Legionville was in a forward position and Wayne worried about his defenses constantly. Wayne had four redoubts constructed at the four corners of the cantonment, which were laid out in a rectangle that paralleled the Ohio River. Redoubt 1, or Point Independence, was the closest to Wayne's headquarters, but the redoubt could watch over the Ohio River and was garrisoned by riflemen. Each redoubt was fortified with a ditch and earthen structures. Additionally, a defensive ditch was dug around the entire cantonment. Wayne noted that in most of the defenses, "nature has done much for us," which meant that with the steep hills and creeks, they did not have to do too much construction.[33]

The legion heavily regulated the consumption of illegal liquor. The only alcohol that was allowed was the daily rations allotted to the troops, and sometimes it was used as an incentive. For example, after a soldier left guard duty, he had to shoot at a mark, and if he hit his target, he received a ration of whiskey. There were plenty of rumors of illegal stills operating throughout western Pennsylvania at the time. Only a few years before the infamous Whiskey Rebellion, local civilians attempted to sell their goods, including contraband booze, to the troops. A local legend suggests that Jonathan Hill, a civilian contractor, often sold whiskey to the soldiers. The legend mentions that Hill's distillery had been discovered on Crow Island and Wayne ordered his artillery to train on the illegal still.[34] Although there is little evidence to confirm this action, soldiers somehow procured contraband liquor from a source. In one account, Sgt. Thomas Davis was found to be drunk on guard duty. If liquor consumption was regulated, Davis must have had a black-market source.

Legionville witnessed a variety of challenges to readiness including food rations, cleanliness, and discipline. These issues are integral parts of readiness and training. Before they disembarked to Legionville, Wayne waited for supplies and food to arrive in Pittsburgh. In the eighteenth century, much of the protein for the Army often marched alongside the troops in the form of cattle. Because of the difficulty of land travel to Legionville, Wayne figured if he ordered the food into rations that it would be easier to transport. Therefore, he ordered that rations be issued for the entire year of 1793. Wayne worried that Legionville would be cut off from Pittsburgh and their mills and stores. Wayne also looked to the standard ration of the British army in North America and compared that to his own army. He argued that his army "by no means sufficient of their comfort or support, unaided by either root or vegetable … [by] the nature of the service, can not possibly be procured."[35] At Legionville, he could not expect there to be an ample supply of flour and beef; it had to be either hauled or driven west. So, when building his legion, Wayne often looked to the British army as a model. The British soldiers standardly received one pound of flour

Top left: Warriors led by Miami Chief Little Turtle ambush Gen. Arthur St. Clair's force in 1791 on the banks of the Wabash River in present-day Fort Recovery, Ohio. **Bottom left:** St. Clair's force tried to rally, but to no avail. It was the worst-ever defeat of a U.S. Army force by American Indians. (Illustrations by Peter Dennis from John Winkler's, *Wabash 1791: St. Clair's Defeat* [Oxford, UK: Osprey, 2011]. Both images courtesy of Fort Recovery State Museum)

daily, and one pound of meat. Each week, British soldiers also expected to get rice, butter, and some vegetables. Wayne wanted his soldiers to learn how to live off rations in the field. It kept them ready for the coming campaign.

Camp cleanliness and illness were other issues at Legionville. Disease was a constant threat to the legion. Wayne worried about smallpox and other contagious maladies. Even before moving the Army to Legionville, Wayne communicated to Knox about the possibility of inoculating the troops from smallpox, but he decided to wait due to the time of the year. Additionally, inoculation often caused just as many problems as an epidemic itself. Surgeon's Mate Joseph Strong described the situation in camp: "The army is sickly at present, though the ruling epidemic is abating."[36] That epidemic was typhus fever and it "proved mortal in a few instances."[37] Disease often plagued military camps in the eighteenth century, and Legionville was no exception.

Wayne himself suffered from bouts of illness regularly at Legionville. He battled "an alarming attack from a violent lax & bilious vomiting."[38] On 22 December 1792, Wayne threw up "green seated jelly," and he took laudanum and a variety of other medicine "with little effect."[39] The general's condition and situation of the campaign worried the commander. Wayne stated, "But as life's uncertain—& mine at this time rather more than usual … shou'd I survive this attack, my breast is not bullet-proof—nor can I step a single foot aside to shield it."[40] When the general felt better, he rode and observed the defenses and his legion. Despite the illness that ran through the camp, Wayne and his men at Legionville remained focused on their mission—preparing for the next campaign season.

Life at Legionville was monotonous when the soldiers were not training. As in any army, when soldiers get bored, some will do mischief. Consider a quote from the orderly book: "The principles of humanity as well as military discipline require the most exemplary and prompt punishment, in order to produce a conviction to the minds of every individual of the Army."[41] Many courts-martial took place under Wayne's command. The orderly books of the legion are riddled with account of the trials and their outcomes. In order to have an effective fighting force, Wayne knew that he had to have strict discipline over the legion. Some charges were mundane. For example, a Mr. Henderson (possibly a local civilian) accused Lloyd Blackmore of Edward Butler's Company of the 4th Sub-Legion killing a heifer.[42] The tribunal acquitted the soldier.

"In 1792, when the Army was at Pittsburgh, Wayne treated desertion as punishable by death according to the Articles of War."

Other crimes were much more detrimental to the legion. Desertion was a major issue for Wayne's legion. Earlier in 1792, when the Army was at Pittsburgh, Wayne treated desertion as punishable by death according to the Articles of War. For example, on 11 November 1792 Sgt. John Trotter of the 3rd Sub-Legion pleaded guilty to desertion. The court recommended the sentence of death according to the Articles of War. Wayne recorded, "It now becomes the painful duty of the Commander in chief to confirm the awful sentence of death passed upon the unhappy prisoner; but when an officer of such high trust and confidence as a sergeant of the Legion of the United States shews so horrid, so dangerous, and so pernicious an example."[43] Swiftly, in the evening of 11 November 1792, the firing squad executed Trotter. Trotter's execution set an example for the men. Unfortunately, the remoteness of Legionville made desertion enticing. Lower-ranking soldiers received lesser punishments for desertion. For example, Pvts. James Wood, Benjamin Coburn, James Russell, and Joseph R. Carroll all were charged with desertion from Capt. William Eaton's Company. Instead of death, each received one hundred lashes. Ultimately, Wayne needed troops, so he had to spare some much like Washington did during the American Revolution.

Other crimes did not warrant the same severe punishment. For example, Sgt. Thomas Davis of Capt. Richard Sparks's Company was found guilty of being drunk at guard duty on the night of 8 December 1792. Davis's

punishment was not lashing, but he was temporarily stripped of rank for one month and his pay suspended for said term.[44] As the winter dragged on, Wayne knew that supplies, especially ammunition, were at a premium. In February 1793, Wayne ordered that pay be deducted from anyone who had a shortage of powder and shot. For each missing cartridge, a soldier was charge one-eighth of a dollar (12.5 cents) per cartridge.[45] Discipline, although sometimes harsh, provided the necessary order to the legion, which made it a better fighting unit.

While training his legion at the fortified camp on the Native American side of the Ohio River, Wayne often met with members of the Six Nations, including Seneca Chief Cornplanter. The chiefs of the Six Nations sought to broker peace between the United States and the Western Indian Confederacy. Wayne skeptically viewed these attempts at peace. Wayne relayed his views as "from report, they are such, as can not be accepted, consistent with National Honor, & the true interest of the U.S."[46] He continued training his men until he received orders from Washington and Knox. In writing to his friend Sharp Delany, Wayne freely expressed his beliefs: "I suppose that you have a peace with you [in Philadelphia] but we have war, serious war in the Western Country; nor shall we ever have peace (however desirable) until the Indians experience our superiority in the field."[47]

By March 1793, Wayne believed that "[p]eace is out of the question," and he also predicted that "the United States will soon experience more formidable neighbors than the savages upon its margins who will immediately open a wide and deep drain to the population of the Atlantic States."[48] Wayne kept up with the current events, and often he was sent information from Europe. For example, Delany sent him news of the execution of the French monarchy during the revolution. On 19 March 1793, Delany relayed that "France just emerging from as State of abject Slavery–will it seems find Difficulties enough to contend with in support of the plant they have so honorably reared–The Decapitation of Lewis [Louis XVI] announced by the paper of today (if true) will in all probability provoke a Declaration on the part of England & Spain."[49] Delany went on to ponder about the prospects of the United States aiding the fledgling French Republic, knowing the European events had ripple effects in the New World, even for the United States. Regardless of the news, Wayne had to concentrate on the task at hand—defeat the Western tribes.

After ruling out fifteen other possible commanders, President George Washington selected Maj. Gen. "Mad Anthony" Wayne, the last man on his list, to organize and command a newly conceived American Legion fighting force explicitly developed to defeat the Miami tribe of American Indians and their confederates. Washington selected Wayne not only for his demonstrated capabilities as a soldier and storied coolness under fire but also because of his personal loyalty to Washington. Wayne earned the sobriquet "Mad Anthony" due to his ordering of a risky nighttime bayonet attack on a British garrison at Stony Point, New York, in 1779.

Artists' depiction of Brig. Gen. Anthony Wayne circa the eighteenth century. (Artwork by Trumbull and Forest via the Library of Congress)

Charge of the Dragoons at Fallen Timbers (1895), painting, by R. F. Zogbaum. The painting illustrates Gen. Anthony Wayne's campaign against American Indians in the Northwest Territory in 1794. (Image courtesy of *Harper's Magazine*, 1896)

Knox encouraged Wayne by saying, "You are to have everything prepared for a vigorous offensive operations and in perfect readiness to move forward from the Ohio."[50] Readiness was the key. In March 1793, Wayne praised "the Progress that the troops have made both in maneuvering and as Marksmen," which engaged and defeated a small group of Native Americans on St. Patrick's Day.[51] Wayne knew his legion was prepared to move forward. However, the spring weather in the Pennsylvania frontier delayed Wayne and his legion from descending the Ohio toward the enemy. Originally, he planned on moving down the Ohio around 15 April; however, it was 29 April before he could move his legion forward. Additionally, and more important to the campaign, Wayne reported to Knox that his "Quarter Master General promises to have everything belonging to his department in readiness for descending the river as soon as the season will permit the troops to Encamp."[52]

On a hot and steamy August day in 1794, the Legion of the United States met the enemy Native Americans and some Canadian militia near the British Fort Miami in present-day northwest Ohio. The legion pushed forward with the eager dragoons under the command of Lt. Lennard Covington and John Webb setting the pace. The dragoons cut through the enemy lines and devastated the enemy and the infantry followed with bayonets fixed and drove the enemy two miles toward the British Fort Miami. The legion flawlessly outmaneuvered the Native American enemy. The Battle of Fallen Timbers lasted a little over an hour and Wayne owned the field. Unlike his predecessor, St. Clair, Wayne's legion lost less than one percent of its fighting force at Fallen Timbers because it was trained, ready, and lethal.

The readiness of the Legion of the United States in 1792–1793 directly led to the battlefield effectiveness in the summer of 1794 at Fallen Timbers. A year later, Wayne negotiated the Treaty of Greenville that ended the Northwest Indian War, but it was only because of the effective training that began in 1792. Most of the legion experienced the training regimen Wayne instilled at Legionville, which met the enemy on the battlefield on

20 August 1794. The daily drilling and marksmanship at Legionville helped shape America's first combined arms unit. The legacy of Legionville has almost been forgotten by most of the Nation, but the lessons the Army learned on the shores of the Ohio about readiness and lethality should be remembered by our current generation of soldiers. ■

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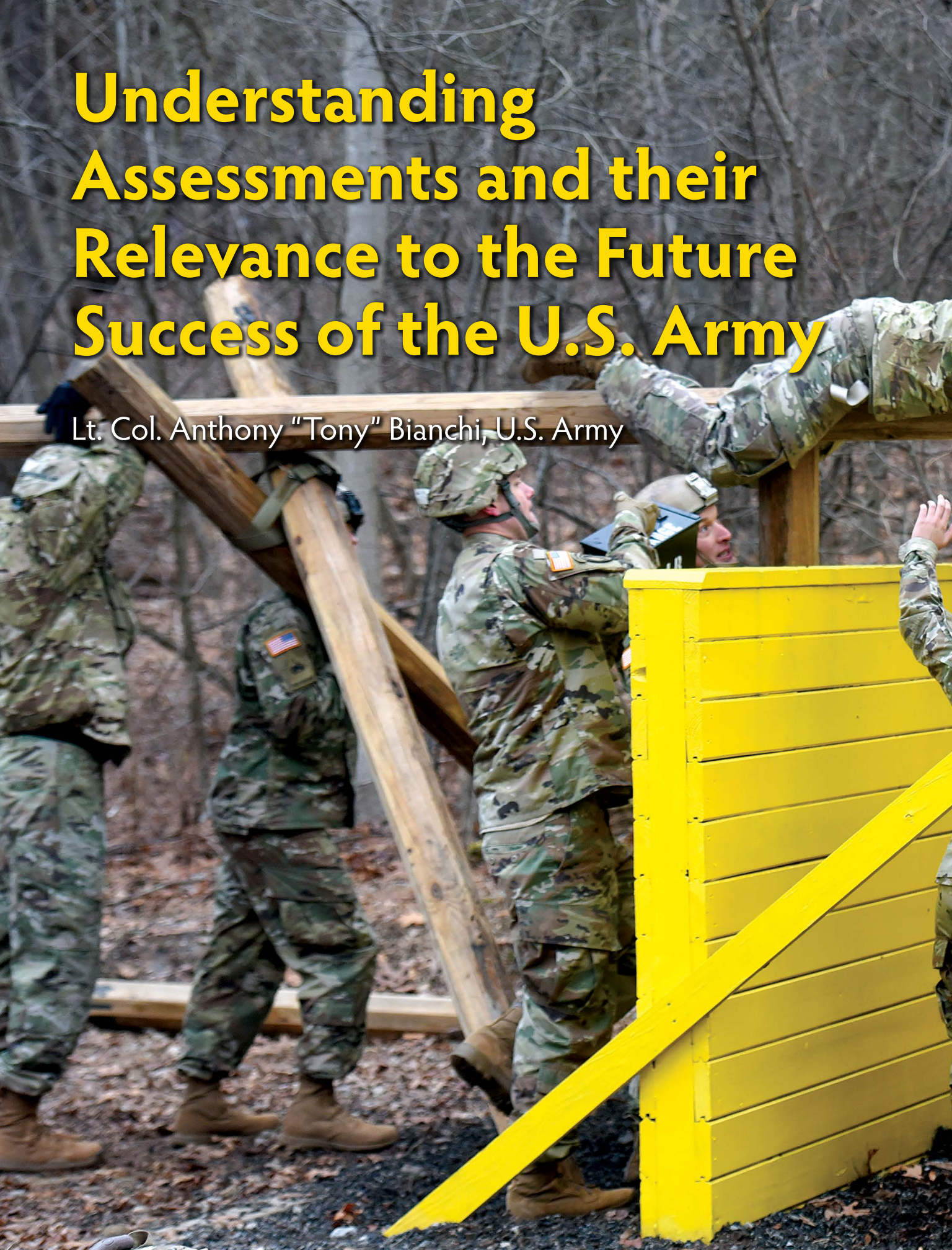
Understanding Assessments and their Relevance to the Future Success of the U.S. Army

Lt. Col. Anthony "Tony" Bianchi, U.S. Army



Battalion Commander Assessment Program participants work together to negotiate an obstacle 23 January 2020 at the Alex Field Leader Reaction Course, Fort Knox, Kentucky. (Photo by Eric Pilgrim)

Today the U.S. Army is in a war for talent. The continued existence of an all-volunteer force rests on the Army's ability to win this war by appropriately managing its number one resource—people. The director of the Army's Talent Management Task Force (ATMTF), Maj. Gen. Joseph P. McGee, highlights how industry leaders talk about the war for talent regarding the management of their people. "That 'war on talent' is going to be a decisive factor on how we fight future wars. One of [the Army's] strengths is the people that we bring in and the leaders that we develop."[1] To address this, the Army is moving away from an industrial-age personnel management system and toward a twenty-first-century talent management system, beginning with the officer corps. The legacy system, built on the tenets of strength management, is data-poor, driven by rigid timelines, and focused on the institution. The new information-age talent management system is data-rich, flexible and transparent, aligns personnel based on talent, and places the preferences of the individual at a premium.

> "Evaluations provide snapshots of performances that are mostly subjective, whereas assessments provide objective data on an officer's knowledge, skills, and behaviors."

Assessments are critical components of a twenty-first-century talent management system that supports the Army enterprise for a few reasons. First, assessments facilitate the collection of granular data needed to drive more informed decisions on personnel by the institution. Next, the use of assessments throughout an individual's career will collectively drive behavior throughout the ranks in a positive way. Third, data collected from assessments gives the Army a better way to identify gaps in its human capital necessary to dominate a peer threat in large-scale combat operations within a multi-domain, highly contested environment.

Before going in depth on each of these key points, one must understand the difference between evaluations and assessments, the various types of assessments, and the unavoidable shift in mindset across the Army as a result of this new culture of assessments. Assessments pertain to a successful implementation of a new talent-based personnel system for the Army.

According to Army Regulation 623-3, *Army Evaluation Reporting System*, evaluation reports are "independent assessments of how well the rated Soldier met duty requirements and adhered to the professional standards of the Army's Officer Corps or NCO [Noncommissioned Officer] Corps within the period covered by the report."[2] It is easy to conflate the terms of evaluation and assessment when defining an evaluation in regulations. This conflation of terms within the Army's doctrine amplifies the lack of understanding about assessments throughout the Army and perpetuates angst about this new culture of assessments.

There are key differences between assessments and evaluations that need to be understood in order to buy into this new culture. Evaluations provide snapshots of performances that are mostly subjective, whereas assessments provide objective data on an officer's knowledge, skills, and behaviors (KSBs). Assessments provide a standardized lens through which to compare individuals of the same rank across the Army; evaluations compare individuals within a constrained population dictated by the echelon and criteria of the senior rater. Assessments go through a rigorous scientific validation process and are reliable to provide accurate and detailed talent data on an individual. Evaluations have no extensive validation process and rely heavily on the experience of the senior rater's opinion to gauge the talent and potential of the rated individual. However, a senior rater's experience-based opinion combined with the observed performance of the rated individual during the rating period is still very important and should have the majority of the input on that individual but not the sole input. Evaluations should and will remain a huge part of the talent management process and, combined with assessments, provide a holistic view of an officer.

The use of assessments throughout an officer's or an NCO's career creates a major paradigm shift. The legacy personnel system placed special emphasis on physical fitness, hyper-compliance, and staying the course on a traditional combat arms career path. A new system would still value physical fitness and meeting commander's intent but will also value individual cognitive and noncognitive abilities, communication skills, and career path flexibility as important, if not arguably more important, than physical fitness. The Army is very comfortable with the use of assessments in the physical fitness realm but very uncomfortable with using assessments in the intellectual realm.

In 2019, the Army instituted the Graduate Record Exam (GRE) at all the Captains Career Courses (CCC), mandating that all officers attending the CCCs take the GRE. The purpose of the GRE is to measure an individual's ability to succeed in his or her first year of graduate school. Specifically, the GRE measures verbal reasoning, quantitative reasoning, critical thinking, and analytical writing skills.[3] The GRE mandate garnered mixed reviews across the Army including those from senior leaders. One high-ranking general officer made the comment, "Jomini never took the GRE."[4] One could argue that Jomini never took the Army Physical Fitness Test (APFT) either, but the current culture in the Army has no problem conducting and using the APFT as a physical assessment. This simply illustrates the mindset change that must occur across the Army at every rank to acknowledge that what someone has above the shoulders is just as important, if not more important, than what someone has below the shoulders. The bottom line is the Army needs to become comfortable valuing intellect as much as physical fitness, especially as rank increases.

Furthermore, assessments are not something new or a surprise in Army culture. In addition to the APFT, multiple assessments already exist in the Army. Examples include the Armed Services Vocational Aptitude Battery implemented in 1976 and the Tailored Adaptive Personality System implemented in 2009.[5] The Army uses both assessments during the recruiting process to determine the best career choice for the soldier when enlisting in the service. For decades, the Army Rangers, U.S. Army Special Forces, and other elite special mission units utilized assessments as part of their overall selection and assignment processes. The idea of using assessments to gain more insight on an individual before making a personnel decision is not an entirely new concept for the Army.

Assessments only work if utilized for their intended purpose. Assessments fall into one of the three categories based on their validated purpose. The three types of assessments are developmental, diagnostic, and predictive. Developmental assessments focus on the individual and provide individuals with information about themselves in the form of strengths and weaknesses for personal development. Diagnostic assessments inform the institution on how to guide and develop an organization toward meeting organizational job requirements. The institution uses predictive assessments to make assignment and selection decisions and can also have a developmental and diagnostic purpose as well.[6] However, there must be a balance between the amount of developmental and diagnostic feedback given to the individual and institution respectively while protecting the security and integrity of the predictive assessment.

Examples will better explain the usage of the three types of assessments. For developmental, a writing assessment taken at the CCC or at the Command and General Staff Officer College (CGSOC) Intermediate Level Education informs select officers that their written communication is weak. Those officers can elect to participate in self-development activities to better their written communication ability. For diagnostic assessment, a writing assessment taken at the CCC informs the Combined Arms Center that a majority of captains across the Army are weak in written communication.

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Officers who were selected by the board to participate in the Battalion Commander Assessment Program pilot conduct standardized testing July 2019 at Fort Benning, Georgia. (Photo courtesy of the Army Talent Management Task Force)

The result is a change in the curriculum across all CCCs to improve upon this aggregate gap. For predictive assessment, a writing assessment taken at the Battalion Commander Assessment Program (BCAP) informs the selection process that an officer is strong at written communication and adds objective support to this officer's selection on the O5 Centralized Selection List (CSL). After understanding the difference between an evaluation and an assessment, the three types of assessments, and comprehending the culture shift that must occur throughout the Army, one can now begin to grasp why assessments are so critical to a modern-day talent management system for the Army.

The first reason why assessments are essential to the implementation of a new talent management system for the Army is that assessments facilitate the collection of granular data needed to drive more informed decisions by the institution on its personnel. In 2019, two major Army talent management initiatives made their debut. The first was the Assignment Interactive Module 2.0 (AIM 2), otherwise known as the assignment marketplace. AIM 2 is a web-based information system designed to enhance the effectiveness and efficiency of the officer management process and facilitate communication between soldiers (e.g., officers and warrant officers with talents), units (e.g., commanders with requirements), and the Officer Personnel Management Directorate.[7] AIM 2 ensures that assignment decisions are made using as much accurate data as possible and employ a regulated market mechanism to better match officer talents to unit requirements.[8] The other initiative is the BCAP. BCAP is the U.S. Army's new selection process that assesses an officer's fitness for battalion command. During the BCAP, officers take a series of cognitive, noncognitive, physical, verbal, and written assessments. They also participate in psychological

interviews and conduct interviews with a "blind" panel of senior Army officers. Officer BCAP scores, combined with an officer's standing on the CSL order of merit list, will inform a new order of merit list.[9] In both cases, data from assessments was or will become a major factor to drive the successful execution of each initiative.

As AIM 2 matures into the Integrated Personnel and Pay System–Army, individuals will be able to use data from assessments to validate self-professed KSBs. Units can also use assessment data in the marketplace to objectively measure potential hires. Additionally, assessment data obtained by the individual for developmental purposes can, at the discretion of the individual, foster engaged discussion with units and influence an individual's preference in the marketplace based on known strengths. In the past, assignments were products of career managers at Human Resources Command. Career managers used data inputs from officer evaluation reports and officer record briefs to align "top" officers with career paths of their predecessors who were also successful officers under the legacy system. This process had very little transparency and gave little emphasis to officer preference and aligning talent. Assessment data will influence preferences for both the individual and unit inside the Army Talent Alignment Process, the cornerstone of the AIM 2 marketplace. The result is a data-rich assignment marketplace that places the preferences of the individual at a premium while placing the right person in the right job at the right time all the time.

Much like the usage of assessments throughout an officer's career will change the culture of the Army, the BCAP changed the way the Army selects its lieutenant colonel CSL positions. Historically, battalion commander selection was an outcome from a board that spent less than two minutes reviewing an officer's file. During this cursory review, the board primarily looked at the number of above-center-of-mass or most-qualified-block checks an officer received in his or her last five evaluations, how well an officer did in key and developmental positions as a major, and the enumeration and stated potential by the senior rater in the first and last sentence of the soldier's narrative portion on each evaluation. The BCAP provides more vectors of information to assist in this selection of battalion commanders or what Gen James C. McConville, the fortieth chief of staff of the Army, calls "the seed corn for the Army's future strategic leaders."[10] The result was a data-rich, holistic analysis and a more informed decision by the institution to select officers to fill, arguably, the most consequential leadership positions in the Army: battalion commanders. As BCAP continues to refine and imbed itself as the routine process of selecting battalion commanders going forward, the behavior of officers coming through the ranks should change as well. In September 2020, the Army executed the inaugural Colonel Command Assessment Program, the brigade-level version of BCAP. Similar to BCAP, the Colonel Command Assessment Program will change the way the Army selects its colonel CSL positions and ultimately drive the behavior of the officer corps as well.

> "Assessments given to officers at their precommissioning source, professional military education venues, and key milestones such as battalion- and brigade-level command selection will undoubtedly influence the behavior of officers in their self-development."

A career-long assessment structure will collectively drive behavior throughout the ranks in a positive way. Assessments given to officers at their precommissioning source, professional military education venues, and key milestones such as battalion- and brigade-level command selection will undoubtedly influence the behavior of officers in their self-development. Similar to how the APFT, and more recently the Army Combat Fitness Test, became part of Army culture and drove the soldier population to work on various techniques to improve select physical skills, career assessments will do the same for improving intellectual and communication skills.

Collaborative efforts are already underway between the ATMTF, the Combined Arms Center, the Office of Economic and Manpower Analysis at West Point, and the U.S. Army War College to ensure a synchronized career assessment program for Army officers. This career-long officer assessment structure begins with giving assessments to all cadets at their precommissioning sources and continues with touch points at all the professional military education venues as well as key milestones like battalion- and brigade-command selection. The purpose of these assessments varies between developmental and predictive. Assessments tend to be more developmental early in an officer's career and more predictive later in his or her career. However, all the assessments have the ability to provide diagnostic data to the Army in a de-identified aggregate manner as needed.

From 2013 to 2016, West Point piloted another talent management initiative: talent-based branching (TBB). The case for TBB was to optimize workforce productivity by aligning cadets with the branch that had the best fit for their talent.[11] TBB uses a market concept with cadets preparing and submitting resumes on the supply side and branches articulating job requirements on the demand side in an effort to determine the best fit for both sides.[12] A key element in making TBB work is the Talent Assessment Battery (TAB). The TAB measures "the cognitive and noncognitive skills, knowledge and behaviors of each relative to their peers and across the branches' talent demands."[13] The assessment data collected on cadets from the TAB combined with the legacy order of merit list information derived from academic, military, and physical performance paints a more holistic picture of the individual. The data from the TAB as part of the TBB process enables the Army to better align cadets with their initial branch choice commensurate with the cadets' and branches' informed preference. Today, TBB is in full implementation at the U.S. Military Academy, Reserve Officers' Training Corps, and Officer Candidate School.

Assessment efforts at the Basic Officer Leader Course, CCC, and CGSOC are predominantly developmental and used to facilitate guided self-development. Data from these assessments will facilitate mandatory discussions between officers and their small-group instructors performing coaching duties using the "leader as coach" methodology as part of guided self-development. There will also be at least one predictive assessment at CCC and CGSOC. The predictive assessment at CCC will equip officers to make informed assignment decisions along a preferred and predictive career pathway. The predictive assessment at CGSOC will influence the key developmental assignment process upon graduating CGSOC. Data from all assessments will also facilitate voluntary interaction with a professional, International Coach Federation-certified coach as part of the Army Coaching Program to make an officer more self-aware. In this scenario, officers have the discretion to share data from developmental assessments with these professional career coaches to create individual development plans and review career options as they pertain to their KSBs and preferences.

The ATMTF and the Center for Strategic Leadership at the U.S. Army War College are working together to provide a predictive assessment at the senior service college level. Since 2018, the Center for Strategic Leadership piloted an assessment instrument that assesses strategic potential of officers in terms of their promotion potential to general officer and slating at the enterprise level. The goal in the next year or two is to have a validated assessment that can assist the Army in building cognitive dominant teams at the enterprise level that can win against a peer threat during large-scale combat operations in a highly contested and ever-changing multi-domain environment.

Data collected from assessments gives the Army a better way to identify gaps in its human capital necessary to dominate peer threats in the future. A May 2020 article from the Army News Service highlights the commander of the Army Futures Command, Gen. John M. Murray, as he emphasizes that having select talent within the Army ranks is the key to filling and executing successfully in multi-domain operations. Specifically, the article stated, "The Multi-Domain Task Force is a model of how the Army envisions joint-warfighting on future battlefields against near-peer competitors, like Russia and China. Before the Army activates additional formations, though, Murray said it will first need the right talent to fill the ranks."[14] Multiple expert opinions on the subject of warfighting in the next fifteen to twenty years revolve around heightened technology and the ability of one side to better leverage technological advances across a multi-domain battlefield.

Col. Joanne C. Moore gives a presentation on talent-based branching 16 March 2017 during the 7th Annual Army G-8 Women's Symposium at the Pentagon, Arlington, Virginia. The process uses a battery of assessments to help cadets determine their branch preferences and best fit. (Photo courtesy of the U.S. Army)

Cyber expertise, nanotechnology, artificial intelligence, data science, and robotics are just some of the technical domains the Army will need to hone and build a bench in order to win future wars. Degrees and certifications in certain disciplines may provide the Army with a decent snapshot of technical competencies, or the lack thereof, within its personnel inventory. However, assessment data collected on individuals over time will be able to give Army leaders a better idea of the personnel that possess the leadership attributes necessary to acquire, integrate, and analyze technology on the battlefield in an efficient manner. The Army will need technologically savvy leaders who are able to decipher large amounts of information rapidly to make decisions and flourish in a decentralized environment.

Right now, the Army's ability to conduct a human capital inventory is only an inch deep and relies mainly on officer record brief information such as rank, education level, discipline studied in college, military schooling, skill identifiers, language proficiency, and previous assignments. Assessment data can provide much more detail to help the Army cover a blind spot and aid in the talent management process.

Having an accurate inventory of personnel and associated talents can assist in the resource alignment and guidance for recruiters, the Reserve Officers' Training Command, and the U.S. Military Academy. As requirements for the Army grow to meet the needs of multi-domain operations, the need for more assessment data on individuals is paramount to shaping the force for the future. Transforming civilians to work in basic branches like infantry, armor, field artillery, and logistics is not the problem. Finding the right personnel who wear an Army uniform at echelon and building depth in certain technological fields is the conundrum. Assessment data is essential to solving this problem.

This article explained the basics of why assessments are essential to the Army's new twenty-first-century talent management system; assessments facilitate the

collection of granular data needed to assist the Army in making better decisions on its people. Assessments given throughout soldiers' careers will positively drive the collective behavior of personnel. Data collected from assessments provides the Army with an understanding of its people's KSBs so the Army can better manage the force. This article also explained the difference between evaluations and assessments, the various types of assessments, and the unavoidable shift in mindset across the Army as a result of this new culture of assessments. Understanding these fundamentals about assessments will hopefully alleviate some of the tension or concern that exists about the implementation of assessments throughout the Army.

The Army will continue to refine its career-long-assessments approach to the officer corps and look to implement the same with its warrant officers and NCO corps. Assessments are and will continue to be one of the main bridges between the industrial age, data-poor legacy system built on performance management and quantity distribution to the information age and the data-rich talent management system centered on talent alignment and individual preference. In reference to the new talent management system, McGee stated during an Association of the U.S. Army Institute of Land Warfare breakfast in 2019, "The institutional requirements are to bring people in and to take a unique understanding of their knowledge, skills and behaviors and preferences, what we call talents, and use that [understanding] over a career to manage them, so they can most contribute to the mission of the United States Army. It's a simple recognition to this question, 'Who's the best officer in the room?' The answer is, 'What job are you considering them for?'"[15] Assessments are the only way the Army can accurately answer that question through a detailed understanding of its number one resource—people. ■

Notes

1. "319th ILW Breakfast-MG Joseph P. McGee-Nov. 14 2019," YouTube video, 38:16, posted by "Association of the U.S. Army," 14 November 2019, accessed 4 January 2021, https://www.youtube.com/watch?v=OFu0RAhtrH8.

2. Army Regulation 623-3, *Evaluation Reporting System* (Washington, DC: U.S. Government Publishing Office, 2019), para. 1-9, accessed 4 January 2021, https://ssilrc.army.mil/wp-content/uploads/2019/10/AR-623-3-Evaluation-Reporting-System-14-June-2019.pdf.

3. "About the GRE General Test," ETS, accessed 4 January 2021, https://www.ets.org/gre/revised_general/about.

4. A senior leader made a comment about Jomini never having to take the Graduate Record Exam during an Army senior leader update on talent management initiatives in February 2020.

5. "History of Military Testing," Armed Services Vocational Aptitude Battery (ASVAB), accessed 4 January 2021, https://www.officialasvab.com/history_res.htm. According to the official site of the ASVAB, the ASVAB was first introduced for usage in the military in 1968 and later adopted by the Army in 1976; David Vergun, "Personality Test Helps Ensure Civilians are Compatible with Army Life," Army.mil, 19 May 2015, accessed 4 January 2021, https://www.army.mil/article/148691/personality_test_helps_ensure_civilians_are_compatible_for_army_life.

6. The definitions of developmental, diagnostic, and predictive assessments were developed and agreed upon by the Office of Economic and Manpower Analysis, Army Research Institute, Center for the Profession and Leadership, and the Army Talent Management Task Force in preparation for a brief to the chief of staff of the Army in March 2019.

7. "Assignment Interactive Module 2.0 (AIM 2)" (online presentation, U.S. Army Human Resources Command, Officer Personnel Management Directorate, April 2017), accessed 8 January 2021, https://www.hrc.army.mil/site/assets/directorate/OPMD/What%20is%20AIM%202.pdf.

8. Ibid.

9. Deputy Chief of Staff G-1/Army Talent Management Task Force, "Battalion Commander Assessment Program," STAND-TO!, 6 December 2019, accessed 4 January 2021, https://www.army.mil/standto/archive_2019-12-06/.

10. James C. McConville and J. P. McGee, "Battalion Commanders Are the Seed Corn of the Army," War on the Rocks, 23 December 2019, accessed 4 January 2021, https://warontherocks.com/2019/12/battalion-commanders-are-the-seed-corn-of-the-army/.

11. Michael J. Colarusso et al., *Starting Strong: Talent-Based Branching of Newly Commissioned U.S. Army Officers*, Officer Corps Strategy Monograph Series, vol. 9 (Carlisle, PA: Strategic Studies Institute and U.S. Army War College Press, 2016), 13, accessed 15 January 2021, https://apps.dtic.mil/dtic/tr/fulltext/u2/1013690.pdf.

12. Ibid.

13. Ibid., 25.

14. Thomas Brading, "Talent Management Key to Filling Future Specialized MDO Units," Army.mil, 21 May 2020, accessed 4 January 2021, https://www.army.mil/article/235813/talent_management_key_to_filling_future_specialized_mdo_units.

15. "319th ILW Breakfast-MG Joseph P. McGee-Nov. 14 2019," YouTube video, 38:16.

REVIEW ESSAY

Britain's War

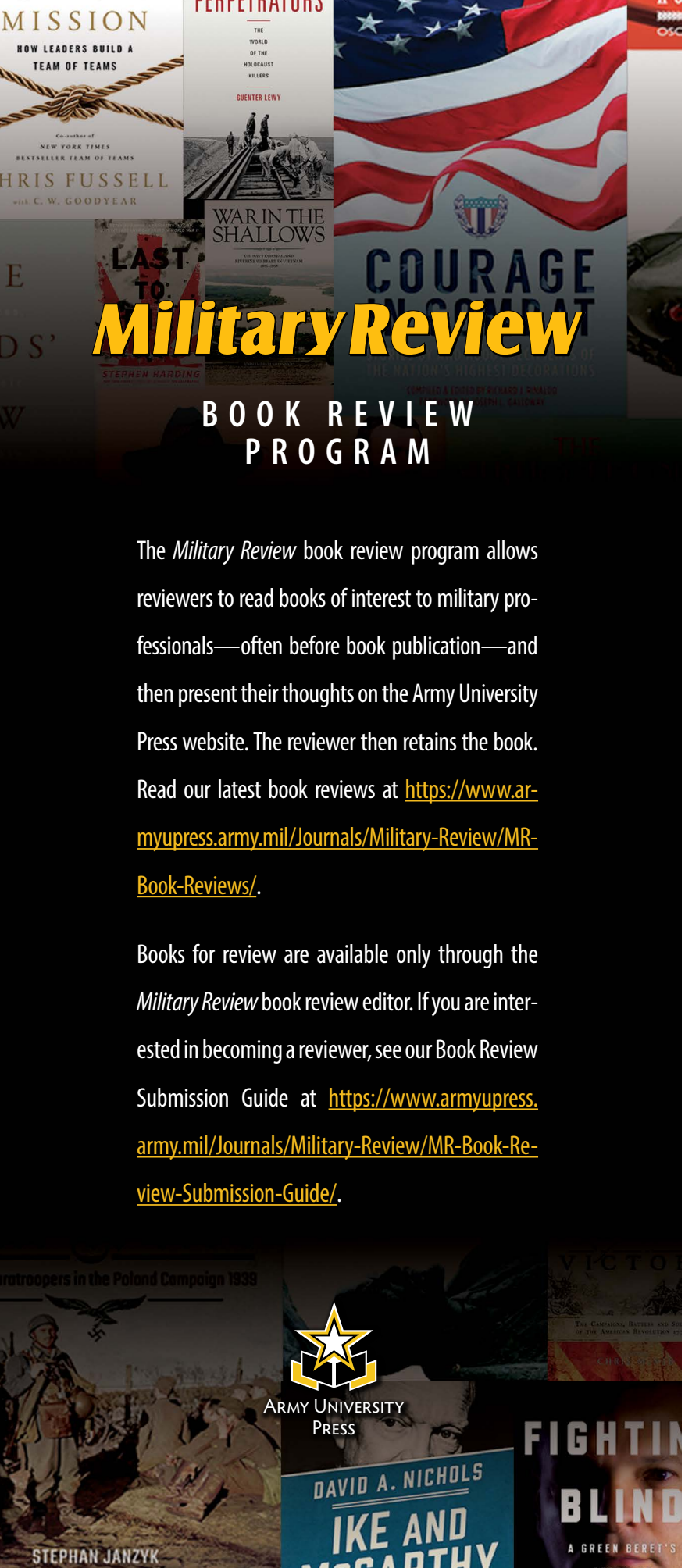
A New World, 1942-1947

Daniel Todman, Oxford University Press, New York, 2020, 976 pages

Mark Montesclaros

Recent notable works of military history have taken a holistic approach, focusing on context and a number of factors within the environment, in addition to primarily military ones. British historian Richard Evans' three-volume series on the Third Reich in the Second World War, published between 2003 and 2009, exemplifies such an approach, as the author examines a number of dynamics, including social, economic, and informational to name a few, in order to help the reader make sense of a complex and complicated period in world history. In *Britain's War: A New World, 1942-1947*, historian Daniel Todman applies a similar comprehensive framework in his thorough analysis of Great Britain and its role in World War II and its immediate aftermath. Advertising his work as a "total history," the author explicitly states that he considers political, economic, and social factors in his rendering of the British experience. Many readers of this publication will no doubt recognize these aspects of the joint doctrinal construct PMESII (political, military, economic, social, information, infrastructure), a model used to deconstruct a complex operational environment in a holistic manner.[1] In *Britain's War*, Todman makes a unique contribution to the literature by unveiling some new perspectives and insights derived from his total analysis of these seminal years in British history.

The book picks up where the author's first volume, *Britain's War: Into Battle, 1937-1941*, left off, and like its predecessor, it is comprehensive, meticulously detailed, and showcases Todman's considerable analytical skills. The author organizes his work chronologically with twenty-nine chapters divided into four major sections, each with a one-word title that aptly describes Britain's relative position on the global stage. The first part, "Nadir," shows a Britain nearly at death's door, shocked by the loss of Singapore to a numerically inferior Japanese army and by setbacks in North Africa that threatened British interests in the Middle East but buoyed by a powerful ally that



had just entered the war following the Japanese attack on Pearl Harbor. Next, "Peak" describes an America ascendant—growing in strength and resolve but still an unequal partner with Great Britain and Joseph Stalin's Russia in the coalition that eventually won World War II. During this period (September 1942 to September 1943), Britain, and its indefatigable leader Winston Churchill, reached its zenith of influence among the Allied powers, particularly after Gen. Bernard Montgomery's decisive victory at El Alamein and following the dramatic encirclement of an entire German army by the Russians at Stalingrad. "Victory" picks up from there and takes the reader to April 1945, just short of the end of the war in Europe. In this section, Todman effectively charts the major campaigns and operations in Sicily, Italy, France, and Germany, along with their attendant Allied strategies. Clearly, the United States was in the fore of the alliance by this time; British power and influence was on the wane. Todman titles the final section of the book "Resolutions" (May 1945 to December 1947) and argues that Britain's war did not end with either the German or Japanese surrender. His final chapter, "The Post-War Disorder," underscores a central idea that Britain's experience in the war must be seen as part of a continuum, and that events in the immediate postwar period were borne out of critical decisions stemming from the midwar years.

While doing justice to a book of this magnitude is difficult within the confines of this review, perhaps it is most useful to point out what the author offers in his new history that previous accounts may not. Among his unique contributions is "widening the aperture." While Todman makes this recommendation while arguing that the significance of D-Day (6 June 1944) must be seen in the context of several larger campaigns across multiple domains, this

reviewer contends that *Britain's War* very effectively "widens the aperture" for the reader in a few ways. By juxtaposing multiple issues across the political, military, economic, and social spectrum, Todman provides a holistic understanding of the British conduct of the war and the reasons behind it. One cannot help but admire an administration grappling with some mighty weighty issues, not the least of which was survival of Great Britain and protection of its vast empire, defeat of Adolf Hitler's Third Reich, the demands of working within a disparate coalition, and planning for life after the war. Todman is masterful at creating a holistic narrative that effectively incorporates these aspects and many more—the fate of India and other British colonies, development of nuclear weapons, revival of the British economy, and the political divisions of postwar Europe. And while many of Todman's military aspects have been treated before, his focus on the broader air and maritime campaigns that accompanied oft-studied land battles is refreshing. His observation that the Battle of the Atlantic "was also the single most important victory won by forces under British command in the whole war" is a testament to the author's commitment to broadening the context and perspective for the reader, not just in his coverage of military operations but across the range of PMESII considerations.[2]

Todman's second contribution, also related to his holistic approach in this volume, is a seamless incorporation of domestic considerations into his wartime narrative. Quite remarkably, he notes that even in the fall of 1942, more than two years before the war in Europe was to end, many Brits were focused on their economic and social well-being *after* the war. The author argues that one of the reasons why Prime Minister Winston Churchill and his Conservative Party were so soundly defeated by Clement Attlee and the Labour Party in 1945 was Churchill's obstinacy and foot-dragging when it came to taking legislative action on social reform. Chief in this regard was the so-called *Beveridge Report*, named for its author Sir William Beveridge, a Labour Ministry official and champion for the much-needed "reconstruction" of the antiquated British labor system. The report advocated for, among other things, the establishment of a social security system, nationalized health care, and governmental intervention to curb unemployment. Remarkably, national discussion at the time of the report's issuance superseded even normal conversations on the state of the war. As noted historian Ian Kershaw observes, "The Beveridge Report was widely discussed among troops overseas, an indication in itself that the war was seen as the gateway to a new society."[3] Todman notes that Churchill and his cabinet struggled with how to respond to the *Beveridge Report* and delayed action on funding any of its aspects until wartime commitments were better defined. This whole episode demonstrates that domestic considerations, with their significant political and economic effects, can have a significant influence on wartime decisions; this was certainly the case with Churchill and his cabinet. The author is masterful in his coverage of the importance of nonmilitary considerations, specifically social reform, and its impacts on an administration fully occupied by war.

A final noteworthy aspect of the book deals with the British Empire, a topic of great controversy amongst the Allied powers. The subject permeates Todman's narrative; he deftly argues that many of Britain's campaigns and military operations were designed to preserve it. Because World War II was truly a global affair, virtually none of Britain's vast network of colonies and possessions were left unaffected by its myriad military operations—whether in the Mediterranean, North African, or Pacific theaters of war. Given his analysis, Todman reaffirms biographer William Manchester's observation that "Churchill remained an unrepentant champion of the British Empire to the end."[4] Unfortunately for the coalition, the idea of fighting to preserve an empire was anathema to President Franklin Roosevelt as well as to American military leaders. Hence, Todman deftly portrays

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the internal conflicts over the issue. While Churchill sought to maintain the status quo and strongly opposed nationalist movements (particularly in India), Roosevelt was championing the Atlantic Charter and its vision of self-determination for all peoples. Similarly, the American Joint Chiefs of Staff constantly questioned their British counterparts' motives, especially with their emphasis on operations in the Mediterranean and the Middle East. Seen by the Americans as superfluous actions designed primarily to ensure British interests, they instead advocated for a cross-channel attack into Europe as early as 1942. The fact that Operation Overlord did not occur until 1944 shows that during the early years of the alliance, Churchill and the British held sway over American military desires. Other authors have also argued that preservation of the empire figured into Britain's global wartime strategy, particularly in its desire to pursue "an essentially imperial objective: the preservation of British maritime and political power."[5] Actions preceding Overlord in North Africa, Sicily, and then Italy seem to bear this out. Throughout the book, Todman effectively shows how these imperial considerations—with their attendant political, economic, and social effects—permeated British decision-making both during the war and in planning for its aftermath. Once again, he demonstrates the efficacy of a holistic approach in his consideration of the theme of empire.

Despite these strengths, *Britain's War* is not for everyone. At over nine hundred pages and weighing in at over three pounds, the book's tremendous scope, depth, and methodical pacing may pose a challenge to some readers. Those expecting a focus on purely military action may be dismayed at the book's frequent forays into the war's multiple other aspects, as has been previously discussed. Additionally, some of the sections of the book could use smoother transitions, as disparate topics may seem disconnected to the reader. The book is at its best when Todman includes transitions and links a particular topic to its broader context. A final comment here is that *Britain's War* might benefit from an epilogue or conclusion that revisits some of the themes in the author's introduction. While the final chapter, "The Post-War Disorder," is aptly named and very well constructed, there is no overarching conclusion to the entire volume, which might help the reader make a sense of it all. The book's final sentence thus serves as its conclusion: "For good or ill, its [Britain's] entry into the new world created by the Second World War would be defined by the legacies of the past."[6] Todman more than justifies that brief but eloquent statement in the many pages that precede it.

The book is for the serious student and requires a commitment from the reader. Those who complete it will be rewarded with a much deeper understanding of the British perspective of its participation in World War II and how that experience has invariably shaped the strategic and operational environment today. I highly recommend this book for today's military professionals as well as for those in undergraduate or graduate studies in military history, World War II, and the Cold War. A comprehensive and valuable achievement, Todman's new perspective in *Britain's War: A New World, 1942-1947*, will no doubt make an indelible impression on all who read it. ■

Notes

1. Joint Publication 5-0, *Joint Planning* (Washington, DC: U.S. Government Publishing Office, 1 December 2020), IV-6–IV-10. In addition to political, military, economic, and social factors, the PMESII construct for examining the operational environment holistically includes "infrastructure" and "information."

2. Daniel Todman, *Britain's War: A New World, 1942-1947* (New York: Oxford University Press, 2020), 345.

3. Ian Kershaw, *To Hell and Back: Europe 1914-1949* (New York: Viking, 2015), 383.

4. William Manchester and Paul Reid, *The Last Lion: Winston Spencer Churchill, Defender of the Realm, 1940-1965* (New York: Little, Brown, 2012), 1047.

5. Lawrence James, *Churchill and Empire: A Portrait of an Imperialist* (New York: Pegasus Books, 2014), 239.

6. Ibid., 831.

Letter from Maj. Gen. Nathanael Greene to his wife, Catharine Greene

Providence, Rhode Island, 2 June 1775

It had been happy for me if I could have lived a private life in peace and plenty, enjoying all the happiness that results from a well-tempered society, founded on mutual esteem. The social feelings that accompanies such an intercourse is a faint emblem of the divine saints inhabiting eternity. But the injury done my Country and the chains of slavery forging for posterity calls me forth to defend our common rights, and repel the bold invaders of the Sons of freedom. The cause is the cause of God and man. Slavery shuts up every avenue that leads to knowledge, and leaves the soul ignorant of its own importance; it is rendered incapable of promoting human happiness, piety or virtue; and he that betrays that trust—being once acquainted with the pleasure and advantages of knowledge and freedom—is guilty of a spiritual suicide. I am determined to defend my rights and maintain my freedom, or sell my life in the attempt; and I hope the righteous God that rules the world will bless the Armies of America, and receive the spirits of those whose lot it is to fall in action into the paradise of God, into whose protection I commend you and myself; and am, with truest regard, your loving husband.

N. Greene

Above: Catharine Littlefield Greene Miller (1809), painting, by James Frothingham. **Right:** Nathanael Greene (1783), painting, by Charles Willson Peale. Greene was widely regarded as Gen. George Washington's most able subordinate commander. (Both images courtesy of Wikimedia Commons) Excerpt of letter taken from *Quarterly Review: A Journal of University Perspectives* (1951), Vol. 58 via Google Books. Graphic elements by www.rawpixel.com/www.freepik.com.

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