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Cover photo: Paratroopers assigned to 1st Battalion, 503rd Infantry Regiment, 173rd Airborne Brigade, move toward an objective 21 August 2019 during a company-level combined arms live-fire exercise in Grafenwoehr Training Area, Germany. (Photo by Spc. Ryan Lucas, U.S. Army)

Next page: To begin the certification phase of Saber Junction 18, paratroopers with the 173rd Airborne Brigade jump 19 September 2018 into Hohenfels, Germany. (Photo by Spc. Josselyn Fuentes, U.S. Army)

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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.

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

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- Multi-domain task force
- Recon and security/cavalry operations
- Protection and security (air defense artillery, engineer, chemical, biological, radiological, nuclear, cavalry)

Joint Operations

- Air/sea/land integration
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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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Sgt. Chase McConnell, 3rd Law Enforcement Battalion, and Deuce enter a building 20 November 2020 in an urban training facility at Andersen Air Force Base, Guam. (Photo by Staff Sgt. Nicholas Crisp, U.S. Air Force)

China's Maritime Militia and Fishing Fleets

A Primer for Operational Staffs and Tactical Leaders

Shuxian Luo
Jonathan G. Panter

Articles about gray-zone operations—states' use of nontraditional forces and methods to pursue security objectives without triggering armed conflict—are unavoidable in military professional literature.[1] This is particularly true for commentary about Russia and the People's Republic of China (PRC).[2] These states' embrace of gray-zone operations is unsurprising since such operations are an attractive means for relatively disadvantaged powers to challenge a stronger rival like the United States. Among the most important of China's gray-zone forces and actors is its maritime militia. In addition, China's overtly civilian distant-water fishing (DWF) fleets, which are affiliated to varying degrees with Chinese government agencies, have been subject to growing international scrutiny.

Vessels in both groups help China rewrite the rules of freedom of navigation, buttress its maritime claims, secure vital resources, and extend its economic reach across the globe. In the coming years, U.S. Department of Defense civilians and military personnel throughout the joint force will encounter these nontraditional maritime forces engaged in a variety of operations across several geographic combatant commands. Failure to recognize the purpose, capabilities, or limitations of these vessels will impede U.S. forces' ability to accomplish assigned missions, defend themselves, and avoid unintentional escalation.

Chinese fishing boats head out to sea from Zhoushan in Zhejiang Province, China. (Photo courtesy of China Foto Press)

China's maritime actors have drawn growing attention from both scholars and defense professionals. However, the political context provided by academic research may not reach practitioners who rely on shorter, descriptive articles about Chinese capabilities.[3] Bridging this gap can support more informed assessments of Chinese vessels' possible intentions, assisting military staffs and leaders in developing rules of engagement, tactical procedures, and reporting criteria.

The article proceeds in three parts. It begins by analyzing the domestic sources of Chinese grand strategy that influence the PRC's maritime policies and activities. The next section describes China's maritime militia and fishing fleets, their strategic purposes, and their strengths and limitations. The final section addresses the challenges these actors pose to U.S. forces, with particular emphasis on the links between force protection and unintended escalation.

China's Grand Strategy: Misperceptions and Reality

"Grand strategy" is the highest rung of a state's foreign policy; it is a unifying theme linking a state's various

efforts to secure its own survival and welfare in the international system. As defined by political scientist Richard Betts, it is "a practical plan to use military, economic, and diplomatic means to achieve national interests (or political ends) over time, with the least feasible cost in blood and treasure."[4] The key phrase is "over time," because what distinguishes "grand strategy" from "strategy" is some consistent thread between a state's individual policies.

However, as Betts observes, the concept of grand strategy is too often applied retroactively to decisions that were merely ad hoc responses to a problem. Moreover, "[t]he term 'grand' conjures up unrealistic images of sweeping and far-seeing purpose, ingenuity, direction, and adroitness."[5] These critiques neatly capture many recurring tropes about China's grand strategy, including "hide and bide," "a game of Go," and invocations of Sun Tzu's *The Art of War* (especially "defeating the enemy without fighting").[6] The first refers to China's late paramount leader (from 1978 until 1989) Deng Xiaoping's philosophy that China should "hide its strength and bide its time"; the second holds that Western strategists see the world as a chess game (seeking decisive battle), but Chinese strategists see it like the board game "Wei Qi" (encircling the enemy over the long term); and the third suggests that Chinese strategists rely on deception and delay more than their Western counterparts (who, ostensibly, are avid readers of Carl von Clausewitz's *On War*).[7]

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Jonathan G. Panter is a PhD candidate in political science at Columbia University. His research examines the origin of naval command-and-control practices. He previously served as a surface warfare officer in the U.S. Navy, deploying twice in support of Operation Inherent Resolve. He holds a BA in government from Cornell University and an MPhil and MA in political science from Columbia University.

These maxims sensationalize Chinese strategic thought as permanent, infinitely patient, devious, and opaque to the Western mind. To be sure, they contain some truth, but the pop version of Chinese grand strategy perpetuates two false assumptions (see the table, page 9). The first is that China is a unitary actor rather than a state with many domestic audiences (interest groups with varying degrees of power). The second is that Chinese policy priorities are fixed over time, despite the Chinese Communist Party's (CCP) shifting legitimating narratives for its internal audiences. The implication is serious: If China is incapable of change, what is the point of any U.S. policy but containment or confrontation?[8]

The PRC's long-term plans are more nuanced. China has a grand strategy, but one that is rooted in its governance structure and the CCP's narratives of legitimacy. U.S. defense professionals dealing with gray-zone forces should understand how China's maritime disputes affect the CCP's internal calculus about the stability of its governance. Knowing what domestic audiences and CCP narratives are impacted by, say, an at-sea encounter between U.S. warships and Chinese fishing boats, can inform analyses of the risks and benefits of such interactions.

While it remains subject to debate whether Beijing pursues a full-fledged revisionist goal of displacing the United States in the Indo-Pacific region and challenging U.S. dominance internationally, a broader and consistent theme has emerged in China's official documents and leadership speeches: that of Chinese national "rejuvenation," or a restoration of its past position of prestige in world affairs.[9] In a recent article, political scientist Avery Goldstein argues that rejuvenation has been a consistent grand strategy of the PRC alongside a second strategy: survival of the state with the CCP as its sole ruler. During the Cold War, as the PRC faced existential threats from outside, survival dominated rejuvenation. It remains the regime's "topmost vital, or 'core' interest" today, but China's greater safety leaves room for it to pursue rejuvenation.[10] Since 1992, Goldstein argues, rejuvenation has undergone three phases: "hide and bide" under Deng; "peaceful rise" (reassuring other countries of China's benign intentions) in the 1990s; and the "China dream" (increased assertiveness) under Xi Xinping. Upon taking power in 2012, Xi considered "hide and bide" and "peaceful rise" anachronistic, preferring an "activist approach" in which the PRC would utilize its power to "more resolutely resist challenges to core interests."[11]

Both grand strategies—rejuvenation and regime survival—depend on safeguarding China's sovereignty and territorial integrity, and maintaining economic development.[12] First, the CCP's domestic legitimacy since its founding has rested heavily on the party's demonstrative capabilities in defending the country from foreign interference. Its main competitor in the 1930s and 1940s, the Kuomintang, received both U.S. and Union of Soviet Socialist Republics support in World War II. During the ensuing Chinese Civil War, therefore, the CCP sought domestic support by claiming that it was the only side unsullied by foreign influence.[13]

After the CCP triumphed over the Kuomintang in 1949, its claim to be the sole party that could defend China from the machinations of foreign powers remained an enduring part of its foreign policy and domestic legitimacy. This precipitated an intervention in the Korean War in 1950 and a war with India in 1962. Concerns about territorial integrity and sovereignty at times even outweighed ideological alignment. In the 1960s, the PRC supported North Vietnam to counteract both U.S. *and* Soviet presence in Southeast Asia and used force to contest Soviet encroachments along the PRC's disputed border.[14] In 1974 and 1988, China fought Vietnam to seize land features in the contested Paracels and Spratlys, and to secure a stronger position in the South China Sea.[15]

A second major component of the CCP's legitimacy was its economic program of collectivization and central planning. But after the humanitarian disasters and internal turmoil resulting from the Cultural Revolution and the Great Leap Forward, the CCP in the late 1970s began to downplay communism and Maoism. Under the reform-minded Deng Xiaoping and his allies, the CCP emphasized economic growth as the source of the party's legitimacy and initiated radical economic, but not political, liberalization. But this economic opening, though conceived as a source of legitimacy, also threatened the regime's support by introducing socioeconomic inequality, changing values, and corruption.[16] The 1989 Tian'anmen prodemocracy protests and the demise of the socialist bloc in the early 1990s compounded the problem.

Against this backdrop, the CCP launched a propaganda campaign to shore up the party's legitimacy and discredit Western-style liberalization, reinforcing the memory of the "century of humiliation" (1839–1949) when foreign powers invaded China, imposed extraterritoriality in treaty ports, restricted indigenous economic regulation, and extracted war indemnities.[17] The years of backwardness and suffering at the hands of foreign powers engendered a persistent Chinese yearning for the country's restoration as a strong, prosperous, and respected power.[18] At the same time, new parochial interests and actors emerged outside the traditional Chinese foreign policy establishment during the reform era, forcing the CCP to cope with competition among bureaucrats, business elites, and local governments alongside an explosion in news outlets and internet users.[19] Many of these new actors constrain state action on foreign policy issues, including those on territorial integrity and sovereignty that resonate deeply with the Chinese nationalist sentiments.[20]

In this way, economic growth has reinforced the CCP's original claims to its right to rule: the "protection" of Chinese territorial independence and sovereignty. The pursuit of marine resources in the three million square kilometers of "maritime national territory" that incorporates the Chinese exclusive economic zone and continental shelf is thus framed in both economic and sovereign

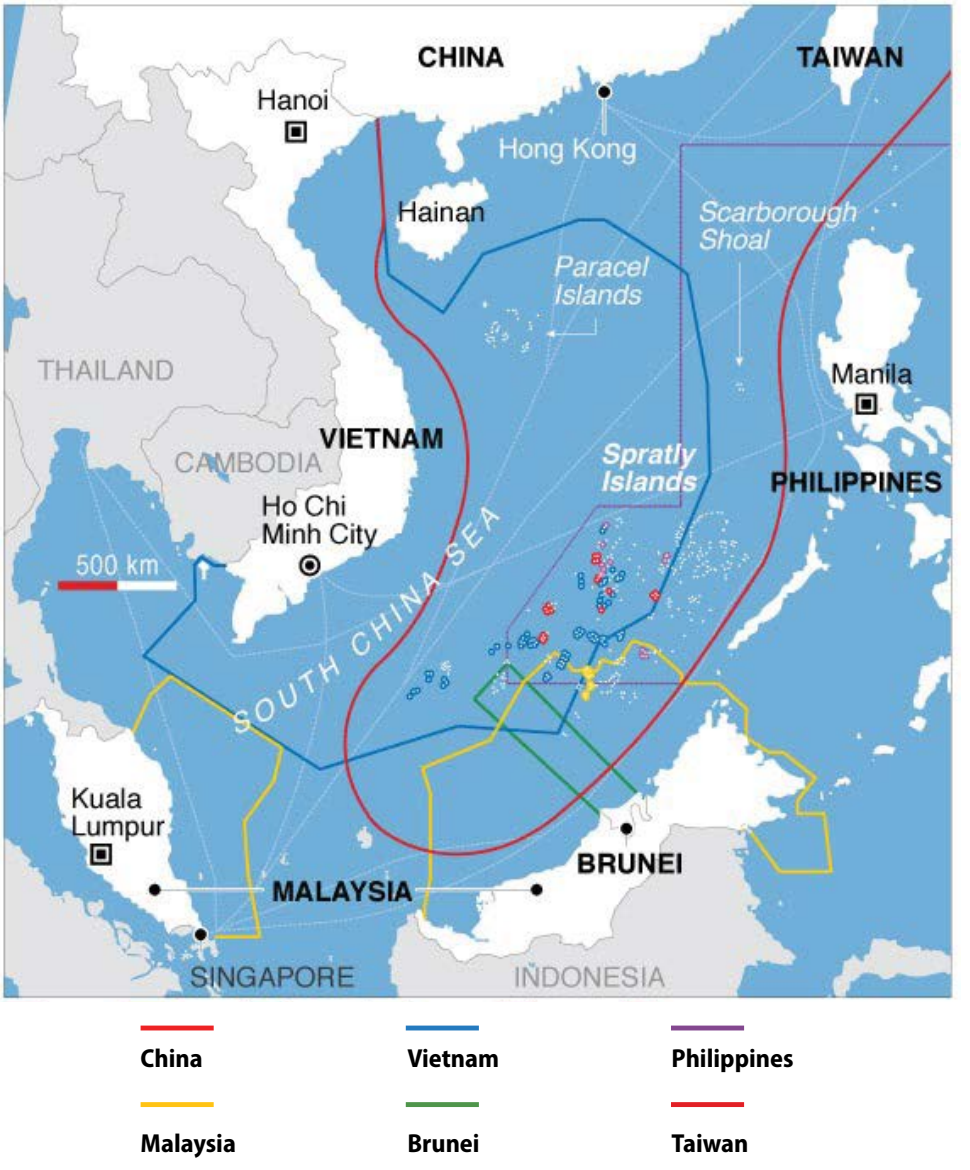
Table. Misperceptions about China's Grand Strategy

Misperception	Reality	Implications for the U.S.
China as an "unitary actor"	Multiple domestic social, political, and economic audiences	Missed opportunities to influence Chinese domestic audiences
Chinese policy priorities as fixed	Policy priorities change over time in response to domestic politics and the external environment	Perception that diplomacy is futile, or that U.S. actions cannot affect China's priorities

(Table by Jonathan G. Panter)

terms.[21] First, the marine resources in these areas contribute both to China's domestic food needs and its export economy. China is by far the world's largest producer of "captured" (nonfarmed) fish, comprising 15 percent of world total, and the largest exporter of captured product. Of the 3.1 million fishing vessels in Asia, China operates 864,000 of them.[22] Second, China's growing reliance on sea lines of communication for trade in energy and other goods has increased Beijing's resolve to protect strategic waterways within and beyond China's maritime boundary.[23]

The growing need to safeguard maritime territories and jurisdictional waters in China's near seas has incentivized the People's Liberation Army (PLA)—which has, since the 1990s, focused on preparing for a Taiwan scenario—to share the burden of new missions with nonmilitary state actors. In its defense white paper from the year 2000, China for the first time described its frontier defense as a "joint military-civilian land and sea border management system, headed by the military and with a sharing of responsibilities between the military and the civilian authorities."[24] Since then, China has incrementally moved away from a relatively navy-centric approach toward a multiagent, division-of-labor method for safeguarding its maritime sovereignty and interests. Since 2005, China has preferred to employ the PLA Navy (PLAN) in background roles, relying instead on maritime law enforcement agencies and the maritime militia as its frontline responses to maritime disputes and contingencies.[25]



(Graphic courtesy of Wikimedia Commons)

South China Sea Claims

Although the United States takes no position on the ownership of the contested maritime territories, PRC maritime sovereignty and jurisdiction claims challenge U.S. interests in the region in several ways. First, China seeks the right to regulate and restrict the activities of foreign military vessels and aircraft operating within its exclusive economic zone, which is at odds with norms

Soldiers attend a flag conferral ceremony 21 July 2013 during the official launch of Sansha City's maritime militia. (Photo by Zhou Xiaogang, Xinhua News Agency)

on freedom of navigation and has been the central source of friction between U.S. and Chinese ships and aircraft in the South China Sea.[26] Second, it attempts to erode U.S. alliance relationships, especially those with Japan and the Philippines, with whom China has unsettled maritime territorial and boundary disputes.[27] Finally, the PRC continues to expand power projection and anti-access/area denial capabilities to cover a growing portion of the western Pacific.[28]

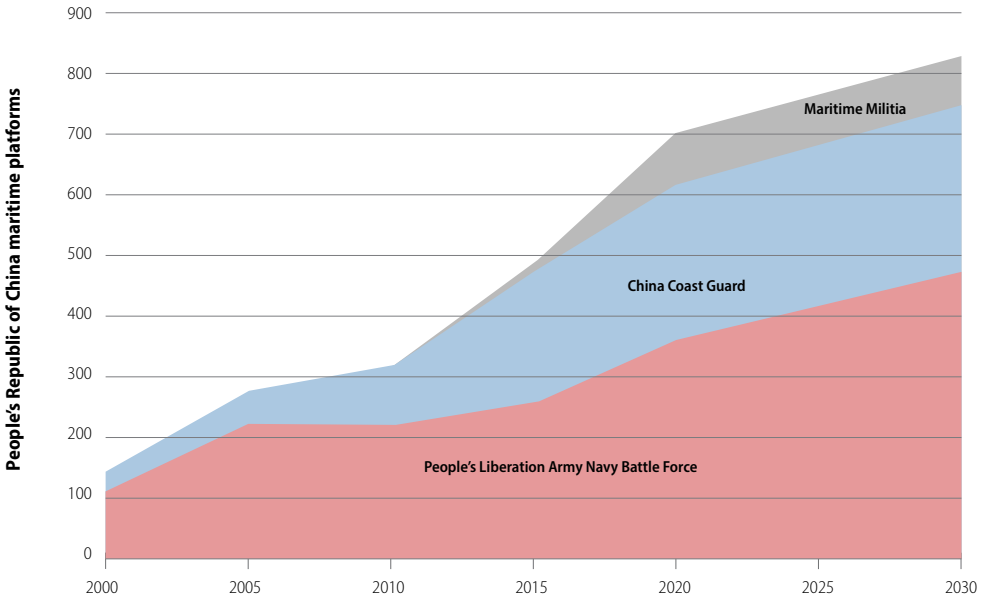
While employing maritime law enforcement and fishing ships in lieu of naval assets may enable China to avoid crossing the threshold of military conflict outright when asserting its maritime claims, it can still complicate crisis management for both the United States and China in the event of a maritime incident. Past major crises between two countries in the contemporary era illustrate the potential dangers. One of the most serious incidents occurred in 1999 when the U.S. Air Force accidentally bombed the Chinese embassy in Belgrade, killing three Chinese journalists. Despite a lack of evidence that the bombing was intentional, the incident triggered violent anti-American mass protests in China.[29] The affair highlights the sensitivity of any incident, mistaken or otherwise, resulting in Chinese civilian casualties.

The Hainan Island incident in 2001, in which a Chinese fighter jet collided with a U.S. reconnaissance plane during an attempted interception, highlights a different potential source of crisis escalation: distortion of information within the Chinese political system between local and central authorities. According to former senior U.S. civilian and military officials, the local naval aviation authorities in Hainan may have falsely reported to high-level Chinese leadership that the U.S. plane intentionally crashed into the Chinese fighter (which was technically impossible).[30] Crisis management in an incident involving Chinese fishing boats, whether or not registered as maritime militia, entails both types of danger.

China's Maritime Militia and Fishing Fleets

The PRC defines its militia as "an armed mass organization composed of civilians retaining their regular jobs," a component of China's armed forces, and an "auxiliary

and reserve force" of the PLA.[31] Once conceived as a major component in the concept of "People's War," the militia in contemporary Chinese military planning is now tasked with assisting the PLA "by performing security and logistics functions in war."[32] The maritime militia, a separate organization from both the PLAN and China Coast Guard (CCG), consists of citizens working in the marine economy who receive training from the PLA and CCG to perform tasks including but not limited to border patrol, surveillance and reconnaissance, maritime transportation, search and rescue, and auxiliary tasks in support of naval operations in wartime (see figure 1).[33]



(Figure from *Advantage at Sea: Prevailing with Integrated All-Domain Naval Power*, December 2020, by the U.S. Coast Guard, U.S. Marines, and the U.S. Navy)

Figure 1. Growth of China's Maritime Forces since 2000

The National Defense Mobilization Commission (NDMC) system, comprised of a national-level NDMC overseen jointly by the Chinese State Council and the PLA's Central Military Commission and local NDMCs at provincial, municipal, and county levels with a similar dual civilian-military command structure at each level, has traditionally been tasked to manage administration and mobilization of the militia. Following the PLA's 2016 reorganization, a National Defense Mobilization Department (NDMD) has been established under the Central Military Commission to oversee the provincial-level military districts and take charge of the PLA's territorial administrative responsibilities including mobilization work. The head of the NDMD is appointed as the secretary general of the national NDMC, in which China's premier and defense minister serve as the director and deputy director, respectively.[34] In addition to the NDMC line, the State Commission of Border and Coastal Defense system—also subject to a dual civilian-military leadership—has its own command structures running from the national to local levels, and it shares responsibility for militia administration, mobilization, and border defense. There is a significant crossover between the lines of authority.[35]

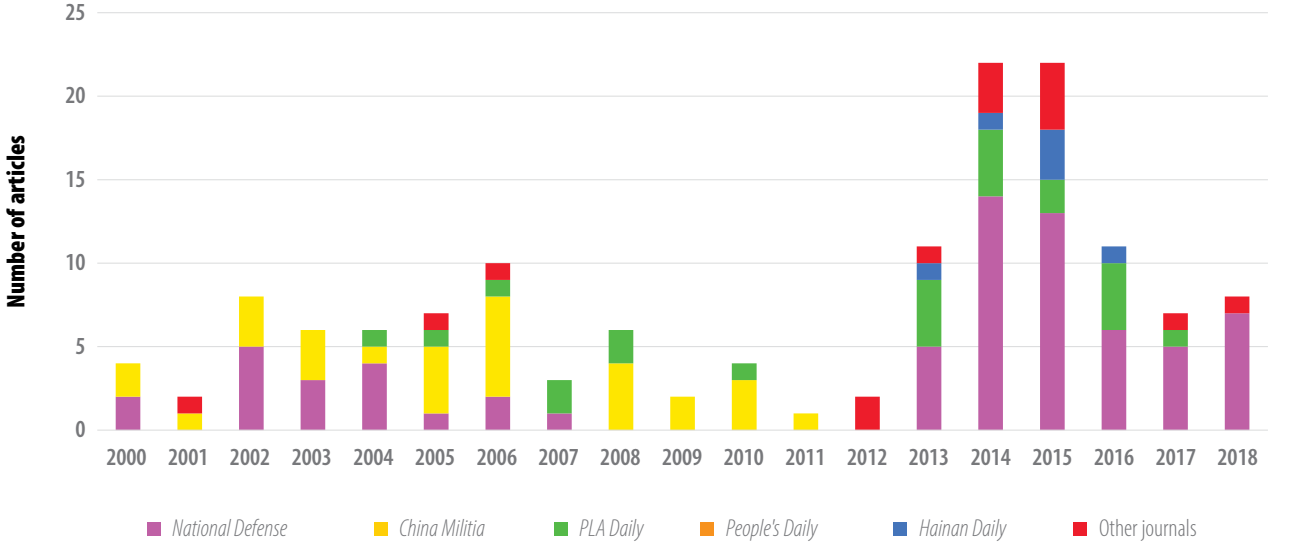
The militia has played a major role in asserting Chinese maritime claims in the South China Sea. This includes high-profile coercive incidents such as the 2009 harassment of USNS *Impeccable*, the 2012 Scarborough Shoal standoff, and the 2014 HD-981 clash.[36] Xi's 2013 trip to Hainan—the island province with administrative authority over the South China Sea that has organized local fishing fleets into active maritime militia units—unleashed a nationwide push (see figure 2, page 13) to build the militia into a genuine third arm of China's "PLA-law enforcement-militia joint defense" maritime sovereignty defense strategy.[37] Since it is comprised of both civilians and soldiers, according to the Chinese rationale, the militia can be deployed to strengthen control of China's "maritime territory" while avoiding the political and diplomatic ramifications that might otherwise be associated with military involvement.[38]

The surge of propaganda notwithstanding, several issues confront Beijing before the maritime militia can effectively function as the third arm in collaboration with the PLAN and CCG. First, the wide dispersion of the maritime militia at sea makes it harder to control than land-based forces.[39] Second, it is unclear through what

institutionalized cross-system integrator(s) maritime militia forces coordinate with the CCG or with the PLA's theater command system that operates active-duty forces.[40] PLA commanders and officers have openly discussed the problems of who commands the militia forces, under what circumstances, and with what authorization; who is authorized to review and approve the maritime militia's participation in what types of maritime rights protection operations; and who is responsible for militia expenditures. Due to these uncertainties, some PLA commanders have urged further standardizing the maritime militia's command, control, and collaboration structure.[41]

Budgetary shortfalls complicate the training, administration, deployment, and control of the maritime militia. As of 2010, only about 2 to 3 percent of China's national defense budget was used to fund militia training and equipment, with additional funding coming from local governments.[42] Local funding has proven inadequate to compensate for gaps in central government outlays. A guideline issued by Hainan in 2014 stated that the provincial and county/city/prefecture governments each would be responsible for 50 percent of the province's maritime militia expenditure. For that year, the provincial government earmarked 28 million renminbi (RMB, or Chinese yuan) for the maritime militia, a minuscule quantity given the huge costs of recruitment, administration, training, and deployment (1 RMB is equal to about 0.15 USD).[43] According to a 2014 estimate, one week of training for a fifty-ton fishing boat costs over 100,000 RMB for crew lodging and compensation for lost income.[44] To spread out the financial burden, common practice now holds that "whoever uses the militia pays the bill."[45]

Even so, funding remains a key hurdle. In 2017, the commander of the Ningbo Military Subdistrict (MSD) under the Zhejiang Province Military Subdistrict complained in the PLA's professional magazine *National Defense* about a lack of formal channels to guarantee funds. When the maritime militia was assigned to a task, he pointed out, funding took the form of "the county paying a bit, the city compensating a bit, and the province subsidizing a bit." This meant that "the more tasks you perform, the more you pay."[46] Given the fiscal strains, local authorities have forcefully lobbied Beijing for more money. The localities also see the outpouring of central government resources as an opportunity to benefit their local fishing economies. Hainan, for example, used Beijing's subsidies to upgrade local fishing boats



(Figure by Shuxian Luo)

Figure 2. Maritime Militia in the Core Newspapers and People's Liberation Army Journals since 2000 (CNKI Search by Theme)

U.S. Navy sailors and U.S. Coast Guard Pacific Law Enforcement Detachment Team personnel approach a Chinese fishing vessel on a rigid-hull inflatable boat 29 November 2016 during an Oceania Maritime Security Initiative mission with Arleigh Burke-class guided-missile destroyer USS *Sampson* (DDG 102) in the Pacific Ocean. (Photo by Petty Officer 2nd Class Bryan Jackson, U.S. Navy)

and increase modernized steel-hulled trawlers under the banner of "sovereignty rights via fishing."[47] In fiscal year 2017, the province received 18.01 billion RMB in transfer payments from Beijing to account for "the province's expenditure on maritime administration."[48]

The marketization of China's fishery sector in the reform era has compounded the organizational problems arising from this unstandardized funding model. Since Chinese fishermen are now profit driven rather than de facto employees of the state, the government has both less formal authority and less economic leverage over them.[49] In the 2000s, coastal provincial military districts widely reported problems in tracking and controlling registered militia fishing ships.[50] According to a 2015 article by the director of the political department of the Sansha MSD under the Hainan Provincial Military District, surveys conducted in Hainan localities showed that 42 percent of fishermen prioritized material benefits over their participation in the maritime militia. Some fishermen admitted that they would quit militia activity without adequate compensation or justified their absence from maritime rights protection operations because fishing was more important.[51]

In a 2018 interview with one of this article's authors, sources with firsthand knowledge of Hainan's fishing community noted that each fishing ship participating in maritime rights protection activity received a daily compensation of 500 RMB, a sum "too petty compared to the profits that could be made from a day just fishing at sea, and even more so when compared to the huge profits from giant clam poaching."[52] These financial pressures reportedly created substantial difficulty for China in mobilizing the militia during the 2014 HD-981 clash.[53] Some fishermen even manipulated maritime militia policies to evade regulations and conceal illegal attempts to fish for endangered or protected marine species in contested waters.[54] Notably, such activities were completely at odds with Chinese government strategy; Beijing had explicitly prohibited illegal

fishing to avoid "causing trouble for China's diplomacy and damaging China's international image."[55]

Given the unclear command and coordination arrangements, funding problems, and weak control exerted on Chinese fishermen, it is difficult to assess the extent to which Chinese authorities control fishermen operating in the South China Sea. Some fishermen have collaborated with the CCG and/or the PLA in gray-zone operations, indicating that the maritime militia does exploit the plausible deniability afforded by their dual identity as military personnel and civilian mariners. However, given the evidence in authoritative Chinese-language sources, it is unrealistic to portray the maritime militia as a coherent body with adequate professional training or as one that has systemically conducted deceptive missions in close collaboration with the PLAN and CCG. Rather, the coordination seems to be, as various sources in China, the United States, Japan, and Singapore similarly characterize it, "loose and diffuse" at best. Achieving high levels of coordination and interoperability will likely "take a long time."[56]

PLA officers and strategists worry that the maritime militia's status as "both civilians and soldiers" could carry more risks than advantages during encounters with foreign vessels. A scholar at the PLA's National Defense University asks, "If the militia uses force in maritime rights protection operation, should this be considered as law enforcement behavior or military behavior, or behavior other than war?"[57] The director of the political department of the Sansha MSD cautions that the militia's inadequate "political awareness" and professionalism make its members "unfit for the complex situation surrounding the South China Sea rights and interests struggle."[58] This makes it imperative, he argues, to "make the militia consciously comply with political and organizational disciplines, regulate their rights protection behavior, and avoid causing conflict, escalation, or diplomatic spats."[59]

Beyond the South China Sea, the U.S. Department of Defense believes that the maritime militia played a role in a large intrusion in 2016 in waters near the Diaoyu/Senkaku Islands, a group of uninhabited islets in the East China Sea whose sovereignty is contested among China, Japan, and Taiwan.[60] However, some members of the Japanese defense and foreign policy community, while voicing the concern that China might use fishing vessels in a future Senkaku contingency, noted that the maritime militia has been far less visible in the East China Sea than in the South China Sea.[61] For instance, in one prominent international crisis between Beijing and Tokyo—a 2010 collision between a Chinese fishing trawler and two Japan Coast Guard vessels—the evidence later showed that a drunk Chinese fishing captain bore responsibility for the accident, rather than China's maritime militia.[62]

China's deep suspicion of U.S. involvement in its home waters and China's use of a wide set of coercive instruments to assert its claims there stand in contrast to its activities in distant waters. China's policy agenda in Latin America and Africa, which fall within what Andrew Nathan and Andrew Scobell call "the Fourth Ring" of Chinese security, entails six strategic goals: energy; commodities, markets, and investments; arms sales; China's economic access abroad; diplomatic support for China's position on Taiwan and Tibet; and support for China on multilateral diplomatic issues such as human rights. Regions subsumed under this ring are "too large, too far away, too politically complex, and still too much dominated by the traditional colonial and neocolonial powers to come easily under the sway of a remote Asian power."[63]

In these far-flung regions, China has emerged as a major distant-water fishing nation. Its fishing fleet is the world's largest, operating a total of over 4,600 DWF vessels, according to a recent CSIS account.[64] China's tenth Five-Year Plan (2001–2005) introduced DWF as a component of the "going out" strategy, which encourages Chinese enterprises to search for new markets, resource accesses, and investments around the world.[65] After China articulated in 2012 its aspiration to become a "maritime great power" and introduced the Belt and Road Initiative in 2013, the DWF industry became a vital component of this strategy. The Chinese government sees DWF as a means to enhance China's food security at home and connections abroad with key economies along the Belt and Road Initiative corridors.[66]

Most recently, the Chinese fleet's engagement in illegal, unreported, and unregulated fishing activities in regions such as West Africa and Latin America has posed a challenge to global and regional fisheries governance.[67] The fleet's unsustainable fishing practices have caused tensions with Argentina, Chile, Ecuador, and Peru.[68] Nevertheless, interpreting Chinese DWF activities and associated conflicts through a military lens risks securitizing what is largely a conflict of economic interests.[69] As China increasingly pays attention to international reactions to the illegal fishing activities of its DWF fleet and has recently acknowledged this problem, tackling

illegal, unreported, and unregulated fishing activities in these distant waters represents a potential area that China sees as cooperation rather than confrontation, with coastal states and the United States better serving its global interests and repairing its international image as a "responsible fishing country."[70]

Challenges and Opportunities for U.S. Operations and Tactics

The strength of the maritime militia is its deniability, which allows its vessels to harass and intimidate foreign civilian craft and warships while leaving the PRC room to deescalate by denying its affiliation with these activities.[71] Meanwhile, when Chinese fishing vessels—even operating solely as civilian economic actors—operate unchallenged, their presence in contested areas helps solidify PRC maritime claims. Challenging these vessels is dangerous. Weaker states, aware of Chinese fishing vessels' possible government affiliation, might hesitate to engage with them in a way that could provoke a PRC response. Even stronger states, like the United States or Japan, might hesitate before confronting fishing boats because of the challenge of positively identifying these vessels as government affiliated.

By "defending" China's maritime claims from foreign interference, the PRC leverages its maritime militia in support of policies that form the core of a grand strategy of "rejuvenation" and also comprise the basis for the CCP's domestic legitimacy. At the same time, as previously suggested, the maritime militia is among the least-funded, least-organized, and often least-professional of the forces that could be employed for these purposes. The same factors that make the maritime militia a deniable force (its civilian crews and dual-use technology) also raise the risk of accidents and escalations. This is a toxic mix: due to the maritime militia's deniability and the core interests at stake, the PRC has a high incentive to employ it, but the more frequent its operations, the greater the likelihood of interactions with U.S. vessels that could spin out of control.

The remainder of this section draws on the aforementioned findings of this article to offer the authors' own assessments of the maritime militia's current strengths and limitations as a military instrument, as well as future projections.

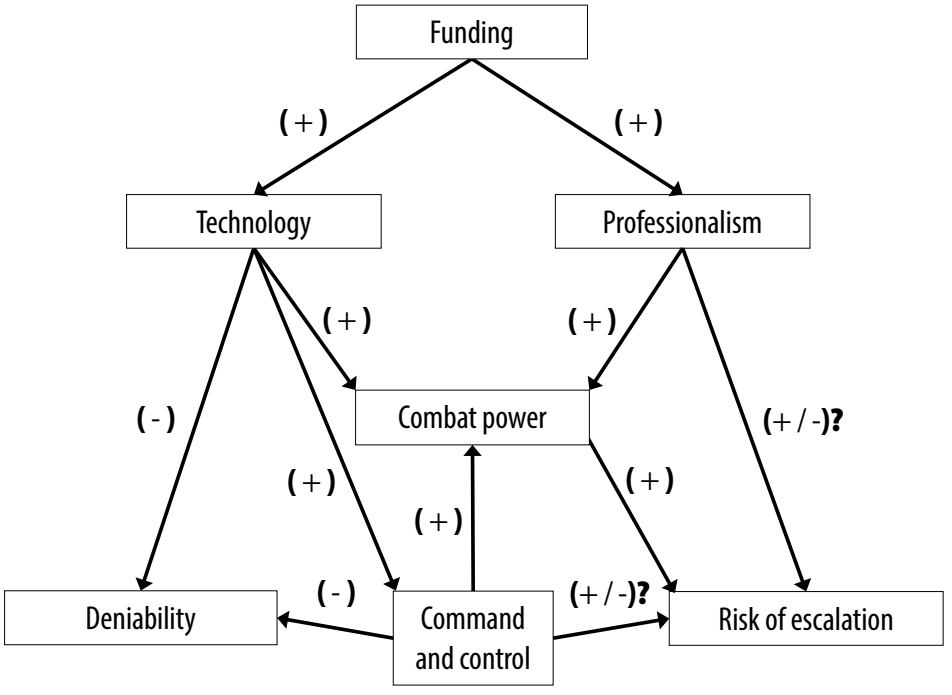
Funding. Funding is inconsistent across units and vessels, and across provinces, which rely on different budgetary channels and have different incentives to secure subsidies. Even where funding has been secured in some localities, budget constraints in others suggest that equipment standardization is a long way off. Strained budgets also restrict training opportunities, leading to inconsistency in professionalism across the force. This raises the risk of accidents and escalations.

Command and control. Strategic, operational, and tactical command and control is inconsistent across provinces and individual vessels. The command problem is structural, arising from bureaucratic competition and multiple lines of authority. The control problem is financial, as marketization has eroded individual units' incentives to participate in militia activities that draw away from their fishing opportunities. Command and control shortcomings inhibit combat power but contribute to the militia's core strength: its deniability.

Combat power. Fishing boats are inherently weak forces for traditional military operations. Due to their size, they are limited by sea state and lack the propulsion plants required for high-speed maneuver. Topside gear and nets, when deployed, also limit their maneuverability. Finally, fishing vessels are soft targets for naval firepower. Fishing vessels' "weaknesses," however, do provide some asymmetric advantages.

First, because they are cheap, fishing vessels will always outnumber warships. Deployed in high numbers using swarm tactics, small craft can pose an asymmetric threat to warships, as U.S. Navy experience with Iranian Revolutionary Guard Corps Navy (IRGCN) forces has shown.[72] But the Chinese maritime militia consists of fishing boats, not high-speed assault and pleasure craft like the IRGCN employs. Slow speeds reduce the ability to maneuver and increase the duration of exposure to layered defense (although the vessels' deniability could reduce the risk that they will be fired upon). Instead of a kinetic threat, Chinese fishing vessels present more of a disruptive one. Deployed in even limited numbers, fishing boats can inhibit, if not prohibit altogether, a warship's ability to conduct towed array and flight operations (both essential for antisubmarine warfare, a critical capability given China's growing anti-access/area denial forces in the South China Sea).

Second, fishing vessels pose a huge identification problem. As small craft, they generate minimal radar return even in clear weather and mild sea states. In addition, Chinese fishing vessels frequently do not broadcast their position in Automatic Identification



(Figure by Jonathan G. Panter)

Figure 3. Force Capabilities, Deniability, and Risk of Escalation

System and use only commercial radar and communications technology, making them hard to identify by their electronic emissions. The identification problem is compounded in congested environments like the South China Sea, which is cluttered with commercial traffic.

For these reasons, in combat operations, the maritime militia's primary role would likely be reconnaissance support, although some vessels have also received training in minelaying.[73] One of the PLA's major force modernization objectives has been development of an "informatized reconnaissance-strike capability" modeled on the U.S. military, although command and control problems continue to impede joint force operations.[74] When providing support to the PLAN in this way, it is important to note that maritime militia vessels would qualify as combatants under international law, despite their lack of military technology.[75]

The basic capabilities required for militia vessels to provide reconnaissance support have been widely fielded. Before joining the militia, fishing vessels are required to install equipment permitting communication with the People's Armed Forces Department, whose purpose is to assist with the reconnaissance function.[76] This includes satellite communication terminals and shortwave radio, which enable beyond line-of-sight communications.[77] But without advanced sensors and the training required to use them, militia vessels will be restricted to visually identifying opposing forces. The addition of electronic-intelligence equipment would be a game changer. In that case, the appropriate gray-zone analog for China's maritime militia vessels might be IRGCN intelligence dhows, not swarming assault craft.

Projections. Given the PRC's continued economic growth (and increasing government revenue) and the priority placed on military modernization, a successful resolution of militia funding problems would contribute most to recurring costs like training rather than one-time costs such as equipment, much of which has already been subsidized and acquired (see figure 3). However, new technology purchases beyond civilian dual-use equipment would also be possible. Additional training would foster professionalism in ship handling, equipment use, and coordination. Technology and professionalism would enhance the combat power of individual units and those operating jointly, but at the cost of deniability, the militia's core capability as a gray-zone force. Sophisticated maneuvers, visible advanced gear, or electromagnetic emissions can help U.S. and partner forces identify a "fishing vessel" as Chinese government sponsored.

Enhancing combat power would also raise the risk of escalatory incidents. For U.S. commanders making force protection decisions, the chances of misperception could increase when weapons or sophisticated technology are present on units of unknown intentions. On the other hand, these units' increased professionalism could dampen the risk of escalation, as they might be less prone to

ship-handling errors or suspicious maneuvering. Finally, while improved command and control would reduce vessels' deniability, its effect on escalation risks is indeterminate. Individual Chinese captains might be more restricted in their decision-making, leaving less room for error. However, they might also have less latitude to deescalate depending on the priorities of higher command.

Conclusion

In the past decade, American perspectives on China have shifted. Optimism has given way to suspicion, the desire for cooperation to rivalry. This shift appears in political science articles, partisan politics, and public opinion polls.[78] Hardly an issue of a military professional journal can avoid the phrase "the return of great power competition." In a related shift, these publications now dedicate substantial attention to China's instruments of national power that fall on the periphery of traditional military capabilities.

This is a welcome turn. As E. H. Carr pointed out, the security realm has never been neatly separable from other state activities.[79] But this new, broadened focus can also fuel alarmism and facilitate escalation. Defense and military professionals must walk a fine line between prudent skepticism of China and uninformed suspicions. This article has sought to assist those efforts with a primer on one PRC policy instrument that bridges the divide between the economic, informational, and military realms. Based on our findings, we close with two broad implications for U.S. policy.

First, in the South China Sea, pending resolution of the maritime militia's funding and organizational problems, the greatest threat to U.S. forces remains that of accidents and escalations.[80] Accurately identifying maritime militia vessels, ideally beyond line-of-sight, is an important way to reduce this risk by providing commanders and staffs with increased decision-space. The sheer number of militia-affiliated vessels, their minimal electronic emissions and radar cross-sections, and the congestion of the South China Sea means that identification efforts to undermine the maritime militia's deniability at scale require a bold approach. Solving the problem will be nearly impossible without the assistance of regional allies and partners.

Second, in regions outside of East Asia, U.S. policy makers must resist interpreting China's DWF fleet as a traditional security instrument. These vessels are legally noncombatants, and in practical terms, their military utility is nonexistent. The more important question is whether DWF vessels, even those engaged in civilian activities, represent an effort to acclimate U.S. and partner forces to the presence of Chinese vessels (government-affiliated or not) in the Americas. The goal might be to make Chinese overfishing an accepted (if bothersome) part of the pattern of life, an activity that resource-constrained coastal nations in Latin America ignore. Ultimately, the damage wrought to local economies by illegal, unreported, and unregulated fishing activities can undermine regional prosperity. Without a wholescale effort to build local nations' maritime law enforcement capacity, this trend will pose a far greater threat to nontraditional security realms—primarily ecological and economic—in the region, and to U.S. interests there, than any military role the Chinese DWF vessels could fill. ■

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Notes

1. Lyle J. Morris et al., *Gaining Competitive Advantage in the Gray Zone: Response Options for Coercive Aggression Below the Threshold of Major War* (Santa Monica, CA: RAND Corporation, 2019), 7–12, accessed 16 November 2020, https://www.rand.org/pubs/research_reports/RR2942.html; Alessio Patalano, "When Strategy Is 'Hybrid' and Not 'Grey': Reviewing Chinese Military and Constabulary Coercion at Sea," *Pacific Review* 31, no. 6 (2018): 811–39. Patalano argues that use of the term "gray-zone" operations to describe China's activities is misleading because it suggests they are unlikely to escalate to war. He argues that these constabulary activities form part of a larger hybrid strategy that does, in fact, raise the risk of armed conflict. Donald Stoker and Craig Whiteside, "Blurred Lines: Gray-Zone Conflict and Hybrid War—Two Failures of American Strategic Thinking," *Naval War College Review* 73, no. 1 (Winter 2020): 13–48. Stoker and Whiteside provide a critical perspective on the term "gray zone" that argues it is poorly defined, distorts history, and raises the risk of conflict escalation.

2. In 2020, the term "gray zone" appeared in nearly every issue of the U.S. Naval Institute's *Proceedings* and in every issue of *Military Review*. See, for example, Charles M. Kelly, "Information on the Twenty-First Century Battlefield: Proposing the Army's Seventh Warfighting Function," *Military Review* 100, no. 1 (January-February 2020): 62–68.

3. For a concise description of the maritime militia, see Conor M. Kennedy and Andrew S. Erickson, *China Maritime Report No. 1: China's Third Sea Force, The People's Armed Forces Maritime Militia: Tethered to the PLA* (Newport, RI: U.S. Naval War College, China Maritime Studies Institute, 2017), accessed 16 November 2020, https://digital-commons.

usnwc.edu/cmsi-maritime-reports/1. For a visual recognition guide, see Office of Naval Intelligence, "China People's Liberation Army Navy (PLAN), Coast Guard, and Government Maritime Forces: 2019-2020 Recognition and Identification Guide," October 2019, accessed 23 November 2020, https://www.oni.navy.mil/Portals/12/Intel%20agencies/China_Media/2020_China_Recce_Poster_UNCLAS.jpg.

4. Richard K. Betts, "The Grandiosity of Grand Strategy," *Washington Quarterly* 42, no. 4 (Winter 2020): 8.

5. Ibid., 7.

6. On "Go," see Henry Kissinger, *On China* (New York: The Penguin Press, 2011), 2–3, 22–32; Keith Johnson, "What Kind of Game is China Playing," *Wall Street Journal* (website), 11 June 2011, accessed 16 November 2020, https://www.wsj.com/articles/SB10001424052702304259304576374013537436924. On "hide and bide" and Sun Tzu's counsel about winning without fighting, see articles in the September-October 2020 issue of *Military Review*.

7. These two authors are not as opposed to one another on this point as a simplistic reading would suggest. Sun Tzu maintains that strategic defense can win wars. Carl von Clausewitz argues that a purely defensive war is impossible, but tactical defense has advantages over attack. But both agree on the source of defensive advantage: the waiting defender can strengthen their position, and the maneuvering attacker expends energy and resources.

8. For an example of how this sort of theorizing can influence policy decisions at the highest levels, see Alan Rappeport, "A China Hawk Gains Prominence as Trump Confronts Xi on Trade," *New York Times* (website), 3 November 2018, accessed 16 November 2020, https://www.nytimes.com/2018/11/30/us/politics/trump-china-trade-xi-michael-pillsbury.html.

9. Oriana Skylar Mastro, "The Stealth Superpower: How China Hid Its Global Ambitions," *Foreign Affairs* 98, no. 1 (January-February 2019): 31–39; Michael D. Swaine, "Creating an Unstable Asia: the U.S. Free and Open Indo-Pacific Strategy," Carnegie Endowment for International Peace, 2 March 2018, accessed 16 November 2020, https://carnegieendowment.org/2018/03/02/creating-unstable-asia-u.s.-free-and-open-indo-pacific-strategy-pub-75720. Mastro argues that China seeks to take the United States' place as the regional political, economic, and military hegemon in East Asia and to challenge the United States internationally without replacing it as the "leader of a global order." By contrast, Swaine questions the depiction of China as an "implacable adversary" that seeks to challenge the United States regionally and internationally and argues that treating China this way is a self-fulfilling prophecy.

10. Avery Goldstein, "China's Grand Strategy under Xi Jinping," *International Security* 45, no. 1 (Summer 2020): 164–201.

11. Ibid., 172–79.

12. Michael D. Swaine, "China's Assertive Behavior—Part One: On 'Core Interests,'" *China Leadership Monitor*, no. 34 (Winter 2011); Andrew Scobell et al., *China's Grand Strategy: Trends, Trajectories, and Long-Term Competition* (Santa Monica, CA: RAND Corporation, 2020), 11–14, accessed 16 November 2020, https://www.rand.org/pubs/research_reports/RR2798.html.

13. John Garver, *Foreign Relations of the People's Republic of China* (Englewood Cliffs, NJ: Prentice Hall, 1993), 25–26.

14. Thomas J. Christensen, *Worse than a Monolith: Alliance Politics and Problems of Coercive Diplomacy in Asia* (Princeton, NJ: Princeton University Press, 2011), 184–88; M. Taylor Fravel, *Strong Borders, Secure Nation: Cooperation and Conflict in China's Territorial Disputes* (Princeton, NJ: Princeton University Press, 2008), 201–9.

15. Fravel, *Strong Borders, Secure Nation*, 267–99.

16. Jinghan Zeng, *The Chinese Communist Party's Capacity to Rule: Ideology, Legitimacy and Party Cohesion* (New York: Palgrave Macmillan, 2016), 47; see also Jonathan D. Spence, *The Search for Modern China* (New York: W. W. Norton, 1999), 624–46, 692–96.

17. Jessica Chen Weiss, *Powerful Patriots: Nationalist Protest in China's Foreign Relations* (New York: Oxford University Press, 2014), 9; for a deeper description of the "Century of Humiliation," see Spence, *The Search for Modern China*, chaps. 7–11.

18. Garver, *Foreign Relations of the People's Republic of China*, 4–9, 16–18; Orville Schell and John Delury, *Wealth and Power: China's Long March to the Twenty-First Century* (New York: Random House, 2013).

19. Linda Jakobson and Dean Knox, "New Foreign Policy Actors in China" (policy paper, Stockholm: SIPRI, 2010), 24–33, 43–46.

20. Suisheng Zhao, "Nationalism's Double Edge," *Wilson Quarterly* 29, no. 4 (Autumn 2005): 76–82.

21. M. Taylor Fravel and Alexander Liebman, "Beyond the Moat: The PLAN's [People's Liberation Army Navy] Evolving Interests and Potential Influence," in *The Chinese Navy: Expanding Capabilities, Evolving Roles*, ed. Phillip C. Saunders et al. (Washington, DC: National Defense University Press, 2011), 57–59; Daniel M. Hartnett and Frederic Vellucci, "Toward a Maritime Security Strategy: An Analysis of Chinese Views Since the Early 1990s," in Saunders et al., *The Chinese Navy: Expanding Capabilities, Evolving Roles*, 98–99.

22. *The State of World Fisheries and Aquaculture 2020: Sustainability in Action* (Rome: Food and Agriculture Organization of the United Nations, 2020), 10–11, 41–42, https://doi.org/10.4060/ca9229en. In addition, as of the last available estimate in 2017, the western Pacific accounted for the second largest number of landings (catches), and the fastest annual growth of landings.

23. Ian Storey, "China's 'Malacca Dilemma,'" *China Brief* 6, no. 8 (12 April 2006) accessed 16 November 2020, https://jamestown.org/program/chinas-malacca-dilemma/; David Lai and Roy Kamphausen, introduction to *Assessing the People's Liberation Army in the Hu Jintao Era*, ed. Roy Kamphausen, David Lai, and Travis Tanner (Carlisle, PA: U.S. Army War College, 2014), 2–3; Li Nan, "The Evolution of China's Naval Strategy and Capabilities: From 'Near Coast' and 'Near Seas' to 'Far Seas,'" *Asian Security* 5, no. 2 (2009): 144–69.

24. "China's National Defense in 2000" (Beijing: Information Office of the State Council of PRC, October 2000), accessed 18 November 2020, http://www.china-un.ch/eng/bjzl/t176952.htm. This statement was corroborated by a report released in 2013 by the National Institute for Security Studies (NIDS) under Japan's Defense Ministry, which noted the shift of maritime law enforcement responsibilities from the PLAN to maritime law enforcement agencies began in 2001.

25. Alexander Chieh-cheng Huang, "The PLA and Near Seas Maritime Sovereignty Disputes," in *The People's Liberation Army and Contingency Planning in China*, ed. Andrew Scobell et al. (Washington, DC: National Defense University Press, 2015), 291. China now commands the largest maritime law enforcement force in the world; for additional information, see Andrew S. Erickson, Joshua Hickey, and Henry Holst, "Surging Second Sea Force: China's Maritime Law Enforcement Forces, Capabilities, and Future in the Gray Zone and Beyond," *U.S. Naval War College Review* 72, no. 2 (Spring 2019): 1–25.

26. Ronald O'Rourke, *Maritime Territorial and Exclusive Economic Zone (EEZ) Disputes Involving China: Issues for Congress*, Congressional Research Service (CRS) Report R42784 (Washington, DC: CRS Report (R42784), 24 May 2018), 8–12.

27. Andrew D. Taffer, "Threat and Opportunity: Chinese Wedging in the Senkaku/Diaoyu Dispute," *Asian Security* (2019).

28. Mastro, "The Stealth Superpower," 36–37; for a more detailed assessment of China's anti-access/area denial (A2/AD) capabilities, see Stephen Biddle and Ivan Oelrich, "Future Warfare in the West Pacific:

Chinese Antiaccess/Area Denial, U.S. AirSea Battle, and Command of Commons in East Asia," *International Security* 41, no. 1 (Summer 2016): 7–48. Biddle and Oelrich argue that Chinese A2/AD capabilities are more constrained than prevailing analyses acknowledge because the technologies underpinning successful A2/AD face physical limits when applied at great distance and over noncomplex backgrounds such as the ocean; for an assessment of Chinese sea control capabilities, see Ryan D. Martinson, "Counter-Intervention in Chinese Naval Strategy," *Journal of Strategic Studies* (2020).

29. Kurt M. Campbell and Richard Weitz, "The Chinese Embassy Bombing: Evidence of Crisis Management?," in *Managing Sino-American Crises*, ed. Michael D. Swaine, Zhang Tuosheng, and Danielle F. S. Cohen (Washington, DC: Carnegie Endowment for International Peace, 2006), 327.

30. Susan Shirk, *China: Fragile Superpower* (New York: Oxford University Press, 2007), 235; Dennis C. Blair and David B. Bonfili, "The April 2001 EP-3 Incident: The U.S. Point of View," in Swaine, Zhang, and Cohen, *Managing Sino-American Crises*, 380–81.

31. "Zhonghua renmin gongheguo minbing gongzuo tiaoli" [Decree of the PRC on militia work], Central Military Commission of the People's Republic of China, December 1990, accessed 20 November 2020, http://www.mod.gov.cn/regulatory/2016-02/12/content_4618055.htm.

32. Dennis J. Blasko, *The Chinese Army Today: Tradition and Transformation for the 21st Century*, 2nd ed. (New York: Routledge, 2012), 29.

33. Bernard Cole, *The Great Wall at Sea: China's Navy in the Twenty-First Century* (Annapolis, MD: Naval Institute Press, 2010), 79.

34. Blasko, *The Chinese Army Today*, 40–41; Morgan Clemens and Michael Weber, "Rights Protection versus Warfighting: Organizing the Maritime Militia for Peace and War," in *China's Maritime Gray Zone Operations*, ed. Andrew S. Erickson and Ryan D. Martinson (Annapolis, MD: Naval Institute Press, 2019), 199–200; "Jungai hou de guofang dongyuanbu" [The National Defense Mobilization Department after the PLA reorganization], *China Daily* (website), 25 November 2016, accessed 18 November 2020, https://cn.chinadaily.com.cn/2016jungai/2016-11/25/content_27481907.htm.

35. Andrew S. Erickson and Conor M. Kennedy, "China's Maritime Militia" (Arlington, VA: CNA Corporation, 7 March 2016), 10, accessed 18 November 2020, https://www.cna.org/cna_files/pdf/chinas-maritime-militia.pdf; Kennedy and Erickson, *China Maritime Report No. 1*, 7n2.

36. U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2020: Annual Report to Congress* (Washington, DC: Office of the Secretary of Defense, 21 August 2020), 71, accessed 16 November 2020, https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF.

37. "Hainansheng tanmen haishang minbinglian jianshe chengji tuchu" [Hainan Tanmen made outstanding accomplishment in maritime militia company construction], *National Defense*, no. 7 (2013).

38. He Zhixiang, "Tan haishang minbing jianshe 'si naru'" [On the four integrations in maritime militia construction], *National Defense*, no. 4 (2013): 36–37.

39. Erickson and Kennedy, "China's Maritime Militia," 10.

40. Clemens and Weber, "Rights Protection versus Warfighting," 206.

41. Wang Zhiping and Wang Yongjian, "Minbing canjia haishang weiquan de jidian sikao" [Some thoughts on militia's participation in maritime rights protection struggle], *National Defense*, no. 6 (2013): 54–55; see, for example, Xu Haifeng, "Shiying xinxingshi, quanmian guifan haishang minbing jianshe" [Adapt to the new situation, comprehensively standardize maritime militia construction], *National Defense*, no. 2 (2014): 65–66.

42. Blasko, *The Chinese Army Today*, 29.

43. Wang Cheng and Chen Daofan, "Hainansheng chutai jiaqiang haishang minbing jianshe de yijian" [Hainan announced guideline on strengthening the building of maritime militia], *National Defense*, no. 3 (2014).

44. Liao Gangbin, Wang Pai, and Xiong Rui, "Haishang minbing fendui jianshe cunzai de wenti yu duice" [Problems and solutions in constructing maritime militia units], *National Defense*, no. 8 (2014): 14–15.

45. Xu, "Adapt to the New Situation, Comprehensively Standardize Maritime Militia Construction"; Kou Zhenyun and Feng Shi, "Jiaiang haishang minbing jianshe siyao 'Siyao'" ["Four musts" in strengthening maritime militia construction], *National Defense*, no. 5 (2016): 42; Erickson and Kennedy, "China's Maritime Militia," 12.

46. Qin Jinghao, "Minbing canjia haishang weiquan douzheng xingdong wenti yanjiu" [Study on the issues in militia's participation in maritime rights protection operations], *National Defense*, no. 4 (2017): 81.

47. Audrye Wong, "More than Peripheral: How Provinces Influence China's Foreign Policy," *China Quarterly* 235 (September 2018): 749–51; Hongzhou Zhang and Sam Bateman, "Fishing Militia, the Securitization of Fishery and the South China Sea Dispute," *Contemporary Southeast Asia* 39, no. 2 (2017): 295–99.

48. "Hainansheng 2017 nian yusuan zhixing qingkuang he 2018 nian yusuan cao'an de baogao" [Report on Hainan Province's implementation of FY 2017 budget and the proposed FY 2018 budget], Department of Finance, Hainan Province, 26 January 2018, accessed 20 November 2020, http://mof.hainan.gov.cn/czt/zwxx/czyjs/201803/t20180301_2562925.html.

49. Bruce Swanson, *Eighth Voyage of the Dragon: A History of China's Quest for Seapower* (Annapolis, MD: Naval Institute Press, 1982), 216–21.

50. Dong Shiwu, Liu Xiantuan, and Wang Quanwen, "Zhujiu haishang houbei jinlv – haishang minbing jianshe xilie diaocha zhi er (xunlian pian)" [Build strong maritime reserve forces-investigation on maritime militia construction II (the training episode)], *China Militia*, no. 9 (2003): 34; Zhang Qihong, "Jiaqiang haishang minbing jianshe ying bawo de zhuyao huanjie" [The primary dimensions that should be controlled when strengthening maritime militia construction], *National Defense*, no. 10 (2003): 30–31; Zhang Jian Deng Weiyu and Zhao Jicheng, "40 sou yubian yuechuan bei maidiao zhihou" [After 40 pre-registered fishing vessels were sold], *China Militia*, no. 10 (2006): 26–27.

51. Yang Jianbo, "Jintie nanhai quanyi douzheng shiji, zuohao haishang minbing zhengzhi gongzuo" [Closely base on the reality in South China Sea rights and interests struggle, improve maritime militia's political work], *Journal of Political Work*, no. 3 (2015): 44–45.

52. Author's interview, Singapore, August 2018.

53. Ibid.

54. Wong, "More than Peripheral," 751; author's interview, Beijing, July 2017; author's interview, Singapore, August 2018.

55. Xia Zhangying, *Nansha qundao yuyeshi* [A history of fisheries in the Nansha Islands] (Bejing: Haiyang chubanshe, 2011), 209–13.

56. Author's interview, Haikou, July 2017; author's interview, Washington, DC, June 2018; author's interview, Tokyo, August 2018; author's interview, Singapore, August 2018.

57. Yang Sehgnli and Geng Yueting, "Dui jiaqiang di qiangdu haishang weiquan guofang dongyuan de zhanlue sikao" [Strategic thoughts on strengthening national defense mobilization for low-intensity maritime rights protection activity], *National Defense*, no. 1 (2017): 30.

58. Yang, "Closely base on the reality in South China Sea rights and interests struggle."

59. Ibid.

60. U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2020*, 71.

61. Author's interviews, Tokyo, August 2018; Katsuya Yamamoto, "The East China Sea: Future Trends, Scenarios, and Responses," in Erickson and Martinson, *China's Maritime Gray Zone Operations*, 325.

62. Michael Green et al., *Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence* (Washington, DC: Center for Strategic & International Studies, 2017), 72.

63. Andrew J. Nathan and Andrew Scobell, *China's Search for Security* (New York: Columbia University Press, 2012), 171–72.

64. Whitley Saumweber and Ty Loft, "Distant-Water Fishing along China's Maritime Silk Road," Stephenson Ocean Security Project, 31 July 2020, accessed 17 November 2020, https://ocean.csis.org/commentary/distant-water-fishing-along-china-s-maritime-silk-road/. In 2017, China set a goal to cap the number of distant-water fishing (DWF) vessels at three thousand by 2020, which might not materialize as the central and provincial governments continue to provide substantial subsidies to upgrade and modernize the ships; Sally Yozell and Amanda Shaver, *Shining a Light: The Need for Transparency across Distant Water Fishing* (Washington, DC: Stimson Center, 1 November 2019), 24, accessed 17 November 2020, https://www.stimson.org/wp-content/files/file-attachments/Stimson%20Distant%20Water%20Fishing%20Report.pdf. According to the Overseas Development Institute (ODI), in a research report based on automatic identification system (AIS) signatures of unregistered vessels and accounting for overseas-registered vessels of Chinese origin, "China's DWF fleet is 5–8 times larger than previous estimates. We identified a total of 16,966 Chinese DWF vessels. These include 12,490 vessels observed outside internationally recognised Chinese waters between 2017 and 2018"; see Miren Gutiérrez et al., *China's Distant-Water Fishing Fleet: Scale, Impact, and Governance* (London: Overseas Development Institute, June 2020), accessed 17 November 2020, https://www.odi.org/sites/odi.org.uk/files/resource-documents/chinesedistantwaterfishing_web_1.pdf.

65. Tabitha Grace Mallory, "China, Global Governance, and the Making of a Distant Water Fishing Nation" (PhD diss., Johns Hopkins University, 2013), 183.

66. "'Shisanwu' quanguo yuanyang yuye fazhan guihua" [Planning for DWF industrial development during the thirteenth five-year plan], Ministry of Agriculture and Rural Affairs of the PRC, 21 December 2017, accessed 20 November 2020, http://www.moa.gov.cn/gk/ghjh_1/201712/t20171227_6128624.htm; Yozell and Shaver, *Shining a Light*, 23.

67. Mallory, "China, Global Governance, and the Making of a Distant Water Fishing Nation," 192–93, 259–62, 298–99.

68. Natalia A. Ramos Miranda, "Chile Keeps Eye on Chinese Fishing Fleet along South American Coast," Reuters, 8 October 2020, accessed 17 November 2020, https://www.reuters.com/article/us-chile-fishing-china/chile-keeps-eye-on-chinese-fishing-fleet-along-south-american-coast-idUSKBN26T3IL; Lisa Mckinnon Munde, "The Great Fishing Competition," War on the Rocks, 27 August 2020, accessed 17 November 2020, https://warontherocks.com/2020/08/the-great-fishing-competition/; Ankit Panda, "Argentina Coast Guard Sinks Chinese Fishing Boat," *The Diplomat* (website), 16 March 2016, accessed 17 November 2020, https://thediplomat.com/2016/03/argentina-coast-guard-sinks-chinese-fishing-boat/.

69. Munde, "The Great Fishing Competition."

70. Tabitha Mallory, "Fishing for Sustainability: China's New Metered Approach to Global Fishing," Policy Forum, 19 December 2017, accessed 17 November 2020, https://www.policyforum.net/fishing-for-sustainability/; "Nongye nongcu bu banggongting guanyu jinyibu jiaqiang yuanyang yuye anquan guanli de tongzhi" [Notice of the Ministry of Agriculture and Rural Affairs on further strengthening security regulation on distant water fishing], Ministry of Agriculture and Rural Affairs of the PRC, 21 March 2019, accessed 20 November 2020, http://www.moa.gov.cn/gk/tzgg_1/tfw/201903/t20190321_6177052.htm.

71. Kennedy and Erickson, *China Maritime Report No. 1*, 4.

72. Fariborz Haghshenass, *Iran's Asymmetric Naval Warfare*, Policy Focus 87 (Washington, DC: Washington Institute for Near East Policy, 2008), accessed 17 November 2020, https://www.washingtoninstitute.org/uploads/Documents/pubs/PolicyFocus87.pdf.

73. Andrew S. Erickson, William S. Murray, and Lyle J. Goldstein, *Chinese Mine Warfare: A PLA Navy "Assassin's Mace" Capability* (Newport, RI: China Maritime Studies Institute, U.S. Naval War College, June 2009), accessed 17 November 2020, https://digital-commons.usnwc.edu/cmsi-red-books/7/.

74. Scobell et al., *China's Grand Strategy*, 86–90.

75. James Kraska and Michael Monti, "The Law of Naval Warfare and China's Maritime Militia," *International Law Studies* 91 (2015): 450–67; for a summary version, see James Kraska, "China's Maritime Militia Vessels May Be Military Objectives During Armed Conflict," *The Diplomat* (website), 7 July 2020, accessed 17 November 2020, https://thediplomat.com/2020/07/chinas-maritime-militia-vessels-may-be-military-objectives-during-armed-conflict/.

76. Kennedy and Erickson, *China Maritime Report No. 1*, 9–10.

77. Mark A. Stokes, "China's Maritime Militia and Reconnaissance-Strike Operations," in Erickson and Martinson, *China's Maritime Gray Zone Operations*, 230.

78. David Shambaugh, "U.S.-China Rivalry in Southeast Asia: Power Shift or Competitive Coexistence?," *International Security* 42, no. 4 (Spring 2018): 85–127; Peter Beinart, "Democrats Are Allowing Trump to Frame the Debate on China," *The Atlantic* (website), 26 July 2020, accessed 17 November 2020, https://www.theatlantic.com/ideas/archive/2020/07/democrats-are-allowing-trump-frame-debate-china/614614/; Colum Lynch, "Biden Camp Tries to Walk Fine Line on China," *Foreign Policy* (website), 11 June 2020, accessed 17 November 2020, https://foreignpolicy.com/2020/06/11/biden-presidential-election-china-trump-asian-americans/; Kat Devlin, Laura Silver, and Christine Huang, "U.S. Views of China Increasingly Negative Amid Coronavirus Outbreak," Pew Research Center, 21 April 2020, accessed 17 November 2020, https://www.pewresearch.org/global/2020/04/21/u-s-views-of-china-increasingly-negative-amid-coronavirus-outbreak/; Dina Smeltz and Craig Kafura, "Do Republicans and Democrats Want a Cold War with China," The Chicago Council on Global Affairs, 13 October 2020, accessed 17 November 2020, https://www.thechicagocouncil.org/publication/lcc/do-republicans-and-democrats-want-cold-war-china.

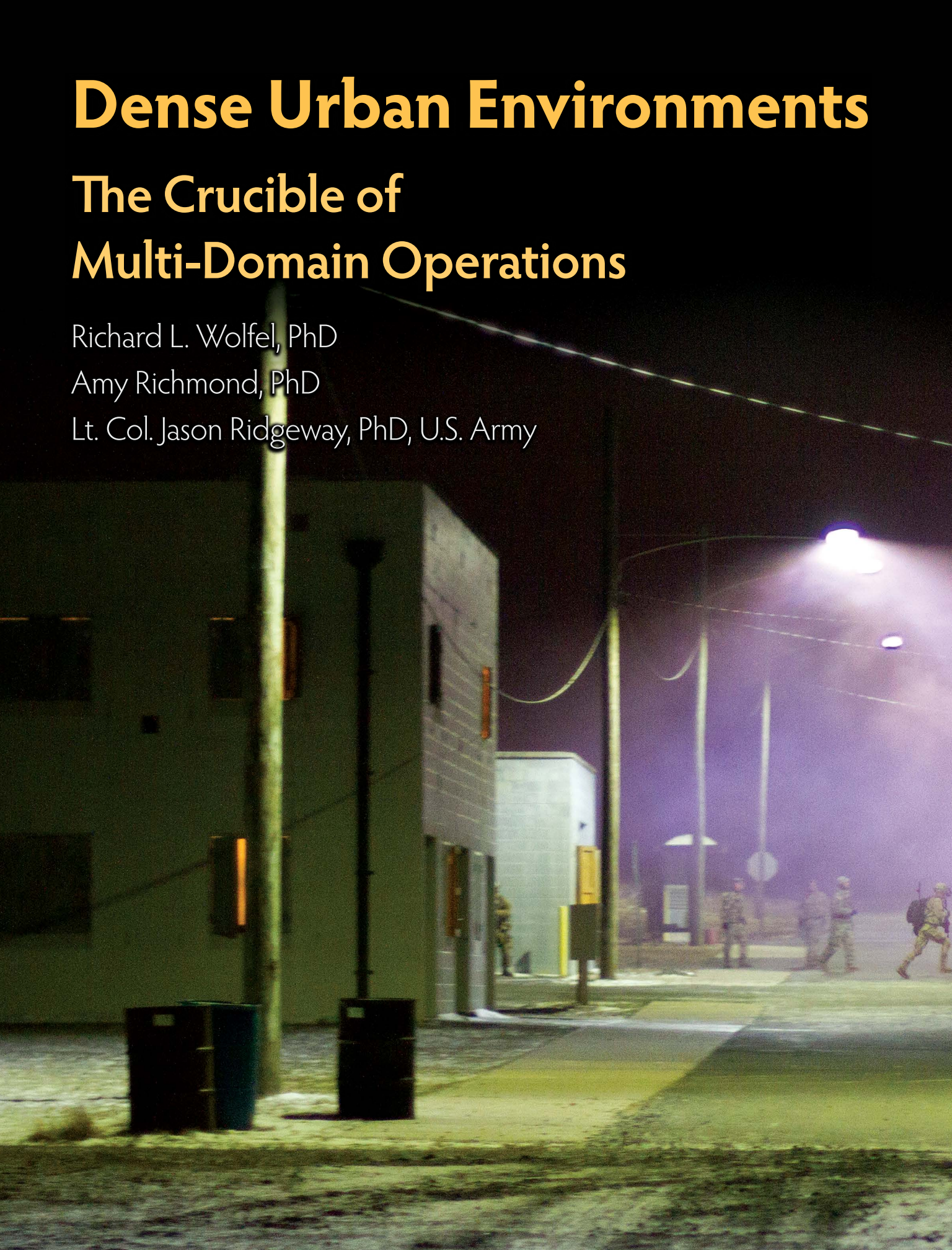
79. E. H. Carr, *The Twenty Years' Crisis, 1919-1939*, ed. Michael Cox (London: Palgrave MacMillan, 2016), 105–10.

80. U.S. Department of Defense, "U.S. Department of Defense Hosts First Crisis Communications Working Group With the People's Republic of China People's Liberation Army," press release, 29 October 2020, accessed 17 November 2020, https://www.defense.gov/Newsroom/Releases/Release/Article/2398907/us-department-of-defense-hosts-first-crisis-communications-working-group-with-t/. In a welcome turn, U.S. and Chinese defense professionals established a "Crisis Communications Working Group" in October 2020.

Dense Urban Environments

The Crucible of Multi-Domain Operations

Richard L. Wolfel, PhD
Amy Richmond, PhD
Lt. Col. Jason Ridgeway, PhD, U.S. Army



Multi-domain operations (MDO) and dense urban operations are two significant topics in contemporary Army research. While researchers have looked at these topics in isolation, very little research has been done to demonstrate the challenges and benefits of adopting an MDO mindset in a dense urban environment. The dense urban environment provides many of the challenges identified in MDO research in a compact and rapidly changing space. Given the importance of cities in contemporary states, it is important to look at how MDO thinking and research on dense urban areas can mutually inform and provide insights.

Dense urban areas and MDO intersect in three key areas: (1) the concepts of layers and convergence, (2) the definition of victory, and (3) the growth of the battlefield. Further, analysis of these intersections can illuminate the character of conflict in large dense urban regions.

MDO in the Contemporary Operating Environment

MDO represents the next evolution of joint operations thinking and is significant in that it views the battlespace as extending beyond traditional conceptions to include discussions of cultural, political, and economic

factors present in the region. The U.S. Army Training and Doctrine Command (TRADOC) emphasizes that MDO is a "layered standoff," in that the operations must consider multiple spatial, political, economic, social, military, and cultural layers, amongst many others.[1] This fundamentally changes the way we view areas of operations (AO) and areas of responsibility. Gen. Robert Brown emphasizes the importance of the economic and demographic complexities of the Indo-Asia Pacific area of responsibility in his analysis of MDO.[2] TRADOC sums this up by emphasizing that multi-domain formations must be able to "access and employ capabilities across all domains."[3] The modern battlefield not only extends beyond the military domain into the human domain, but it also will shift scales from global to local and most layers in between. Also, these scales and domains are never fixed but are constantly changing as conditions evolve.

TRADOC identifies this continuous evolution of scales and domains as convergence, where "multi-domain formations possess the capacity, endurance and capability to access and employ capabilities across all domains to pose multiple and compounding dilemmas on the adversary."[4] Daniel Kull emphasizes nonlinearity as the standard of warfare.[5] In other words, operations are constantly changing, sometimes in an unpredictable manner. Lt. Gen. Gary Volesky and Maj. Gen. Roger Noble expand on the evolution, convergence, and nonlinearity of domains and scale through their observation that "cyber and human domains are not limited by space or time."[6] One concept that remains constant is the need to seize the initiative; in this case, working in the domain(s) and/or scale(s) that best sets the conditions for success.

While the United States seeks to seize the domain and scale initiative in modern operations, foreign adversaries are quite adept at challenging its efforts. Based on recent U.S. superiority in combat operations, near-peer states seek to compete at a level below armed conflict, or as TRADOC terms it, "win without fighting."[7] Jeffrey Reilly identifies an example of this "win without fighting" concept in his discussion of Chinese authors who advocate going beyond traditional boundaries of warfare to achieve national political objectives by suggesting the use of financial attacks or a virus to bring down the electric network.[8] George Fust emphasizes that these layered standoffs in political, economic, and military realms seek to separate the United States from allies.[9] Gen. Stephen Townsend, in his review of the *National Defense Strategy*, highlights the importance of winning the competition before and after conflict.[10] All of these examples emphasize the importance of adopting an expanded view of conflict, one that includes various domains and scales which are constantly evolving as a result of actions on all sides of a conflict or operation.

Dense urban areas represent one of the most complex operational environments due to the coalescence of various domains and scales. Here, the contest to control scale and domain plays out in a relatively small region, with a very dense and complex population. It is in dense urban areas where the challenges of MDO reach their zenith and where complexity is fluid and rapid, both in a spatial and temporal sense.

The Wicked Complex Environment of Dense Urban Areas

Today, the majority of the world's population live in cities. Most of the key elements of societies including economic, social, political, and cultural structures are more focused on urban areas than in any other period of history. Therefore, as we study places, it is essential to understand the key cities of the region.

What makes dense urban spaces complex? The size, density, and social elements of a city create a complex and changing environment. Cities are continuously changing and are influenced by human activities as humans strive to understand and influence activities within them. The city is a dense and diverse settlement with a dynamic population. While certain characteristics exist in many cities, the way these characteristics influence specific cities is unique. Dense urban areas are also highly interconnected internally and to the rest of the world. All this complexity creates a challenging set of problems for an urban analyst to consider. First, what are the critical factors that influence the evolution of cities? Once these factors are identified and defined,

Previous page: Soldiers from Company A, 2nd Battalion, 506th Infantry Regiment, 3rd Brigade Combat Team, 101st Airborne Division (Air Assault), quickly move to assault their objective at an urban terrain training site 15 March 2017 during Warrior Exercise 78-17-01 at Joint Base McGuire-Dix-Lakehurst, New Jersey. (Photo by Staff Sgt. George F. Gutierrez, U.S. Army Reserve)

how do analysts measure and model those factors? Finally, how do the factors interact to create a series of systems that influence how a city functions?

To identify the important factors to consider when operating in a dense urban area, a conceptual model is needed to organize analysis. Richard Wolfel, Amy Richmond, and Peter Grazaitis adopted Leonard Binder's model of political development to conceptualize functions in a city.[11] Binder identifies five categories of political development, and Joseph LaPalombara and William Fierman later added allocation.[12] While many other networks are also important to dense urban regions analysts, the focus here is on the sociocultural systems due to their complexity. The six categories all provide insight into TRADOC's conception of MDO and how the thinking surrounding MDO helps explain operations in dense urban terrains.

1. Production. Production refers to the manufacturing of commodities. In cities, labor can be divided into two categories, formal and informal. However, the informal and formal sectors of cities are often so intertwined that it is impossible to separate them. The formal sector of the economy is regulated, mostly through laws and taxes, by the government. Traditionally, informal activities are the dominant forms of employment in slum settlements and are governed by informal leadership structures.

2. Allocation. Allocation is the process of distributing goods and services through society. In urban areas, there are many allocated goods including land, food, water, and medicine, among others. Allocation has an important influence on the legitimacy of a government as insurgencies and antigovernment movements often grow in regions where people struggle getting basic needs from the government and rely on other sources for the provision of those basic needs. Often, insurgent organizations use their ability to provide goods as a method of gaining loyalty and legitimacy within a dense urban region.

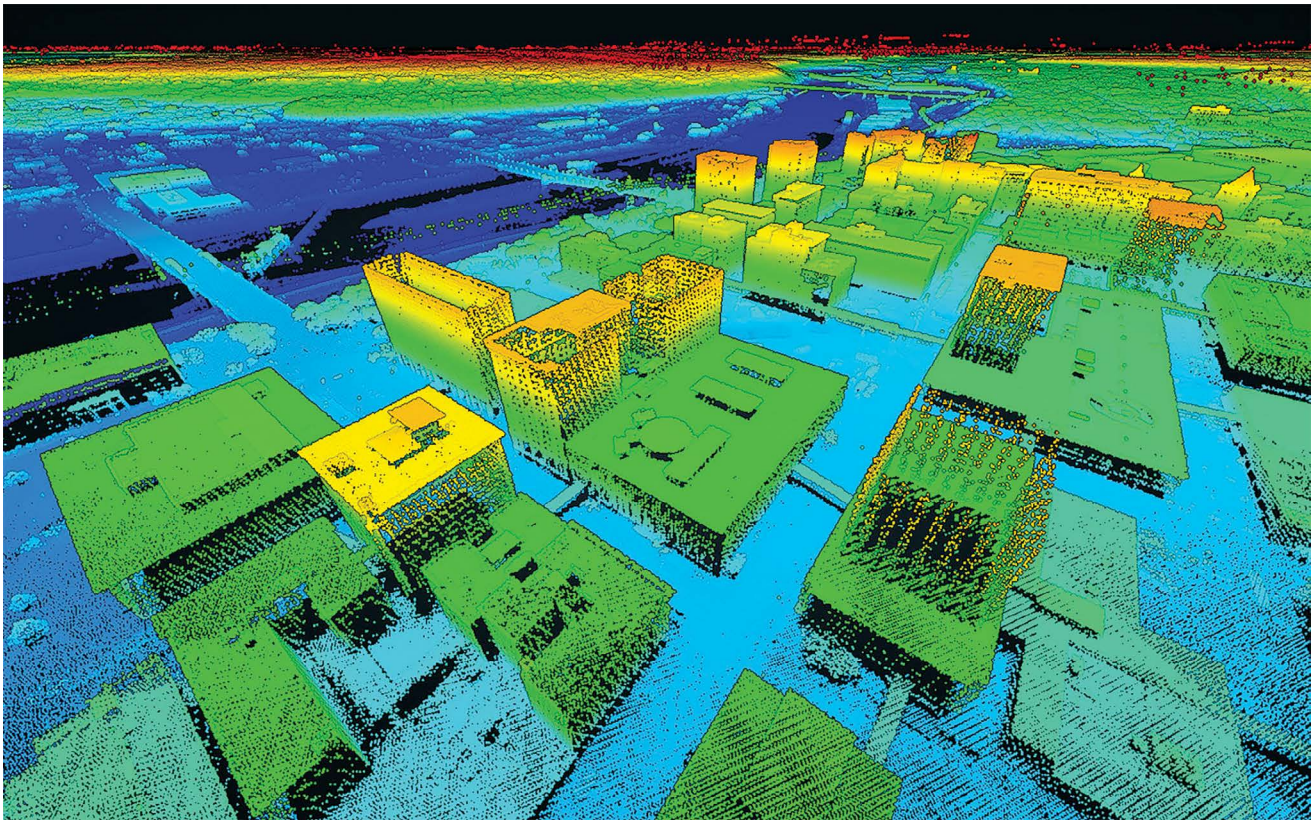
3. Identity. In dense urban areas, groups who share an identity based on ethnic, linguistic, religious, or other shared beliefs or attributes tend to live in organized communities in certain neighborhoods of the city.

4. Legitimacy. If a population believes that the government is legitimate, it is likely to follow the laws of society. At the most basic level, legitimacy is forged when

Soldiers conduct a fast-rope insertion onto a rooftop in urban terrain 14 June 2016 during Exercise Anakonda in Wedrzyn, Poland. (Photo by Sgt. Dennis Glass, U.S. Army)

a government provides for the basic needs of its population. When those needs are not provided for, then the population will look for other leaders.

5. Political participation. Political participation can run the full spectrum from traditional methods that include voting to violent actions against the government. In many cities, the most common methods for participating



This information architecture represents a high-density point cloud, viewed obliquely. A point cloud is a set of points on a coordinate plane. In this case, the data points are the edges of buildings and other structures in a dense urban area. Taken together, they create a 3-D visualization of a space. (Photo courtesy of the U.S. Army Acquisition Support Center)

in politics can be significantly limited. As a result, people seek to find alternative methods of political participation.

6. Political penetration. Political penetration refers to how much effective control the government exercises. This is also seen in the ability of the government to implement programs in a specific area. Examples of this include formal law enforcement activities within a region, monuments promoting the national identity of the leadership, and urban redevelopment programs that often include slum clearance. In informal urban areas, political penetration is often minimal if the slum does not gain the attention of the government. However, as development increases in many cities, slums are often the target of destruction in the name of development. This represents the most extreme method of political penetration in a slum environment. In typical slum communities, the informal leadership has the most control.

These six elements function differently depending on the characteristics of a specific city. All elements of the framework are not exclusive but influence each other. They are multispatial and multidisciplinary. The goal is not to be reductionist but to highlight how these elements inform analysis of a city.

MDO in Dense Urban Environments: The Connections

As urban centers become more important, it is essential that doctrine is reviewed to ensure that people are prepared for operations in large cities. In concert with the rise in the importance of cities, the importance of MDO cannot be understated. With the importance

of both dense urban areas as future operating environments and MDO as a cornerstone doctrine, it is important to review linkages between the future operating environment and evolving doctrine. There are three key intersections between dense urban areas and MDO that help provide some insight on what operations would look like in large dense urban regions.

Intersection 1: Layers and convergence. First, TRADOC refers to MDO as a layered standoff. It would be difficult to find an environment with more layers than a city.[13] Dense urban areas include multiple levels, from subterranean through the surface to above ground, and both in buildings and in aerial technology (drones, planes, etc.). Beyond the physical layers of the city, there are also significant amounts of human geography layers that exist in the city. From economic to political to cultural, cities are a complex combination of frameworks that influence the functioning of the city.

Identity is one of the key themes that begins to shed light on the complexities of the layers of the city. One example of how identity influences a dense urban region is the creation and perpetuation of migrant communities and transnational identities. Victoria Lawson describes transnationalism as "the extent to which migrants maintain plural identities and experience complex relations of incorporation and resistance to projects of globalized modernization, urban progress, national belonging."[14] This concept of transnationalism is critical as migrants navigate new influences on their sense of identity and reexamine their sense of belonging, exclusion, and affiliation.[15] The process of transnationalism shows the complexity an individual faces as various networks are all intertwined to influence a person's experience in a city.

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TRADOC also emphasizes that multi-domain formations must be able to "access and employ capabilities across all domains."[16] Traditionally, the Army has looked to multiple physical domains (e.g., subterranean, surface, and sky). However, in the modern dense urban environment, this extends to multiple layers of human geography operating in a city. This extension brings a renewed emphasis on intelligence, civil affairs, host-nation counterparts, regional experts, reach-back capabilities, and a commander who is not necessarily an expert on the specific AO but has a well-developed sense of general knowledge to ask the right questions of the right experts.

In addition to the various layers of an MDO, TRADOC stresses the convergence of these layers in a given area. TRADOC sees convergence as the "rapid and continuous integration of all domains across time space and capabilities."[17] Scale is never a given in any modern operation. Actors will attempt to shape the operational environment to function at the level where they have the greatest influence. This is especially relevant in a city where multiple scales and geographies converge on a block-by-block basis. Hostile forces might use subterranean environments to shape the battlefield due to a perceived advantage there. This is countered by efforts to force hostile forces above ground into a

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decisive conflict on terms beneficial to friendly forces. This negotiation of space is one of the key competitions that will take place in any urban operation.

In addition to the physical convergence of scales, there is also the convergence of human geographic frameworks that influence development within a region. Whether a government is viewed as legitimate, and therefore has the ability to have its message penetrate a local region, it is strongly influenced by its ability to allocate basic services within a region or if the local population believes it shares an identity with the government. In a large city, where populations are extremely diverse and provision of basic services is a complex operation, governments struggle to remain legitimate, often for reasons that are not transparent. The reasons are often hidden by the complexities of converging scales and geographies.

Intersection 2: What does victory look like? The changing nature of modern military operations has increased the difficulties in defining objectives and, as a result, defining success or victory. Near-peer states compete below armed conflict, what TRADOC refers to as winning "without fighting" or blurring the distinctions between below conflict and conflict.[18] An example of winning without fighting is identified by Reilly in his review of Chinese authors who advocate going beyond traditional boundaries of warfare to achieve national political objectives to include financial attacks or a virus to bring down an electric network.[19] Anthony Clas echoes these conclusions in his review of soft power and noopolitics, which is a political science concept referring to knowledge politics using media as a vehicle for knowledge dissemination.[20] He emphasizes soft power and noopolitics as tools to control the attitudes, opinions, and moral values of the general population. On the strategic level, Kull sees competition at the below conflict level as a method to control population or dominate terrain without a protracted, attritional campaign.[21] Fust sees layered standoffs in the political, economic, and military realms as a key method to separate the United States from its allies.[22]

In recent years, the United States has seen leaders declare success in an operation, only to see that perceived (or misinterpreted) success devolve into instability. This is the result of an AO that is no longer solely comprised of combatants but is now more of a spectrum of combatants to noncombatants, to varying levels in between, whose definition of success and security may differ from traditional military definitions. This mismatch of definitions is magnified in a dense urban environment, where people of differing identities, levels of participation, and goals live and act in close proximity, often overlapping. Understanding the vast differences in objectives between groups is a prudent point of departure for discussions of goals and achievement.

TRADOC raises an important question: "How does the joint force compete to enable the defeat of an adversary's operations to destabilize a region, deter the escalation of violence, and should violence escalate, enable a rapid transition to armed conflict?"[23] Unpacking this question introduces some very complex problems that must be addressed in modern operations. In order to defeat an "adversary's operations to destabilize a region," one must understand how an adversary will seek to destabilize a region. This is often done with the human geography of a region.

Legitimacy is a key point of competition within a dense urban region. The lack of formal government involvement in slum communities creates a power vacuum that insurgent movements view as an opportunity to gain influence. As Conrad C. Crane emphasizes, "Based on their own definitions of legitimacy, the people of the contested region will decide the victor."[24] This victor may or may not be the group that physically occupies the territory at the moment.

In an environment of insurgency, the struggle is to be recognized as legitimate. Frank Ledwidge echoes this statement in his conclusion, "Complex insurgencies are powered by injustice" and "legitimacy is the main objective … without the host nation achieving legitimacy, COIN cannot succeed."[25] When a government does not provide basic needs for a place, typically, a group outside of the government will fill the void and provide those basic needs to gain legitimacy and potentially remove the power of the standing government.

Stuart Eizenstat, John Porter, and Jeremy Weinstein emphasize the importance of legitimacy in a discussion on development. To them, the "legitimacy gap" refers to the government's need to "protect the basic rights and freedoms of its people, enforce the rule of law, and allow broad-based participation in the political process.[26] This is paired with two other gaps identified by Eizenstat, Porter, and Weinstein: the "security gap," where states act to provide safety and security to their citizens; and the "capacity gap," where a country

The Marine Corps Warfighting Laboratory executes Project Metropolis II, a dense urban operations limited operational experiment, 18 August 2019 at the Muscatatuck Urban Training Center in Indiana. The event aimed to effectively combine robotics, sensors, manned and unmanned vehicles, and dismounted marines with a focus on improving marines' ability to sense and locate the threat, observing their speed of decision-making and speed of action, and determining their lethality when employing traditional and surrogate equipment versus an enemy force in a dense urban environment. (Photo by Matt Lyman, Marine Corps Warfighting Laboratory/Futures Directorate)

allocates basic services.[27] When governments do not address these gaps, their legitimacy declines.

In a city, slum communities are often source regions for alternative sources of governance because basic needs and security of the local residents are often not met by the government; as a result, a legitimacy gap appears. In these gaps, insurgents often operate to foster volatility. In slum communities where populations are quite large and can approach one million, political legitimacy is an essential component of stability and ultimately, victory. Traditional concepts of victory, or achievement of the objectives of the operation, are clouded in cities. The physical occupation of space, which is challenging at best and more than likely impossible, may not even be the most important objective in an operation. This requires a multi-domain approach to thinking and defining objectives. While physical occupation might be important, the provision of basic needs, or a certain need, might be more important and will create a sense of legitimacy within the region. Understanding the nature of the region will help generate a greater level of success.

Intersection 3: The growth of the battlefield. One of the primary changes in modern military operations is the growth of the battlefield and the AO. No longer can the AO be delineated as a discrete line on a map. Modern technology has enabled connections to extend beyond a single region. Kull emphasizes that nonlinearity is now the standard of warfare.[28] The adversary will endeavor to strike a support area using a variety of means including, but not limited to, cyberattacks, information campaigns, terrorist actions, and traditional kinetic actions. Gen. David Perkins echoes this conclusion in his observation that hackers are looking to target dependents in the homeland.[29] Volesky and Noble succinctly explain the

The Marine Corps Warfighting Laboratory executes Project Metropolis II, a dense urban operations limited operational experiment, 25 August 2019 at Muscatatuck Urban Training Center, Indiana. Urban terrain often includes a subterranean level that must be considered during urban operations. (Photo by Lance Cpl. Quinn Hurt, Marine Corps Warfighting Laboratory/Futures Directorate)

increased range of threats in their conclusion that cyber and human domains are not limited by space or time.[30]

This increase in the size of the AO has substantial impacts on mission planning. The effect of linkages, facilitated by globalization, advances in communication technology, including social media and traditional media access, represents a shift of geographical scale that challenges the conventional concept of a distinctive operational environment (OE) that can be isolated for analysis at a local scale. Modern regions exist in multiple scales from local actions to global decisions that impact local citizens. In terms of modern military operations, actions at the smallest scale, even down to the scale of the individual soldier, have potential strategic impacts at the theater or even global level. These interactions across scales must part of any analysis of a dense urban region.

In addition, the conventional notion of the AO and the OE is also challenged by the connectivity of the modern urban center. Cities are interconnected globally by many different mediums, including economics, culture, modern communication technology, and social media. While some Army doctrine does address cross-border threats, the influence of information is vastly different than military or paramilitary forces crossing a border and influencing an AO.[31] Recent examples including the Arab Spring and the Occupy movements demonstrate that the ability to control information in the modern age is limited at best. Also, actors create virtual communities and shared ideologies using social media and modern communication/information dissemination techniques in an effort to gain influence in a region.[32] These examples also show that as governments tried to restrict access to social media in an effort to slow the influence of social movements, those efforts to restrict access had the opposite effect and acted as a unifying force to bring together various disparate social movements under a common goal and created, or increased, a legitimacy gap.[33]

International social movements demonstrate how political participation can impact actions in a dense urban environment, often from a great distance. In cities, where

conventional methods of political participation are limited, people often look for alternative methods of participation. Participating in social movements is often one of the most common alternative methods of participation. While movements focus on local issues, the movements often have strong local motives that link to international issues and tend to be especially influential.

Contemporary social movements developed through the rise of globalization and the embracing of new communication and social media technologies. Manuel Castells observes that the modern age of social movements is less about at regime change and more about exploring the "construction of meaning in people's minds."[34] New social movement theory emphasizes that modern movements are about smaller groups coming together to establish larger networks based on shared ideologies that are typically centered on a larger societal issue. Castells identifies the Arab Spring and the Occupy movements as two examples of contemporary social movements that brought together disparate groups around a societal issue.[35] Modern social movements are quite adept at the use of social media as a medium to organize. Castells refers to these as "networked social movements."[36] While the internet provides a virtual location for meeting and planning, the movements are still required to occupy physical space in order to be noticed by other groups and the state.[37] The spaces occupied by social movements are essential to the success of the movement as the places are "charged with symbolic power of invading sites of state power or financial institutions."[38] These "occupied" spaces also create a space for debate and involvement in the political process.[39] It is in these occupied locations that social movements shift from ideology to action.

One important lesson we must learn from the Arab Spring and the Occupy movements is that traditional conceptions of boundaries no longer exclusively define political participation. These movements extend far beyond traditional definitions of the battlefield, the AO, or the OE. Therefore, as we plan for operations in dense urban areas, it is essential that we consider the impact of actions on wider communities beyond the traditional boundaries we have seen in the past. The actions in one area could embolden actors in a completely different region.

Conclusion

The sheer influence of dense urban areas in terms of demography, culture, economics, and politics requires the Army to prepare to operate in cities. The wicked complexity of urban regions requires any operation to be multidomain. The basic tenets of MDO add insight into operations in a dense urban region. When the key notions of MDO are mapped against a framework for dense urban analysis, the intersections that result provide critical insights that commanders must address when operating in a dense urban environment.

First, cities are multiscale. This includes both physical and human geographies. Operations will occur at subterranean, surface, and above surface layers. In addition, operations will be influenced by the economics (production and allocation), politics (penetration, participation, and legitimacy), and cultural (identity) geographies that exist within a tightly packed, dense urban region.

Second, the definition of success is another challenge in modern operations, especially in cities. No longer is victory defined as defeating an adversary force on the battlefield. Modern conflict occurs at various levels, and often adversaries will seek to contest the competition at the level that serves them best. Often this becomes a competition of legitimacy in which various actors seek to influence the local population. This is commonly seen as an insurgency/counterinsurgency operation within a dense urban area. The view of legitimacy has an impact on both the ability of a government to push its message to the local population (political penetration) and the local population's participation in local politics.

Finally, the size of the AO has substantially increased in the modern era. The rise of modern communications, especially social media, is especially significant as information flows between an urban center and regions that are not close to the city. Also, attempts to seize control of modern technologies (e.g., cell networks and the internet) often have the opposite effect as intended. Rather than bringing an oppositional force under control, it often emboldens the force and extends its influence and creates sympathetic support in formerly neutral or allied forces as its daily patterns are disrupted by the loss of connectivity. This was especially visible during the Arab Spring protests in Egypt.

The future of warfare is both multi-domain and urban. Rather than viewing these areas in isolation, urban operations need to be viewed as inherently multi-domain. The conclusions from MDO research offer important insights for planning operations in dense urban regions. ■

Notes

1. U.S. Army Training and Doctrine Command (TRADOC) Pamphlet (TP) 525-3-1, *The U.S. Army in Multi-Domain Operations 2028* (Fort Eustis, VA: TRADOC, 6 December 2018), viii–x.

2. Robert B. Brown, "The Indo-Asia Pacific and the Multi-Domain Battle Concept," *Military Review* 97, no. 5 (2017): 15, accessed 20 October 2020, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/BROWN_PRINT_The_Indo_Asia_Pacific.pdf.

3. TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, iii.

4. Ibid.

5. Daniel J. Kull, "The Myopic Muddle of the Army's Operations Doctrine," *Military Review* (Online Exclusive, 2017), 3, accessed 8 September 2020, https://www.armyupress.army.mil/Journals/Military-Review/Online-Exclusive/2017-Online-Exclusive-Articles/Myopic-Muddle-of-Army-Ops-Doctrine/.

6. Gary Volesky and Roger Noble, "Theater Land Operations: Relevant Observations and Lessons from the Combined Joint Land Force Experience in Iraq," *Military Review* 97, no. 5 (2017): 22, accessed 20 October 2020, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/VOLESKY_Theater_Land_Operations.pdf.

7. TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, vii.

8. Jeffrey M. Reilly, *Multidomain Operations: A Subtle but Significant Transition in Military Thought* (Maxwell Air Force Base, AL: Air Force Research Institute, 2016), 66.

9. George Fust, "Multi-Domain Operations, Bad for Civil-Military Relations?," RealClearDefense, 8 August 2019, accessed 8 September 2020, https://www.realcleardefense.com/articles/2019/08/08/multi-domain_operations_bad_for_civil-military_relations_114650.html.

10. Stephen Townsend, "Accelerating Multi-Domain Operations: Evolution of an Idea," *Military Review* (Online Exclusive, 2018), 3, accessed 8 September 2020, https://www.armyupress.army.mil/Journals/Military-Review/Online-Exclusive/2018-OLE/Aug/Accelerating-MD/.

11. Richard L. Wolfel, Amy Richmond, and Peter Grazaitis, "Seeing the Forest through the Trees: Sociocultural Factors of Dense Urban Spaces," *Urban Science* 1, no. 4 (2017), https://doi.org/10.3390/urbansci1040040.

12. Joseph La Palombara, "Distribution: A Crisis of Resource Management," in *Crises and Sequences in Political Development*, ed. Leonard Binder and Joseph La Palombara (Princeton, NJ: Princeton University Press, 2016), 233; William Fierman, *Language Planning and National Development: The Uzbek Experience* (Berlin: Mouton de Gruyter, 1991), 6.

13. TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, iii.

14. Victoria A. Lawson, "Arguments within Geographies of Movement: The Theoretical Potential of Migrants' Stories," *Progress in Human Geography* 24, no. 2 (2000): 173, https://doi.org/10.1191%2F030913200672491184; Wolfel, Richmond, and Grazaitis, "Seeing the Forest through the Trees," 5.

15. Wolfel, Richmond, and Grazaitis, "Seeing the Forest through the Trees."

16. TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, iii.

17. Ibid.

18. Ibid., vii.

19. Reilly, *Multidomain Operations*, 66.

20. Anthony M. Clas, "Commanding in Multi-Domain Formations," *Military Review* 98, no. 2 (2018): 92, accessed 20 October 2020, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/Clas-Commanding-Multi-Domain.pdf.

21. Kull, "The Myopic Muddle of the Army's Operations Doctrine," 2.

22. Fust, "Multi-Domain Operations."

23. TP 525-3-1, *The U.S. Army in Multi-Domain Operations 2028*, v.

24. Conrad C. Crane, "Minting COIN, Principles and Imperatives for Combating Insurgency," *Air Space Power Journal* 21, no. 4 (2007): 57, accessed 20 October 2020, https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-21_Issue-1-4/2007_Vol21_No4.pdf.

25. Frank Ledwidge, "Justice and Counter-Insurgency in Afghanistan: A Missing Link," *The RUSI Journal* 154, no. 1 (2009): 6, https://doi.org/10.1080/03071840902818530.

26. Stuart E. Eizenstat, John E. Porter, and Jeremy M. Weinstein, "Rebuilding Weak States," *Foreign Affairs* 84 (January-February 2005): 136, accessed 8 September 2020, https://www.foreignaffairs.com/articles/2005-01-01/rebuilding-weak-states.

27. Ibid.

28. Kull, "The Myopic Muddle of the Army's Operations Doctrine," 3.

29. David G. Perkins, "Multi-Domain Battle: Driving Change to Win in the Future," *Military Review* 97, no. 4 (2017): 11, accessed 20 October 2020, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview_20170831_PERKINS_Multi-domain_Battle.pdf.

30. Volesky and Noble, "Theater Land Operations," 22.

31. Army Techniques Publication 2-01.3, *Intelligence Preparation of the Battlefield* (Washington, DC: U.S. Government Publishing Office, 2019), 7-8.

32. Richard L. Wolfel et al., "It's in There: Rethinking (?) Intelligence Preparation of the Battlefield in Megacities/Dense Urban Areas," Small Wars Journal, accessed 19 October 2020, http006812s://smallwarsjournal.com/jrnl/art/it%E2%80%99s-in-there-rethinking-in-telligence-preparation-of-the-battlefield-in-megacitiesdense-urb.

33. Manuel Castells, *Networks of Outrage and Hope: Social Movements in the Internet Age* (New York: John Wiley & Sons, 2015), 62.

34. Ibid.

35. Ibid., xiv.

36. Ibid., 2.

37. Ibid.

38. Ibid.

39. Ibid., 11.

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Hunting the Adversary

Sensors in the 2035 Battlespace

Maj. Hassan M. Kamara, U.S. Army

A few things we've learned over the last year of study … about future high-end war between nation-states or great powers, and the first, not surprisingly, is that it will be highly lethal … with sensors everywhere, the probability of being seen is very high. And as always, if you can be seen, you will be hit. And you'll be hit fast, with precision or dumb munitions, but either way you'll be dead.

—Gen. Mark A. Milley

Sensors across intelligence disciplines help military forces find and ultimately destroy their adversaries. According to futurist Michael O'Hanlon, "Sensors are the military technologies that provide information about … targets, terrain and weather, civilian populations, key infrastructure, and friendly forces."[1]

By the year 2035, changes in sensor technology and military affairs will make the battlespace exponentially

more lethal in terms of how quickly combatants can locate and destroy adversaries. Writing in the year 2000, O'Hanlon similarly envisioned a future battlespace where "an information grid with real-time data processing and dissemination can synergistically integrate sensors, vehicles, and weapons to produce impressive new military performance."[2]

Consequently, based on projected changes in sensor technology and military affairs out to 2035, the U.S. Army should adapt its sensor approach to find adversaries. By 2035, the Army should adapt across the doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) transformation framework to find adversaries while avoiding detection. This adaptation will ensure the Army optimally exploits developments in sensor technology and military affairs out to 2035.

The Evolution of Sensors Out to 2035

The ensuing analysis, written in the context of conventional conflict with peer or near-peer adversaries, explores ways in which sensors could evolve out to 2035. Insights into ways the Army should transform aspects of the DOTMLPF-P to fully exploit sensors follow the analysis.

In the 2035 battlespace, sensors in the imagery intelligence (IMINT) discipline will be severely constrained, compelling increased reliance on sensors in other intelligence disciplines to help Army forces locate adversaries while avoiding detection. These other intelligence disciplines include signals intelligence (SIGINT, encompassing electronic intelligence [ELINT] and communications intelligence [COMINT]), measurement and signature intelligence (MASINT), human intelligence (HUMINT), and open-source intelligence (OSINT).

Imagery Intelligence

Using technological advances in missiles, radars, and directed energy out to 2035, rival U.S. peers (China and Russia) will contest U.S. imagery intelligence collection efforts in the air and space domains in future conflict. American leaders already anticipate that space will be a contested environment in future high-end conflicts with peer adversaries like Russia and China, which is why the United States created the U.S. Space Force.

The following examples underscore the likelihood that by the year 2035, a peer adversary like China will have significantly enhanced its contemporary capability to challenge the United States in the air and space domains, and consequently deprive the Army of the IMINT it needs to find adversaries. China already demonstrates the capability to constrain America's airborne and space-based IMINT sensors. Regarding constraining U.S. airborne IMINT sensors, in 2016, RAND assessed that China's "modern strategic Surface to Air Missiles (with ranges of at least 100 kilometers) make up approximately 30 percent of the total PLAAF [People's Liberation Army Air Force] inventory; however, with the advent of the indigenously produced HQ-9 and the pending acquisition of the most advanced Russian Surface-to-Air Missile (the SA-21), this percentage is expected to rise."[3]

As far as constraining space-based IMINT sensors, in September 2019, Gen. John Raymond, head of U.S. Space Command and Air Force Space Command, was reported to have asserted (in his remarks at the Mitchell Institute for Aerospace Studies) that China is developing directed energy weapons—probably building lasers to blind U.S. satellites.[4] Additionally, China has already demonstrated anti-satellite missile capability based on its widely publicized, successful January 2007 test.[5] China is also developing optical telescopes and radars that, in addition to tracking objects in space, can provide missile warning. In a 2020 report, the Secure World Foundation wrote that "China is developing a sophisticated network of ground-based optical telescopes and radars for detecting, tracking, and characterizing space objects as part of its space situational awareness (SSA) capabilities."[6]

The above projected challenges to acquiring IMINT by 2035 will be further compounded by advances in distance and accuracy of long-range fires. Advances like these will increasingly normalize beyond line-of-sight

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engagements in ground combat. This confluence of projected advancements in counter-IMINT sensing and long-range fires will complicate the Army's effort to find and engage the enemy first; evolving the "*see* first, shoot first" theory into "*sense* first, shoot first." In other words, the Army will be compelled to exploit sensors in other intelligence disciplines to rapidly find adversaries in the 2035 battlespace. This warrants some exploration of how sensors in other intelligence disciplines will be featured.

networked with other sensors, will enable the Army to find adversaries and maintain general situational awareness in the 2035 battlespace by increasing the force's ability to collect information or data from an adversary's electronic signals and emissions.

Though it is likely that engagements in outer space will degrade space-based ELINT sensors by 2035, the Army will still be able to rapidly find adversaries and maintain situational awareness by using advanced

> The rapid evolution of military weapons, technology, concealment methods, and proliferation out to 2035 will create the need to definitively detect, locate, identify, and destroy some enemy capabilities before they are ever employed against U.S. forces.

Signals Intelligence

By 2035, the Army's IMINT collection capabilities will be severely challenged by peer adversaries, compelling the institution to rely primarily on sensors in the signals intelligence discipline to find adversaries. SIGINT sensors will help the Army locate adversaries through electronic signals generated by devices such as radars and weapon systems, and communication signals such as radios, phones, etc. Two categories of signals intelligence sensors will be critical to finding adversaries in 2035.

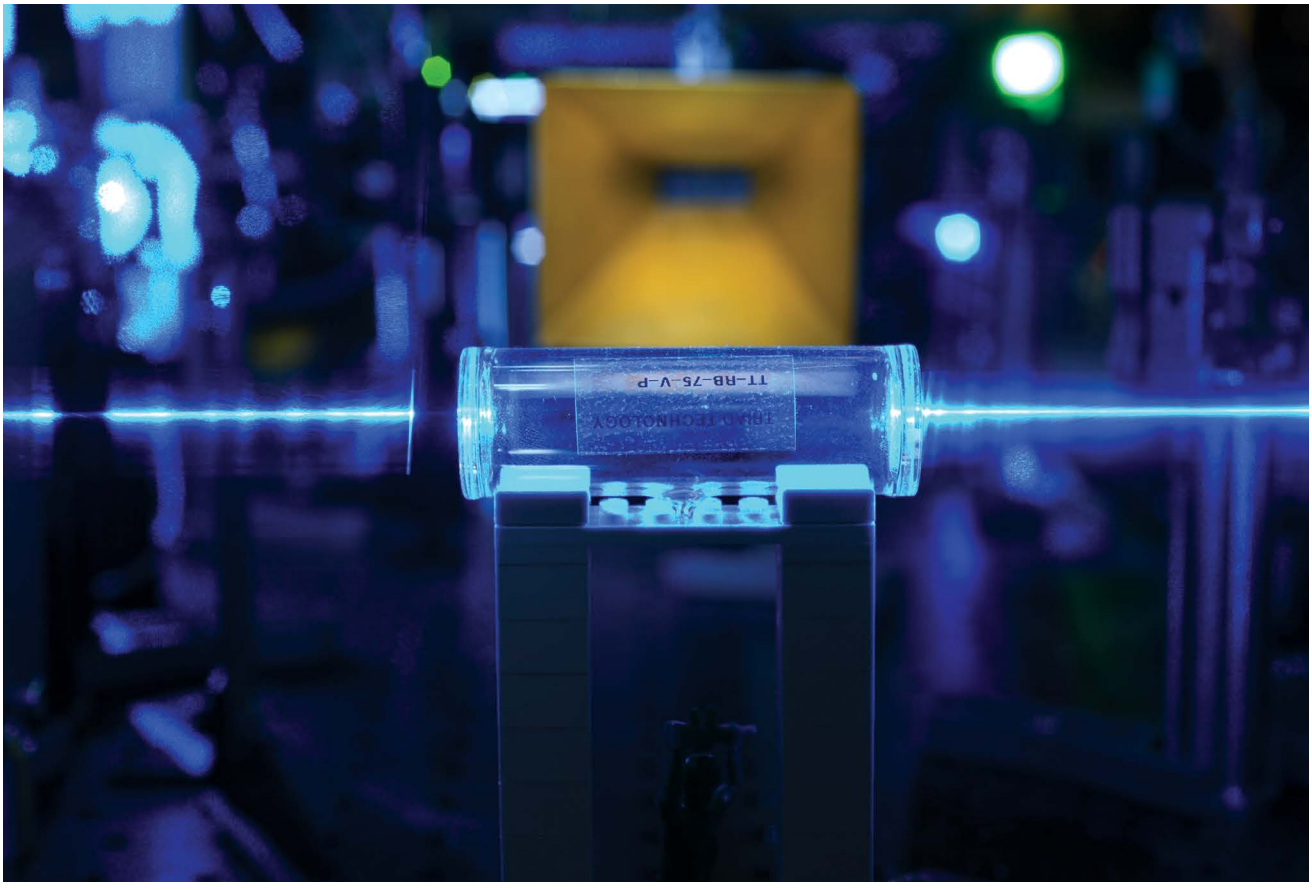
Electronic intelligence. ELINT is a type of signals intelligence. According to ELINT researcher Richard L. Bernard, "ELINT is information derived primarily from electronic signals that do not contain speech or text."[7] Per this definition, it follows that electronic intelligence sensors enable the detection, identification, and analysis of an adversary's signals structure, emission characteristics, modes of operation, emitter functions, and weapons system associations for those emitters. Associations include radars, beacons, jammers, and navigational signals.[8]

By 2035, peer adversaries' contest and denial of U.S. IMINT acquisition will compel the Army to extensively employ electronic signals intelligence sensors to find adversaries while ensuring the troops evade similar sensors that adversaries will deploy. ELINT sensors, (far-ranging) terrestrial sensors like those envisaged for their Tactical Intelligence Targeting Access Node (TITAN). TITAN is the Army's planned modular, expeditionary intelligence ground station that will link an array of space, aerial, and terrestrial sensors to provide targeting data directly to Army fires networks.[9]

Communications intelligence. Drawing from the above definition of ELINT, COMINT can be defined as information obtained primarily from electronic signals that contain speech or text. In this sense, COMINT includes information gathered from radio transmissions, broadcasts, telephone conversations, text messages, and online communications.

Contemporary advances in signals intelligence sensors indicate that the Army's future SIGINT sensors will be far more advanced and capable of rapidly locating adversaries. This is particularly true in the case of COMINT sensors. For example, in 2018, Army scientists developed a quantum receiver that employed the highly excited, sensitive Rydberg atoms to detect communication signals. Building on this accomplishment, Army research labs announced in March 2020 that its researchers had created a quantum sensor. According to Army research labs,

> A quantum sensor could give Soldiers a way to detect communication signals over the entire radio frequency spectrum, from 0 to 100 GHz. Such wide spectral coverage by a



Atoms in a glass vapor cell are excited with laser beams to Rydberg states. They detect the electric fields coming from the gold antenna in the background and imprint the information back onto the laser beams. This technology could be used to detect communication signals over the entire radio-frequency spectrum. (Photo courtesy of the U.S. Army)

single antenna is impossible with a traditional receiver system, and would require multiple systems of individual antennas, amplifiers and other components.[10]

Measurement and signature intelligence. The rapid evolution of military weapons, technology, concealment methods, and proliferation out to 2035 will create the need to definitively detect, locate, identify, and destroy some enemy capabilities before they are ever employed against U.S. forces. MASINT as an intelligence discipline will prove useful in this regard. MASINT is information derived from analyzing various types of data collected by sensors that help identify distinct features characteristic of the fixed or mobile target capability that is the source, emitter, or sender. MASINT sensors are able to collect information on radars; acoustics emanating from equipment and human activity; electromagnetic pulses; lasers and directed energy; and chemical, biological, radiological, nuclear, and explosive materials.[11]

By 2035, advances in computing power and sensor technology will result in MASINT sensors that provide real-time information that identifies the signatures of existing and emergent threat capabilities and forces.[12] This development will help the Army pierce through the fog of adversary deception and denial with real-time situational awareness supportive of rapid targeting and destruction of adversaries.

Human intelligence. HUMINT is information collected from human sources overtly and covertly.[13] Improvements in sensor technology coupled with enhanced capabilities to quickly employ lethal, accurate fires will result in a greater unit dispersal in the 2035 battlespace. This increased dispersal will see greater dependence on and exploitation of human intelligence as a means of finding adversaries while avoiding detection. In other words, unit dispersal in battle will foment an unprecedented need for the Army to

creatively employ individual soldiers as sensors in an integrated battlespace network.

Conflict in and around megacities will increase the Army's use of personnel as human intelligence sensors to identify adversary forces concealed in and around civilian population centers. It is likely that conflicts in 2035 will be fought in and around megacities given the steadily growing population in many of the world's urban areas. According to the U.S. Army's 2014 study of megacities (cities with a population of over ten million), "It is highly likely that megacities will be the strategic key terrain in any future crisis that requires U.S. military intervention."[14] The number of megacities worldwide will increase by 2035. According to the Army, "There are currently over twenty megacities in the world, and by 2025 there will be close to forty."[15]

Open source intelligence. OSINT is information that is publicly accessible through various forms of media (television, radio, newspapers, open-access websites, webpages, etc.). According to the U.S. Naval War College, "OSINT refers to a broad array of information and sources that are generally available, including information obtained from the media (newspapers, radio, television, etc.), professional and academic records (papers, conferences, etc.), and public data (government reports, demographics, hearings, etc.)."[16]

OSINT is highly accessible, but there is an exorbitant amount of data that intelligence personnel need to sort through. Compounding this problem in 2035 will be the all-encompassing existence of cyberspace as a domain of conflict with concerns like misinformation and different forms of cyberattacks to hinder or manipulate sensors, military operations, and everyday life. Pete Singer and Allan Friedman assert that "while cyberspace was once just a realm of communication and then e-commerce … it has expanded to include … the underlying sectors that run our civilization" such as food distribution, banking, water, power, etc.[17] These concerns will help spur the evolution of OSINT sensors out to 2035, resulting in sensors that are not only better able to quickly scan large amounts of data to collect useful actionable information but also detect nefarious activities in cyberspace.

Transformation Implications for the Army Out to 2035

The evolution of military affairs and sensors across intelligence disciplines out to 2035 carries considerable transformation implications for the Army. To optimize its ability to find adversaries given the anticipated changes in military affairs and sensors out to 2035,

the Army will have to adapt across the DOTMLPF-P transformation framework.

Doctrine. To optimize its ability to find adversaries and evade detection in the battlespace of 2035, the Army will have to adapt doctrine to ensure it can locate the enemy and engage first. To this end, the Army must assume it will have to fight blind (limited IMINT) most of the time. It will need to develop concepts and doctrine to support sensors in SIGINT and in other intelligence disciplines that locate targets rapidly and accurately. In other words, the Army must evolve concepts and doctrine to optimize its ability to locate and engage enemy forces without seeing them.

Army forces will have to contend with fighting blind in scenarios with situational awareness challenges worse than the 25–28 March 2003 sandstorms encountered during Operation Iraqi Freedom. According to Greg Fontenot and his coauthors, this sandstorm severely hindered operations by obscuring visibility and grounding Army aviation capabilities. Consequently, Army forces had to rely heavily on sensors in the form of ground surveillance radar (GSR), specifically the AN/PPS-5D, a sensor capable of detecting targets aurally when weather conditions limit visibility. The authors wrote that during this epic sandstorm,

> While all other reconnaissance assets were severely degraded, GSR consistently reported enemy targets. GSR's greatest accomplishment during the war was on 26 March when Sergeant Perez's team, consisting of Specialist Apostolou and Private Vasquez, detected 40 enemy targets during a sandstorm. The targets were … subsequently destroyed by indirect fire and Close Air Support assets.[18]

Organization. Anticipated technological advances and the prevalent use of sensors in the 2035 battlespace will make it easy for large formations to be detected and attacked. Gen. Mark Milley, former Army chief of staff, and current chairman of the Joint Chiefs of Staff, anticipates that sensors will proliferate the future battlespace, greatly increasing the probability of being detected and destroyed.[19]

Consequently, the Army should develop and experiment with concepts that optimize its organizational structure (order of battle) to fight dispersed while preserving the ability to mass lethal effects. Retired Gen. William Wallace asserts that in future war against a peer or near-peer adversary, given the ongoing advances in military capabilities, "physical mass will be a recipe for disaster. Formations will learn to routinely mass effects while remaining widely dispersed in time and space."[20] Army artillery is already capable of massing fires from widely dispersed units, so the concept is familiar.

Training. Increased dispersal and decentralization in the battlespace of 2035 will require the Army to train competent, adaptive personnel capable of making timely and effective decisions that expedite operations. This can be accomplished in part by shaping training to promote the philosophy and culture of mission command, or trust tactics, while discouraging institutional proclivities for conformity of thought and uncritical compliance.[21] According to Donald E. Vandergriff, mission command "is rooted in the German idea of Auftragstaktik, which implies that once one understands the commander's intent, he or she is responsible for using creativity and initiative to adapt to changing circumstances and accomplish the mission."[22]

The Army can promote a culture of mission command by ensuring soldiers cultivate a greater repertoire of knowledge, skills, and experiences during training. This emphasis on professionalization will build the competence and trust necessary for a culture of mission command.

Materiel. The projected evolution of sensors out to 2035 carries implications for Army innovation and capability development during relative peacetime conditions. Interestingly, there are also implications for Army adaptation in wartime.

Considering it is already anticipating fighting in a sensor-laden battlespace in 2035, during relative peacetime, the Army should heavily invest in the development of advanced SIGINT, MASINT, HUMINT, and OSINT sensors, as well as sensor-defeat capabilities to counter those of its adversaries. Subsequently, the Army should invest in effective, easily employable sensors

Previous page: A Ghost Robotics Vision 60 prototype walks with a security forces airman at a simulated austere base 3 September 2020 during the Advanced Battle Management System exercise at Nellis Air Force Base, Nevada. The prototype uses artificial intelligence and rapid data analytics to detect and counter threats to U.S. military assets in space and possible attacks on the U.S. homeland by missiles or other means. (Photo by Airman 1st Class Zachary Rufus, U.S. Air Force [background edited])

that it can produce relatively quickly and affordably. This acquisition approach will foster widespread sensor employment by reducing the cost per unit and operator workload, while optimizing combat utility.

Weapons and engines that rely on renewable sources of energy as opposed to expendable ammunition and fossil fuel respectively will help the Army fight dispersed by reducing unit reliance on logistics support. So, the Army should invest in directed energy weapon systems and renewable energy-powered systems.

Unlike the slower pace of innovation in peacetime, the Army will have to adapt quite quickly in war, especially against industrialized peer adversaries in the 2035 time frame where manufacturing speeds will likely be much faster. According to military change expert Williamson Murray, wartime adaptation sees less time for transformation due to "the terrible pressures of war as well as an interactive, adaptive opponent who is trying to kill us."[23] So the Army will have to adapt faster in a conflict in 2035 than it has ever adapted before.

Consequently, to aid its sensors and defeat adversary sensors, the Army should invest in telemetric learning capabilities in some combat systems. These capabilities will help the Army acquire performance data of adversary capabilities in ongoing operations and use it to rapidly manufacture overmatch capabilities to gain an edge. Investing in rapid manufacturing approaches like three-dimensional printing will aid in this regard.

Additionally, adopting modular designs and open architectures in the combat systems built out to 2035 will help the Army rapidly adapt in wartime. Writing about rapid innovation, Dan Ward asserts that "modular designs, open architectures, well-defined interfaces … help a system respond well to future changes."[24]

Leadership and education. Fighting dispersed in the battlespace of 2035 will require the Army to educate and groom professional, competent leaders with a strong capacity for creativity and decisiveness. Competence, creativity, and decisiveness are crucial to building a culture of mission command, or Auftragstaktik, which according to Jörg Muth means that "there is direction by the superior but no tight control."[25]

Competence is made up of the knowledge, skills, and experiences that will enable timely and effective decision-making. Creativity and decisiveness will enable leaders to develop innovative effective solutions and quickly implement them to fulfill their commander's intent in the absence of persistent oversight and guidance. In his analysis of Auftragstaktik and creativity in Army officer/leader education in the U.S. and German interwar era, Muth writes that in the German military academy, creativity was viewed as a principle of problem solving, which ensured "the whole German professional military educational system paved the way for … Auftragstaktik."[26]

Personnel. Fighting dispersed will decentralize unit formations in 2035, necessitating a healthy culture of mission command in the Army. Mission command requires competence-based trust between commanders throughout the chain of command. By 2035, data from contemporary talent alignment and management efforts will enhance the Army's ability to screen and put the right (competent) people in command, which will inspire the competence-based trust vital to a healthy culture of mission command.

Facilities. Relative to the sensor-laden battlespace of 2035, the concern in this aspect of the DOTMLPF-P framework centers on avoiding an adversary's detection and attack of the Army's mobile field facilities such as forward command posts, logistics supply points, etc. Wallace acknowledges this concern in future conflict. He writes about "the threat to any massed logistics formations," and argues that "in fact, any significant signature, be it visual, thermal, acoustic or electronic, will invite a response."[27] As part of its electronic warfare capability development efforts, the Army must consider developing and fielding mobile shelter systems that evade detection by enemy SIGINT sensors by 2035.

Policy. In the 2035 time frame, based on contemporary trends, innovative policies will be needed to address the information and operational security concerns posed by military personnel's use of social media, wearable Bluetooth, and possibly biologically embedded, nanotechnological personal use devices. Adaptive Army policy governance will help reduce the vulnerabilities of personal use technologies to adversary sensors and intelligence collection efforts.

Conclusion

By 2035, military affairs, sensor technology, and employment methods will evolve considerably due to ongoing strategic competition between nation states. This exploratory analysis has shown that within this

time frame, the U.S. Army will have to adapt holistically to effectively exploit sensors.

Subsequently, the Army must continue to aggressively monitor and explore the evolutionary possibilities of sensors across intelligence disciplines and pay close attention to the ever-expanding cyber domain of war. This will enable the Army to "sense first and shoot first" in future conflict with peer adversaries. ■

Notes

Epigraph. Mark A. Milley, "AUSA Eisenhower Luncheon, 4 October 2016" (speech, Association of the United States Army [AUSA], Washington, DC, 4 October 2016), 15, accessed 7 December 2017, https://wpswps.org/wp-content/uploads/2016/11/20161004_CSA_AUSA_Eisenhower_Transcripts.pdf.

1. Michael O'Hanlon, *Forecasting Change in Military Technology, 2020-2040* (Washington, DC: Brookings Institution, September 2018), accessed 20 April 2020, https://www.brookings.edu/wp-content/uploads/2018/09/FP_20181218_defense_advances_pt2.pdf.
2. Michael O'Hanlon, *Technological Change and the Future of War* (Washington, DC: Brookings Institution Press, 2000), 67.
3. Bonny Lin and Cristina L. Garafola, *Training the People's Liberation Army Air Force Surface-to-Air Missile (SAM) Forces* (Santa Monica, CA: RAND Corporation, 2016), 3, accessed 20 April 2020, https://www.rand.org/content/dam/rand/pubs/research_reports/RR1400/RR1414/RAND_RR1414.pdf.
4. Mandy Mayfield, "Space Commander Warns Chinese Lasers Could Blind U.S. Satellites," *National Defense* (website), 27 September 2019, accessed 22 April 2020, https://www.nationaldefensemagazine.org/articles/2019/9/27/space-commander-warns-chinese-lasers-could-blind-us-satellites.
5. Carin Zissis, "China's Anti-Satellite Test," Council on Foreign Relations, 22 February 2007, accessed 23 April 2020, https://www.cfr.org/backgrounder/chinas-anti-satellite-test.
6. Brian Weeden and Victoria Samson, eds., *Global Counterspace Capabilities: An Open Source Assessment* (Washington, DC: Secure World Foundation, 2020), x, accessed 25 April 2020, https://swfound.org/media/206970/swf_counterspace2020_electronic_final.pdf.
7. Richard L. Bernard, *Electronic Intelligence (ELINT) at NSA* (Fort George G. Meade, MD: Center for Cryptologic History, 2009), 1, accessed 25 April 2020, https://www.nsa.gov/Portals/70/documents/about/cryptologic-heritage/historical-figures-publications/publications/technology/elint.pdf?ver=2019-08-07-124409-477.
8. Ibid.
9. Theresa Hitchens, "Army's TITAN Ground Station to Link Multi-Domain Sensors to Shooters," Breaking Defense, 16 October 2019, accessed 26 April 2020, https://breakingdefense.com/2019/10/armys-titan-ground-station-to-link-multi-domain-sensors-to-shooters/.
10. U.S. Army CCDC Army Research Laboratory Public Affairs, "Army Scientists Create Innovative Quantum Sensor," Army.mil, 19 March 2020, accessed 25 April 2020, https://www.army.mil/article/233809/army_scientists_create_innovative_quantum_sensor.
11. "Measurement and Signature Intelligence," GlobalSecurity.org, accessed 13 April 2020, https://www.globalsecurity.org/intell/systems/masint.htm.
12. U.S. Congress House Permanent Select Committee on Intelligence, "IC21: Intelligence Community in the 21st Century: Staff Study," 104th Cong. (Washington, DC: U.S. Government Printing Office, 1996), accessed 27 April 2020, http://www.access.gpo.gov/congress/house/intel/ic21 /ic21_toc.html.
13. "Intelligence Studies: Types of Intelligence Collection," U.S. Naval War College, 14 September 2020, accessed 13 April 2020, https://usnwc.libguides.com/c.php?g=494120&p=3381426.
14. Chief of Staff of the Army, Strategic Studies Group, *Megacities and The United States Army: Preparing for a Complex and Uncertain Future* (Washington, DC: Headquarters, Department of the Army, June 2014), 5, accessed 11 December 2017, https://www.army.mil/e2/c/downloads/351235.pdf.
15. *World Urbanization Prospects: The 2011 Revision* (New York: UN Department of Economic and Social Affairs, 2011), accessed 5 October 2020, https://www.un.org/en/development/desa/population/publications/pdf/urbanization/WUP2011_Report.pdf.
16. "Intelligence Studies."
17. P. W. Singer and Allan Friedman, *Cybersecurity and Cyberwar: What Everyone Needs to Know* (New York: Oxford University Press, 2014), 15.
18. Gregory Fontenot, E. J. Degen, and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), 168, accessed 24 April 2020, https://apps.dtic.mil/dtic/tr/fulltext/u2/a524388.pdf.
19. Milley, "AUSA Eisenhower Luncheon, 4 October 2016".
20. William S. Wallace, "Multi-Domain Operations in Context," Landpower Essay Series 20-4 (Arlington, VA: Association of the United States Army, April 2020), 3, accessed 25 April 2020, https://www.ausa.org/sites/default/files/publications/LPE-20-4-Multi-Domain-Operations-in-Context.pdf.
21. Donald E. Vandergriff, *Manning the Future Legions of the United States* (Westport, CT: Praeger Security International, 2008), 134.
22. Donald E. Vandergriff, *Adopting Mission Command: Developing Leaders for a Superior Command Culture* (Annapolis, MD: Naval Institute Press, 2019), 2.
23. Williamson Murray, *Military Adaptation in War: With Fear of Change* (New York: Cambridge University Press, 2011), 2.
24. Dan Ward, *F.I.R.E.: How Fast, Inexpensive, Restrained, and Elegant Methods Ignite Innovation* (New York: Harper Business, 2014), 22.
25. Jörg Muth, Command Culture: Officer Education in the U.S. Army and the German Armed Forces, 1901-1940, and the Consequences for World War II (Denton, TX: University of North Texas Press, 2011), 173.
26. Ibid., 175.
27. Wallace, "Multi-Domain Operations in Context," 3.

Humility

The Inconspicuous Quality of a Master of War

Maj. Andrew M. Clark, U.S. Army

Henry Knox, the first U.S. secretary of war, once declared, "Officers can never act with confidence until they are masters of their profession."[1] What, then, constitutes mastery? The broad public often references the ten-thousand-hour rule as its understanding of mastery.[2] Yet, others have asserted that mastery is "a function of time and intense focus applied to a particular field of knowledge," in which "the time that leads to mastery is dependent on the intensity of our focus."[3] Whichever description is closer to reality, it seems the underlying theme includes both experience and learning.

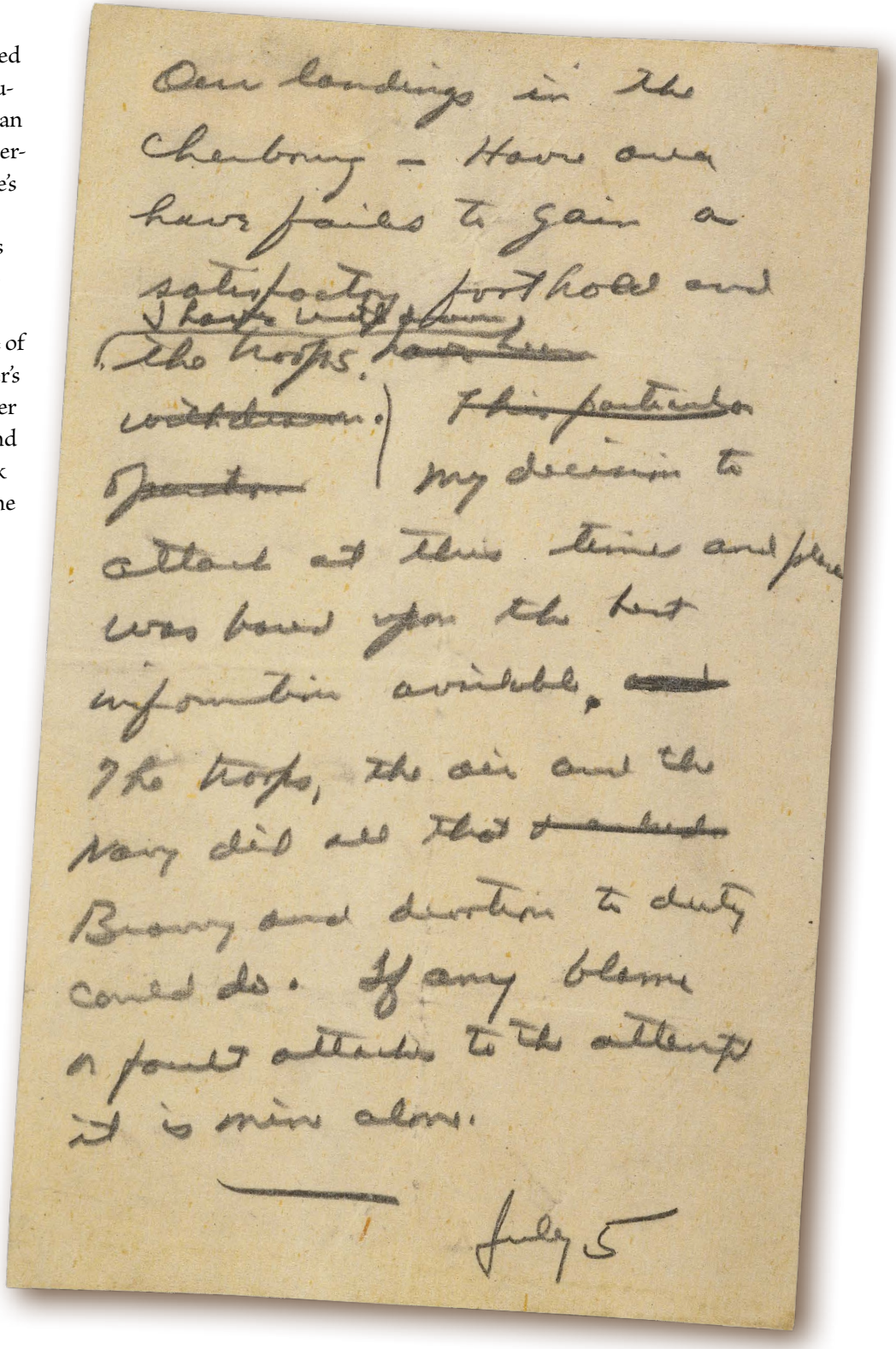
Gen. Dwight D. Eisenhower, supreme Allied commander, Allied Expeditionary Force, intently watches an Allied landing operation 7 June 1944 from the deck of a warship in the English Channel off the coast of France. (Photo courtesy of the Department of Defense/National Archives)

What happens, though, when a particular field cannot be learned? In the game of chess, for example, each player abides by a certain set of rules. If the rules changed every time the game was played, could a chess grandmaster continue to achieve mastery? What if the rules changed without that player's knowledge? One could argue that there are specific learned skills that a chess grandmaster would possess, making him or her more suitable to adapt to change.[4] Yet, it is almost inevitable that there will be characteristics of change that will be unaccounted for in each player's strategy. Where there are numerous dynamic and adaptive components, such uncertainties exist in complex systems and war.[5] According to the Cynefin Framework, which aims to categorize circumstances to aid in decision-making, war exists in the complex domain as it is ever-evolving and continues to be shaped by factors outside the battlefield.[6] As Carl von Clausewitz noted, "War is the realm of uncertainty; three-quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty."[7] Concerning war, no amount of experience can make one a master as the characteristics of warfare change too frequently throughout

the ages and are often influenced by technology and other revolutions in military affairs.[8] One can only hope to mitigate such uncertainties by recognizing that one's knowledge is limited. It is not surprising that the Army holds the quality of a leader's character in such high regard, and it recently added humility as one of its defining attributes.[9] A leader's ability to acknowledge his or her limitations, learn and adapt, and seek others' input and feedback are vital attributes to driving the organizational change needed to succeed in tomorrow's ever-evolving wars.[10] Only through adequate self-awareness and humility can a leader best combat the uncertainties of war by leveraging collective team experience to build mastery, being flexible and prepared for uncertainty, and truly understanding the enemy.

The Team: Leveraging Collective Experience to Build Mastery

War is both violent and unpredictable.[11] It is, therefore, unlikely that any single individual can understand all the intricacies associated with it. Regardless of hours of experience, it


Our landings in the Cherbourg – Havre area have failed to gain a satisfactory foothold and I have withdrawn the troops. My decision to attack at this time and place was based upon the best information available. The troops, the air and the Navy did all that bravery and devotion to duty could do. If any blame or fault attaches to the attempt it is mine alone.

July 5

Humility among great commanders has commonly been manifest in a willingness to accept responsibility for the consequences of their actions. "In Case of Failure" was a message for public release drafted by Gen. Dwight Eisenhower 5 June 1944 in case the D-Day invasion was to fail. The message read, "Our landings in the Cherbourg-Havre area have failed to gain a satisfactory foothold and I have withdrawn the troops. My decision to attack at this time and place was based upon the best information available. The troops, the air and the Navy did all that bravery and devotion to duty could do. If any blame or fault attaches to the attempt it is mine alone." (Photo courtesy of the Dwight D. Eisenhower Presidential Library and Museum/National Archives)

(Figure based on John P. Kotter's *Leading Change*, 1996; graphic elements courtesy of Freepik, www.freepik.com)

Figure. Kotter's Eight-Step Process for Leading Change

is implausible for one to master war alone. A good leader, thus, must understand his or her limitations and continuously "seek out others' input and feedback," especially in dynamic environments.[12] According to the book *Good to Great*, these leaders who possess the right levels of humility and professional will are the most effective.[13] These are the leaders who can leverage collective team experience to build mastery, essentially adding hours of expertise in various fields of knowledge or the missing puzzle piece that each individual brings. For this to work, however, a leader must first build a reliable team. To leverage collective team experience, a leader must develop a team, create and share a vision, and generate and maintain momentum.

To have all the necessary pieces to the puzzle, a leader must put considerable thought into the team's development. This is analogous to the second step in John P. Kotter's eight-step model for organizational change (see figure). According to Kotter, a leadership professor at Harvard University, organizations often fail after establishing a sense of urgency for change because they do not develop a strong enough guiding coalition.[14] While it is important to motivate an organization toward a specific goal, it is equally important to build a team to help drive the organization into action. Today, commanders use staffs with specialized functions to help interpret pertinent information about the battlefield as it relates to specific knowledge areas. For example, a commander relies heavily on his or her intelligence officers to provide accurate information about enemy capabilities, locations, and expected actions. Only through the integration of these various staff members can a commander better understand the operational environment, as each staff member often represents a different warfighting function. Still, there will always exist some level of ambiguity on the battlefield; therefore, it is imperative that leaders carefully consider their staff members' strengths and weaknesses when building a guiding coalition.

Next, leaders must create and share a vision for the future. This process is representative of steps three and four in Kotter's model.[15] In war, it is impossible for the commander to be at all places at all times; therefore, it is critical that subordinate leaders can make intelligent decisions in the absence of guidance. By providing both command intent and a vision of the end state, commanders can help ensure subordinate leaders perform actions that align with the overall goal. According to Army Doctrine Publication (ADP) 5-0, *The Operations Process*, "Commanders are the most important participants in the operations process," and they are ultimately responsible to "drive the operations process through understanding, visualizing, describing, directing, leading, and assessing operations."[16]

Last, to capitalize on collective team experience, a leader must generate and maintain momentum. In war, much success can be attributed to chance; however, great leaders improve their odds by surrounding themselves by smart people and listening to them. Great leaders are ambitious, capitalize on gains, and use momentum to build esprit de corps and future progress. This process is similar to steps six through eight in Kotter's model.[17] After removing obstacles for the team, leaders must generate and reward short-term wins, build on momentum to generate more success,

and solidify gains by instilling change in the organization's culture.[18] Jim Collins, the author of the book *Good to Great*, would call this turning the flywheel. While progress initially requires much effort and time, a continuous effort in the same direction, together with gains that build upon gains will yield a gradual accumulation of momentum that will drive compounding results.[19]

The Plan: Being Flexible and Prepared for Uncertainty

Gen. Dwight D. Eisenhower once said, "Plans are worthless, but planning is everything."[20] As much in war is uncertain, the true value of planning is not in the plan itself; rather, it is in the process leading up to the plan, as the information gathered during this time is invaluable to generating both flexibility and future contingency planning efforts. In war, rarely is a single plan sufficient alone as war exists in a fluid environment and will continue to be influenced by enemy actions. It is, therefore, imperative that planners maintain both flexibility and accurate self-understanding.[21] Through the utilization of mission command, contingency planning, and proper risk management, military leaders can best achieve the flexibility and preparedness to succeed in the uncertainties of war.

To achieve flexibility, military leaders should strive for decentralized execution. According to ADP 6-0, *Mission Command: Command and Control of Army Forces*, "Mission command is the Army's approach to command and control that empowers subordinate decision making and decentralized execution appropriate to the situation."[22] It is impossible for the commander to be present at all operations, so the commander must have trust that his or her subordinate leaders can exercise disciplined initiative and accept prudent risk in the absence of orders.[23] Mission command is indispensable in dynamic environments as it allows subordinate leaders the flexibility to make battlefield decisions within the commander's intent. With the decentralized execution, the guidance focuses on *what to accomplish* rather than the specifics of *how to accomplish a task*. Thus, it affords subordinate leaders the ability to determine the best method of *how to accomplish a task* based on the current operational environment. As Gen. George S. Patton said, "Never tell people how to do things. Tell them what to do and they will surprise you with their ingenuity."[24] As war situations are quick to change, it is best for flexibility to allow subordinate leaders to decide how to accomplish a task as they often have the most current battlefield information.

Another way to achieve flexibility is through the use of contingency plans. According to Joint Publication 5-0, *Joint Planning*, "Many plans require adjustment beyond the initial stages of the operation. Consequently, joint force commanders build flexibility into plans by developing branches and sequels to preserve freedom of action in rapidly changing conditions."[25] During execution, for example, if the enemy or environment alters the original plan, leaders should be prepared to execute a branch plan, which identifies alternative actions based on potential circumstances.[26] Additionally, leaders should have several sequels prepared at the conclusion of a plan, which identify various future operations that differ depending on the outcome of the current plan.[27] By possessing humility and planning for failure, leaders can ensure maximum flexibility should failure occur. While most contingency plans will never require execution, it only takes one that successfully mitigates tremendous risk to be worth the effort. Again, this illustrates that the true value of planning is in the process and not the plan itself.

Lastly, when creating contingency plans and preparing for uncertainty, leaders must assess risk and build mitigations that are commensurate with severity and probability of occurrence. According to ADP 5-0, "Risk—the exposure of someone or something valued to danger, harm, or loss—is inherent in all operations."[28] Therefore, proper risk management is necessary for all planning efforts and is vital in preparing for uncertainty.

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Risk is identified during mission analysis and can be mitigated by either reducing the likelihood of occurrence or the cost of occurrence.[29] Often, leaders can use tools such as risk matrices to aid decision-making by providing weighted values to risks based on severity, probability of occurrence, and command priorities. Despite even the best risk mitigations, however, residual risk and the occasional Black Swan will continue to exist in wartime operations as war is a complex endeavor.[30] Therefore, as prescribed by the just war framework, war should only be considered as a last resort, as risks often outweigh potential benefits.[31] If war must occur, however, leaders must acknowledge their shortcomings and subsequently apply proper risk management.

> Regardless of experience, uncertainty in war will always endure. Thus, leaders must attempt to mitigate such uncertainty by acknowledging their lack of expertise and by fostering team planning efforts.

The Opponent: Understanding Your Enemy

Finally, when planning an operation, it is important to remember that the enemy has a vote. While the right level of humility allows leaders to maintain accurate self-understanding, leaders must also learn to understand their enemy to the same degree as they understand themselves. As Sun Tzu describes in *The Art of War*, "Know the enemy and know yourself; in one hundred battles you will never be in peril."[32] Without an accurate understanding of both self and the enemy, the risk of miscalculation in war increases significantly. Of course, one cannot fully know one's enemy until one confronts the enemy. Therefore, staffs must turn to intelligence-gathering methods and the study of military history to gain information about the enemy. Still, there are inconceivable aspects of war during planning as war is a paradoxical trinity comprised of chance, reason, and emotion.[33] Short of physically confronting the enemy, the next best way to comprehend war's chance and emotional aspects is by applying planning analysis to an adaptive opponent in a live military exercise or wargame. Thus, through intelligence collection and the study of military history, planners can think critically about the enemy and past conflicts and make inferences about the future, which allows them to realistically train for coming battles through live exercises and wargames.

War is often no less a game of chance than cards. While even the most professional card players may precisely calculate odds against an opponent, and subsequently apply the most suitable risk mitigations, a fog of war exists with the turning of the next card.[34] Intelligence-gathering is then akin to learning some of the cards an opponent holds or learning of a particular opponent's tell. For example, an opponent on the battlefield may tip his or her hand by moving his or her artillery into a friendly asset range. Information about the capabilities the enemy holds, such as ranges of weapons and the locations of such systems on the battlefield, may help to forecast the enemy's next move. Therefore, it is imperative that staffs utilize all available intelligence-gathering methods to conduct a thorough and continual analysis of enemy capabilities, locations, and historical actions to inform the current plan.

The next step is to understand how this information can inform future operations. With advances in technology, military leaders can expect future conflicts to have deadlier weapons and occur across multiple domains. As precision strikes and increased lethality of conventional munitions were revolutions in military affairs that changed warfare, future weapons will likely have equal or greater range and lethality.[35] With future threats potentially now capable of ranging friendly assets, our strategic posture could change. Additionally, leaders must not discount the possibility of a coming digital war as digital and cyber capabilities continue to grow worldwide.

Last, to truly understand all these possible enemy scenarios, leaders must make several plans for each set of circumstances and test the best of them against an adaptive opponent through wargames or live military exercises. With today's advances in computing,

military planners can simulate certain aspects of war rather effectively. This allows commanders to test new strategies without actual risk, and it reduces the costs of fuel and other resources. Additionally, in the combat training centers, units can also test tactics against a live opponent, experimenting with both historical and novel tactics to see if chance plays any role.

Conclusion

Like many complex endeavors, war is exceedingly involved and difficult to master alone. It is ever-adapting, and it continues to be shaped by factors outside the battlefield.[36] Regardless of experience, uncertainty in war will always endure. Thus, leaders must attempt to mitigate such uncertainty by acknowledging their lack of expertise and by fostering team planning efforts; hence, adding hours of experience to various fields of knowledge and the missing puzzle piece that each team member brings. Only through adequate self-awareness and humility can a leader fully leverage this experience and understand these three things: the team, the plan, and the opponent. A leader's ability to acknowledge his or her limitations, learn and adapt, and seek others' input and feedback are essential attributes to driving the organizational change needed to succeed in tomorrow's rapidly evolving wars.[37] ■

Notes

1. Henry Knox, "Hints for the Improvement of the Artillery of the United States," 27 September 1776, Knox Papers, reel 3, Massachusetts Historical Society, Boston.
2. Malcolm Gladwell, *Outliers: The Story of Success* (New York: Little, Brown, 2008).
3. Robert Greene, *Mastery* (New York: Viking, 2012), 260, 269.
4. Peter Guy Northouse, *Leadership: Theory and Practice*, 8th ed. (Los Angeles: Sage, 2019), 19–70.
5. William Dettmer, *Systems Thinking and the Cynefin Framework: A Strategic Approach to Managing Complex Systems* (Port Angeles, WA: Goal Systems International, 2011), 13–14, 19.
6. Ibid., 13–14.
7. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 101.
8. MacGregor Knox, ed., *The Dynamics of Military Revolution, 1300-2050* (Cambridge, UK: Cambridge University Press, 2001), 6–7.
9. Army Doctrine Publication (ADP) 6-22, *Army Leadership and the Profession* (Washington, DC: U.S. Government Publishing Office [GPO], 31 July 2019), 2-11.
10. Ibid.
11. Clausewitz, *On War*, 89.
12. ADP 6-22, *Army Leadership and the Profession*, 2-11.
13. Jim Collins, *Good to Great: Why Some Companies Make the Leap—and Others Don't* (New York: HarperBusiness, 2001), 17–40.
14. John P. Kotter, *Leading Change* (Boston: Harvard Business School Press, 1996), 4–6.
15. Ibid., 7–10.
16. ADP 5-0, *The Operations Process* (Washington, DC: U.S. GPO, 31 July 2019), 1-8.
17. Kotter, *Leading Change*, 10–16.
18. Ibid.
19. Jim Collins, "The Flywheel Effect," accessed 27 March 2020, https://www.jimcollins.com/article_topics/articles/the-flywheel-effect.html.
20. Dwight D. Eisenhower, "Remarks at the National Defense Executive Reserve Conference, November 14, 1957," in *Public Papers of the Presidents of the United States, Dwight D. Eisenhower, 1957* (Washington, DC: National Archives and Records Service, U.S. Government Printing Office, 1957), 818.
21. ADP 6-22, *Army Leadership and the Profession*, 2-12.
22. ADP 6-0, *Mission Command* (Washington, DC: U.S. GPO, 31 July 2019), 1-3.
23. Ibid., x.
24. George S. Patton and Paul D. Harkins, *War as I Knew It* (Boston: Houghton Mifflin, 1995), 338.
25. Joint Publication (JP) 5-0, *Joint Planning* (Washington, DC: U.S. GPO, 16 June 2017), IV-38.
26. Ibid.
27. Ibid.
28. ADP 5-0, *The Operations Process*, 1-17.
29. JP 5-0, *Joint Planning*, I-11, I-12.
30. Ibid., I-12.
31. Martin L. Cook, "Ethical Issues in War: An Overview," in *U.S. Army War College Guide to National Security Issues, Volume II: National Security Policy and Strategy*, ed. J. Boone Bartholomees Jr. (Carlisle, PA: U.S. Army War College and Strategic Studies Institute, 2012), 220.
32. Sun Tzu, *The Art of War: The New Illustrated Edition of the Classic Text*, trans. Samuel B. Griffith (London: Watkins, 2011), 125.
33. Clausewitz, *On War*, 89.
34. Ibid., 101.
35. Knox, *The Dynamics of Military Revolution*, 29.
36. Dettmer, *Systems Thinking and the Cynefin Framework*, 13–14.
37. ADP 6-22, *Army Leadership and the Profession*, 2-11.

Event Barraging and the Death of Tactical Level Open-Source Intelligence

Capt. Michael J. Rasak, U.S. Army

Noncombatants increasingly leverage social media to report on the disposition and composition of military forces, infrastructure status, and the details of ongoing local events, posing a legitimate risk to both friendly and adversarial military activities. Adversarial nation-states and groups have already demonstrated the capability and intent to both mitigate and exploit this phenomenon. In the near future, friendly commanders and analysts will likely endure digital inundation by a series of embellished or entirely fabricated events on social media that directly threaten ongoing or near-term tactical operations, termed "event barraging." In the midst of an event barrage, and due to the immanency of tactical-level operations, commanders are thus compelled to choose from one of two undesirable options: systematically corroborate each event or disregard social media as a platform for observing adversarial activities altogether. The subsequent ramifications of event barraging, trend hijacking, and pinpointed disinformation efforts could then disrupt U.S. decision-making at the tactical level, strain friendly reconnaissance, intelligence, surveillance, and target acquisition (RISTA) assets, and degrade the usefulness of open-source information (OSIF). Nation-states or large groups could incentivize their populations to participate in event barraging, ultimately compromising the integrity of open-source intelligence (OSINT) as a discipline in general.

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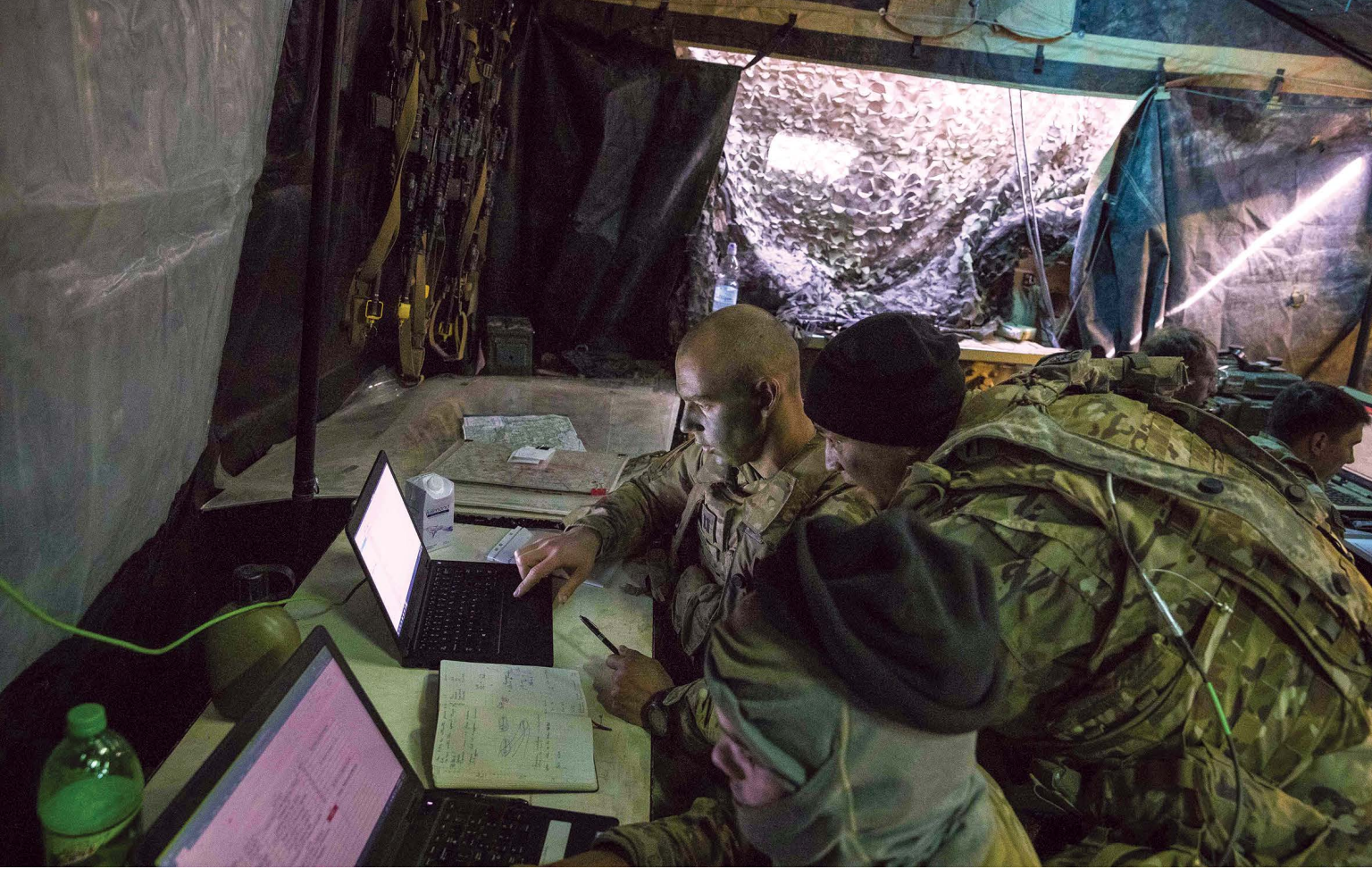
Open-Source Intelligence at the Tactical Level

Despite this article's ominous title, OSINT will likely not die as a discipline altogether. The sheer volume of information housed in the open-source domain offers analysts a pool of available data too valuable to cast aside entirely. We need only look at the astute observations of seasoned professionals spanning the entirety of the intelligence community and within the ranks of the military. Lt. Gen. Samuel V. Wilson, former Defense Intelligence Agency director, claims OSINT provides roughly 90 percent of the information used by the intelligence community.[1] Robert Cardillo, National Geospatial-Intelligence Agency director, argued that "unclassified information should no longer be seen as supplemental to classified sources, but rather it should be the other way around."[2] Even those without a vested interest in the security of the nation, like Vice News, have remarked on the boundless swath of valuable military information to be gleaned from publicly available sources.[3] The pool of available OSIF manifesting from the rise of social media has only encouraged further excitement: geotagging, georeferencing, web scraping, sentiment analysis, and lexical analysis are a few emerging technologies and techniques. OSINT offers commanders from the tactical to the strategic levels invaluable insight deep into nonpermissive environments,

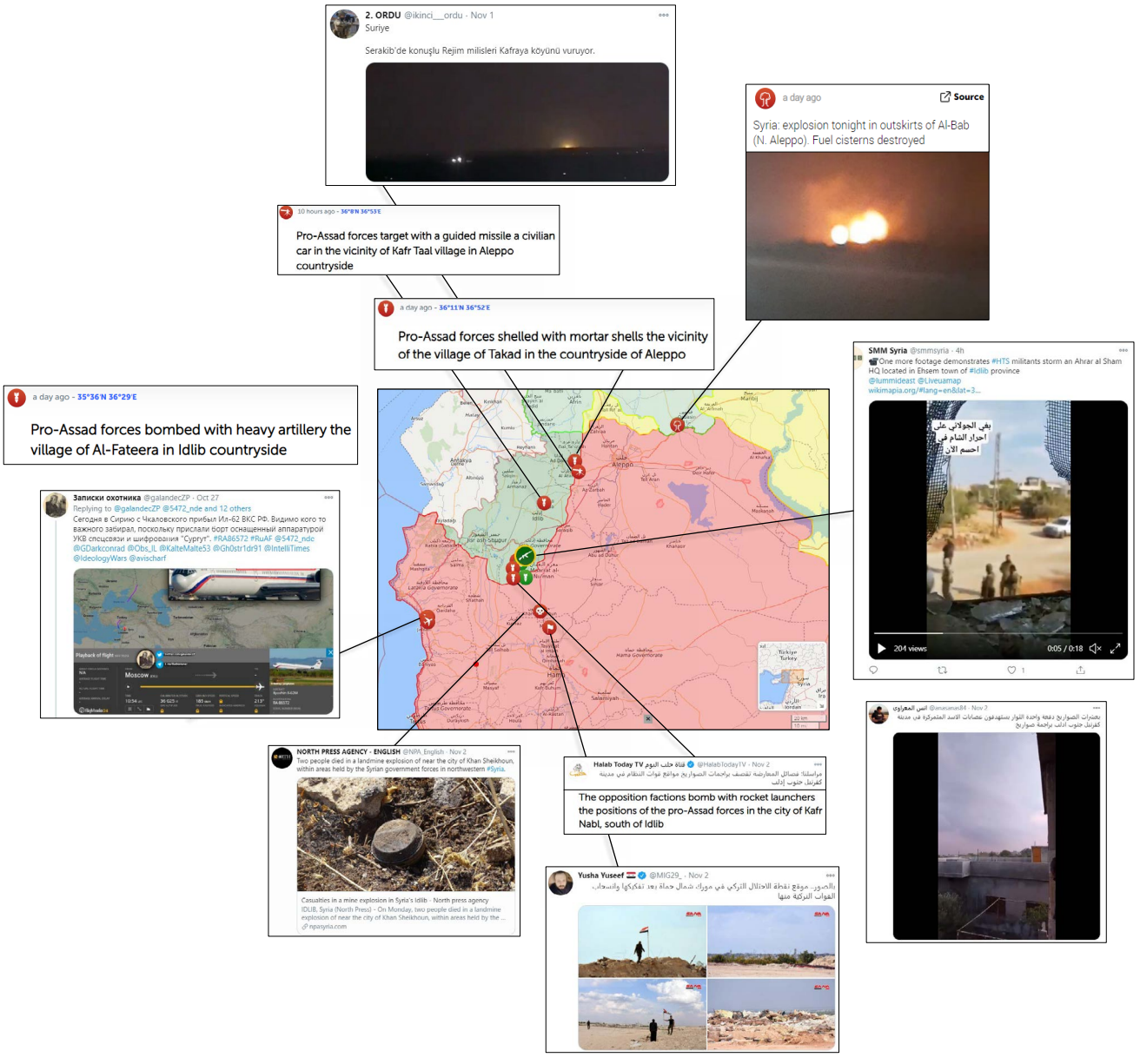


Warrant Officer Alan Mendoza (*right*), an all-source intelligence technician assigned to 2nd Battalion, 34th Armored Regiment, 1st Armored Brigade Combat Team, assists Capt. Kenneth Russel, the battalion intelligence officer, 8 April 2019 during exercise Allied Spirit X in Hohenfels, Germany. (Photo by Sgt. Thomas Mort, U.S. Army)

which were previously obtained only through clandestine efforts. Armed with this higher resolution, commanders are better able to understand and visualize the battlefield, thus offering them an advantage when they must describe, direct, lead, and assess operations.

At the tactical level, OSINT offers ground force commanders near-real-time information critical to decision-making. Social media especially provides analysts the opportunity to rapidly collect, monitor, and assess events within a commander's area of operations. Countless ordinary citizens armed with smartphones, internal GPS devices, and Twitter accounts unwittingly divulge insight into the disposition, composition, and strength of enemy forces, the status of infrastructure, ongoing events, and the general sentiment of the population. Moreover, the inherent immanency of tactical level operations (as opposed to operational- or strategic-level operations) renders information gleaned from OSINT collection of even greater importance. Take, for instance, an infantry platoon out on patrol, operating only several kilometers from a village. When a battalion or brigade intelligence officer observes a large volume of tweets indicating enemy fighters have massed in the village, that officer has an obligation to corroborate the information to the greatest extent possible and disseminate it to the platoon leader on the ground. Failure to do so could result in the platoon becoming ambushed or in a missed opportunity to engage the enemy under more advantageous conditions.

Scholars, military professionals, and members of the intelligence community have all remarked on the effectiveness of OSINT at the tactical level. In "Operationalizing OSINT Full-Spectrum Military Operations," Senior Chief Petty Officer Ron Penninger authored a fantastic example of just how effective OSINT at the tactical level is, and how sentiment analysis and georeferencing can directly contribute to the decision-making of ground force commanders.[4] RAND Corporation, too, has commented on the



(Figure created by author with screenshots taken from Live Universal Awareness Map)

Figure 1. Live Universal Awareness Map Example: Syria, 3 November 2020

paradigm-shifting effects of "second-generation OSINT." Heather J. Williams and Ilana Blum argue, "Analysts … can use a combination of Google Maps, Wikimapia, publicly available tweets, Facebook posts, and YouTube videos to pinpoint exact locations of ongoing military actions."[5]

Leveraging OSINT for tactical application goes well beyond mere rhetoric or lip service; militaries, government agencies, nongovernmental organizations, and corporations are capitalizing on it right now. Live Universal Awareness Map (Liveuamap) serves as perhaps one of the greatest examples. On its website, Liveuamap explains it is an "independent global news and information site," which aims to assist individuals in "making conscious decisions about their security."[6] Drawing primarily from social media posts, the site provides near-real-time information on the movement of military personnel and

equipment, civil unrest, violence, and other activities, and overlays these events on an interactive map (see figure 1, page 50). For example, at the time of this writing, one of the most recent events in Libya (crowdsourced from Twitter) indicates, "[six] anti-aircraft Russian-made Pantsyr vehicles arrived in Sirte."[7]

Hong Kong protesters using "HKMap Live" during the massive demonstrations of late 2019 and early 2020 offer another clear example of how effective untrained noncombatants can be at tracking the movement of government forces. Through crowdsourcing and social media, protesters tracked the composition and disposition of police forces, communicated intent, and massed manpower at times and places of their choosing. Hong Kong protesters declared their tracking efforts were used to avoid police forces, whereas the Chinese government declared that protester efforts were used to facilitate the ambushing of police forces. Regardless of which argument held greater truth, social media clearly facilitated the execution of tactical doctrine—that is, gain and maintain contact, break contact, or conduct an ambush.

Militaries across the globe are increasingly leveraging social media as the first step in the targeting process—that is, to "find" or "detect" what will eventually be "finished" or "engaged." As explained by Williams and Blum, "many all-source analysts start with OSINT and then layer on classified source material" and in this way, rapidly decrease the time and energy it takes to facilitate targeting operations.[8] Battalions, brigades, and divisions would be remiss to refrain from displaying pertinent social media feeds adjacent to their maps on the walls of their command posts; the situational awareness OSIF provides in the modern era is just too important to disregard. The battlefield has become an environment where eyes and ears are everywhere, for friend and adversary alike to consume and use as they please. It seems at least one of the characteristics of the offense has been utterly trounced: surprise.

Understanding that "every citizen is now a sensor" raises the question, "How this can be mitigated?" Or, flipping the question around, "How this can be weaponized?" The rest of this article will explore these questions and address some of their implications.

Event Barraging

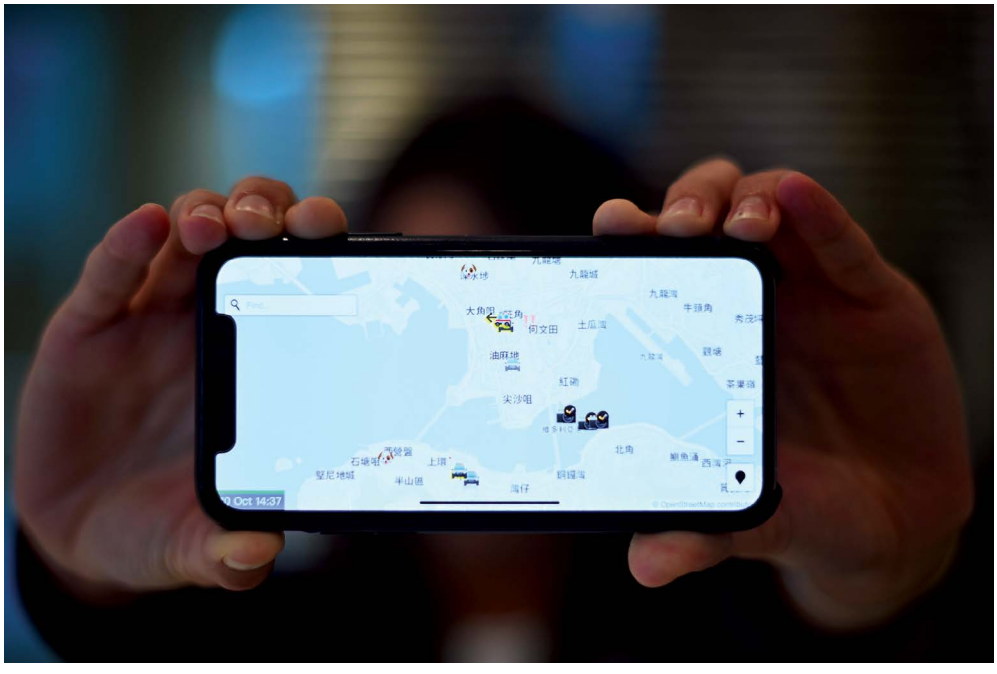
Trained OSINT practitioners are advised to question the authenticity and credibility of social media OSIF due to the prevalence of deception and bias. But how exactly does a practitioner verify credibility and authenticity of a Twitter post? The usual answer is to corroborate this information with information from at least one other intelligence discipline and subsequently convert the information from questionable single-source raw data to a veracious multi-source finished analytical product. While this process is the gold standard, it can be cumbersome or difficult—especially when analysts are supporting the rapid tempo of tactical-level operations. Often, analysts rely on corroboration through multiple collection attempts from the same (or similar) sensor. An example of this outside of OSINT could be using two separate human intelligence sources to corroborate a piece of information, or the use of two separate unmanned aircraft system full-motion video feeds to corroborate a piece of information.

OSINT practitioners often can and do rely on aggregating OSIF from many sources to do a similar process. Williams and Blum explain that "[a] single Twitter tweet reflecting a random individual's view on the Islamic State of Iraq and al-Sham (ISIS) is of almost no intelligence value; however, synthesizing all the tweets on views of ISIS within a geographic area is of great intelligence value."[9] Penninger offers another example by recommending a web scrape of a geographic area (in this case, a village) prior to a mission to determine the population's baseline sentiment—and observing the changes in sentiment as U.S. forces execute their operation. In this case, he argues, changes in the village sentiment can help ground force commanders to "make informed decisions" and "shape their acts to best attain the result intended by higher command."[10]

With the increasing use of bots (automated programs), artificial intelligence, and machine learning comes the potential for adversaries to completely fabricate, artificially inflate, or mask existing trends, patterns, ideas, events, or actions. Jarred Prier's "Commanding the Trend" outlines the increasing sophistication and effectiveness of "trend hijacking" on social media. He explains that "bot accounts are non-human accounts that automatically tweet and retweet based on a set of programmed rules," which subsequently inflate a given narrative (see figure 2, page 53, for an example).[11] He further notes that as of 2017, Twitter estimated nearly 15 percent of its accounts were bot accounts.[12] Individuals, groups, or entire nation-states can commit their resources to trend hijacking for whatever purpose they desire. For instance, one white supremacist group in June 2020 announced its initiation of Project

SOCH (Solar Orbiting Casaba Howitzer), which aims to build "an automation system … able to rapidly generate social media accounts with the click of a button, making it easier … to maintain a presence on heavily censored platforms."[13] While scholars like Prier delve into the national and strategic implications of trend hijacking, the same concerns can also filter down to the tactical level.

Beyond bots, adversaries may also leverage GPS spoofing to generate false geotags associated with their social media posts. Not only are nation-states or sophisticated groups capable of GPS spoofing but everyday noncombatants can also do the same thing. Commercially available apps like "Fake GPS Location–GPS Joystick" allow anybody to override the internal GPS systems in their smartphones with just a little bit of effort. GPS spoofing can also be organized and directed at designated locations. Janus Rose explains that a group in 2016 "scann[ed] and sampl[ed] the profiles of 60 nearby Wi-Fi networks …, re-broadcast[ed] those networks," and accordingly, enabled anybody with access to the internet to trick their phones into thinking they were located at the Ecuadorian Embassy.[14] Thus, adversaries are not only armed with the ability to fabricate fake events but also to direct those events at designated geographic regions.



After Beijing stepped up pressure on foreign companies deemed to be providing support to the pro-democracy movement in Hong Kong, Apple removed the "HKmap.live" app 10 October 2019 because it was allowing protesters in Hong Kong to track police movement. (Photo illustration by Philip Fong, Agence France-Presse)

In revisiting our infantry platoon operating nearby in a village, it is then feasible that an adversary could artificially inflate or outright fabricate a trend or "event" that indicates to an unsuspecting analyst there is an emerging threat in proximity. If our analyst supporting that infantry platoon geofenced his or her search parameters to roughly match the borders of the village, then perhaps only dozens of tweets and retweets could fundamentally shift the sentiment or ostensible threat resident within the village. If our analyst is unable to corroborate the emerging threat with a separate intelligence discipline, then he or she must rely on the aggregated OSIF from social media and generate an OSINT report for the ground force commander. The commander is then left with three choices: request RISTA support from higher headquarters, redirect his or her own sensors, or simply rely on the intelligence he or she has been handed and react accordingly.

While the severity of this instance may seem relatively benign (or just another example of the "white noise" analysts are all too familiar with) then expanding this problem set to its next natural evolution raises some serious concerns. Imagine our analyst sees three emerging events: fighters have massed in the village to the east, a mortar team has established itself four kilometers to the west, and the bridge required for egress to the south has been destroyed. Well, now there are three events the analyst, higher headquarters, and the ground force commander must confirm. Three new named areas of interest and intelligence requirements have just developed, three new events need to be corroborated through separate RISTA assets, and the ground force commander must make a

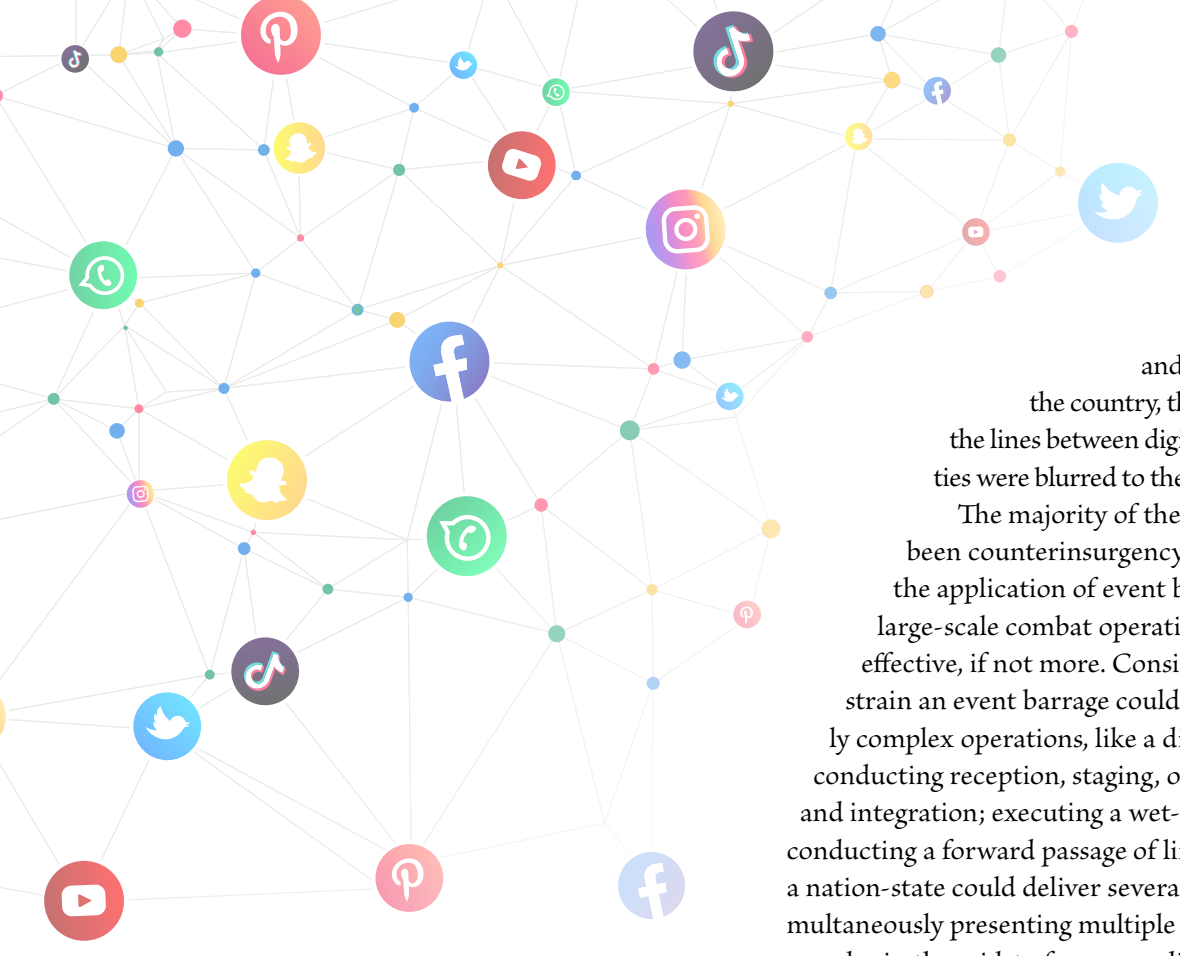
decision on his or her next action. Now raise the number of events from three to ten. This method of inundating a ground force with OSIF trends over social media can be called event barraging. If we assume available RISTA assets will be redirected to answer these emerging intelligence requirements, then we must remember these RISTA assets have also been pulled away from whatever mission they were originally tasked to do, which was likely to collect on priority intelligence requirements that had genuine merit. Event barraging can then be used as a means to place incredible strain on available RISTA assets, disrupt collection plans, and mask genuine intelligence feeds. In this vein, event barraging can be seen as a means of nonlethal fires, deliberately hindering the decision cycle of commanders, and intended to disrupt tactical operations at worst and neutralize operations at best.

(Screenshot by author via Twitter)

Figure 2. Example of a Botnet on Twitter

A frustrated analyst or commander who altogether dismisses the information during an event barrage could generate even greater problems. As addressed in the first part of this article, OSIF and social media offer analysts and commanders an incredible advantage in the field. Militaries are increasingly incapable of maneuvering throughout the battlefield without being observed and reported on by everyday citizens. Moreover, if we consider that there are still *actual* people *genuinely* reporting on the movement of personnel—even in the midst of an event barrage—then one (or more) of the emerging events may be genuinely true. And if we assume the event barrage is comprised of all high-priority or imminent events, then the ground force and supporting analysts are thus *required* to corroborate everything they see to determine exactly which events are true.

An adversary could deliver event barrages to do more than just disrupt ongoing U.S. operations. They could be used to mask adversary movement, prevent U.S. forces from entering an area, complicate target validation, disrupt ground lines of communication, lure U.S. forces into an area, or augment in adversarial engagement area development. This is especially true if adversaries take even the most marginal steps to supplement the ongoing event barrage outside of social media through the use of computer-generated videos, deepfakes, fabricated gray literature or media reports, or staged small physical or electronic evidence that could lead to false corroboration. For instance, if an adversary wished to disrupt ground lines of communication, the adversary could event barrage the desired area



and have a single actor disturb the earth at that location (to replicate an improvised explosive device emplacement), ultimately deceiving imagery analysis. Civil unrest barrages could be falsely corroborated through repurposed (or computer-generated) videos and several sets of burning tires. Massing fighters could be falsely corroborated through one person with a radio relaying incorrect information over the net to deceive communication analysis. While these examples are overly simple, the fact remains that event barraging has the potential to turn initial deception efforts from single-source one-off reports to legitimately authentic-looking multisource reports.

As an example of falsely corroborating civil unrest events, consider the confusion circling the June 2020 Capitol Hill Autonomous Zone in Seattle. Beyond the opposing narratives spun in the social media underworld, reporting "on-the-ground facts," mainstream media outlets themselves fell victim (or deliberately contributed) to the chaos. For instance, Fox News displayed an image of armed guards occupying the area but removed the image shortly after the *Seattle Times* noted the image was of an entirely separate event that took place in Minnesota. While Fox News claimed the photo was part of a "collage" that "did not clearly delineate" images from Seattle and other events across the country, the fact remains that the lines between digital and physical realities were blurred to the point of obscurity.[15]

The majority of these examples have been counterinsurgency oriented, but the application of event barraging during large-scale combat operations could be just as effective, if not more. Consider the additional strain an event barrage could add to already highly complex operations, like a division or brigade conducting reception, staging, onward movement, and integration; executing a wet-gap crossing; or conducting a forward passage of lines. In these cases, a nation-state could deliver several event barrages, simultaneously presenting multiple dilemmas to a commander in the midst of commanding and controlling an already multifaceted operation. A forward-thinking group or nation-state could even have multiple event barrages (and their supplemental measures) prefabricated and loaded for delivery at key times or places. Event barrages could be manufactured days, weeks, or months in advance. Humanitarian crises, broken dams, civil disturbances, destroyed bridges, and fake armored brigades could virtually pepper the battlefield, straining available RISTA assets and diverting U.S. reconnaissance efforts away from genuine targets. "Rolling" event barrages could increasingly divert U.S. attention further and further from genuine objectives, and the enemy would only have to make an occasional event barrage true to compel U.S. focus.

Paramount to delivering an effective event barrage is obtaining the participation of as many disparate cyber actors as possible. While a bot army controlled by a handful of individuals has the potential to fabricate and/or inflate a given event, currently employed techniques and technologies can usually identify and thus eliminate or disregard a particularly inauthentic-looking event or trend. Advanced lexical analysis, keyness analysis,

Graphic elements by myriammira and starline via Freepik, www.freepik.com. Composite graphic by Arin Burgess, Army University Press

and frequency profiling can be used to attribute written text to a specific demographic, group, or even to a single author.[16] For instance, if an initial body of tweets or articles commenting on an emerging humanitarian crisis embodies the hallmark writing characteristics of a known nefarious group, this event can be disregarded as a mere disinformation attempt. However, if the event gains traction across the larger global audience and thousands of people comment, post, or contribute their own unique text or images to the discussion, more energy and time must be committed to sift through what is real and what is fake. Consider the 2020 #DCblackout trend on Twitter; started by just three followers, the hashtag exploded within hours despite Twitter's attempts at halting the misinformation campaign. Half a million people retweeted the event and a large portion of the country believed the government shut down the local internet to suppress civil unrest.[17] Though the illegitimacy of #DCblackout was eventually exposed, the initial confusion of the event serves as a compelling example of the potentially disruptive effects an event barrage can have on streamlined and rapid tactical operations.

The potential for event barraging to become adversarial doctrine should not be underestimated. Though not labeled an event barrage, perhaps the first form of this tactic in its infancy manifested in 2014 Ukraine. While the analysis of events in Ukraine have been comprehensively covered by political and strategic thinkers across the globe, it is worth noting several key highlights. Russia exhibited the capability of barraging Ukrainian protests in 2014 with "a network of dozens of social media groups … used to spread fake rumors to undermine the Ukrainian troops or discredit army leadership."[18] Ukrainian soldiers themselves were directly targeted with "Short Message Service [SMS] messages, coming to their cell phones most likely from Russian electronic warfare systems."[19] Lastly, Russian actors utilized simple methods like "bikini trolls" sporting profile pictures of attractive women to gain digital followership and defeat "some of the tools for troll and bot analysis."[20] These characteristics of digitally delivering informational events, targeting specific locations and people, and countering analytical deception-seeking tools are indicators of a growing doctrine that could be marshaled at a tactical level.

Another consideration we should take into account is the cost-benefit analysis of performing an event barrage. Is the efficacy of an event barrage worth the cost of resourcing, organizing, and delivering it? This question is perhaps best framed by comparing the cost-benefit analysis to other types of obstacles, nonlethal and lethal fires, and military deception efforts. To begin with, as outlined by Penninger, Mikhail Burchik's Internet Research Agency, a Russian company directly responsible for ongoing disinformation campaigns in the United States, operated on a budget measured in the "single digit millions of dollars for a couple of years of harassment and disruption."[21] Moreover, RAND notes that at Russia's Saint Petersburg troll factory, "employees are paid at least US$500 per month to manage fake accounts, spreading propaganda and disinformation."[22] Combining these figures, it seems logical a team of fifty or so dedicated Russian cyber actors could launch a continuous, comprehensive disinformation campaign for somewhere around $40,000 per month. We must also remember this expense includes the cost of purchasing advertisements and running myriad servers and associated botnets. Therefore, the cost of one month of operations from this relatively small cohort would equal just shy of one-half of a single hellfire missile, around forty unguided howitzer shells, or four hundred rounds of 30mm ammunition delivered from an AH-64 Apache. Or, the cost of an entire month's worth of event barraging could equate to only ten hours of flight time for a single MQ-1B Predator.[23]

Delivering an event barrage is a cheap, accurate, and rapid way to disrupt U.S. tactical decision-making, strain RISTA resources, generate advantageous battlefield effects, and degrade the value of available OSIF. Generating and delivering an event barrage is certainly within the capability of most modern nation-states, many adversarial groups, and perhaps even lone-wolf cyber actors armed with formidable bot armies.

The Death of Tactical Level OSINT

The consequences of event barraging, misinformation campaigns, trend hijacking, and military deception will fundamentally detract from the usefulness of OSINT at the tactical level. Information on the internet is not an abstract independent entity, relatively malleable but still capable of holding its true form despite the repeated efforts of interconnected users to continuously poke, prod, and manipulate it. Rather, information on the internet *is* the interconnected users who inhabit that domain, and its content manifests based on the will and power of those users. As the internet grows and expands,

so too will the capabilities of nation-states and actors to change it. Like the infantry platoon by the village, information gleaned from the internet will be questioned to the point where it becomes virtually useless. Rather than answering information requirements, OSIF will simply serve to generate *more* information requirements. Is there really a riot going on in Kabul? Did the enemy really just relocate one of its Panstir batteries? Is the bridge along my egress route actually destroyed?

It may not even be too far to surmise that nation-states will consider it a *duty* for citizens to deluge the internet with false information. Opposite of the twentieth-century war slogan "loose lips sink ships," we could potentially witness a world where governments encourage citizens to flood the digital domain with false information. Not only would this serve to protect the livelihood of deployed soldiers and/or disrupt enemy plans, but it could also be carried out by every citizen with a smartphone and access to the internet, no matter how far geographically separated from the fighting. In fact, governments could even offer monetized or civil incentives to drive citizens to carry out disinformation campaigns, perhaps in the form of tax breaks or citizenship medals. The larger the number of people who contribute to event barraging and disinformation, the greater the likelihood of success. One million different people posting, tweeting, retweeting, and writing will defeat mechanisms intended to identify online disinformation campaigns, like lexical analysis, network analysis, or geospatial analysis. Indeed, the "whole-of-nation" approach to warfare could certainly encourage the marshaling and weaponization of open-source information to levels never seen before.

Recommendations

Several options are available when looking at how to overcome the detrimental impacts of event barraging, trend hijacking, and pinpointed disinformation campaigns, though none are ideal on their own: (1) as a nation, continue to commit resources and energy into developing better analytical tools and processes to cope with increasing disinformation on the internet; (2) reign in our reliance on social media as a means of battle-tracking adversarial activities; and (3) aggressively target adversarial botnets, troll factories, and known nefarious actors during global and theater shaping activities. By blending all three efforts, we could see a reduction in risk to our force and mission and potentially safeguard the usefulness of OSIF.

Developing ever-more sophisticated tools to cope with emerging cyber threats has been an American defense policy since the dawn of the computer age.[24] We could potentially benefit, however, from revisiting simple processes and procedures. For instance, registering all the significant botnets, cyber adversaries, and their associated digital fingerprints, consolidating that information in a centralized and filterable location, and disseminating that information down to tactical-level analysts for rapid cross-referencing could help alleviate the implications of weaponized OSIF.[25] In 2017, RAND noted the need for brigade combat teams to augment their defensive and offensive cyber capabilities, in part due to brigade commanders' need "to respond with sufficient speed to such events in what is likely to be a dynamic, information-rich environment."[26] Certainly enduring a nonlethal cyberattack like an event barrage counts as one of these instances and would be at least partially mitigated from the synchronization or integration of cyber and intelligence professionals at the tactical level. Moreover, standardizing and enforcing OSINT training for tactical-level analysts would enable the spread of best practices and lessons learned, and it would inform all involved parties of emerging threats and trends. While conventional military procedures prohibit the practice of OSINT among nontrained analysts, it would be naïve to assume analysts utterly disregard OSIF altogether, especially as a greater percent of the world's population deliberately reports on the adversary's activities. And even if all-source analysts refrain from overtly incorporating OSIF into their assessments, their exposure to information on social media will likely contribute to forms of bias or inherently flawed analysis.

In addition to increased training, streamlined information sharing, and the integration of cyber experts at the tactical level, we should also be certain to approach OSIF with even greater caution than previously practiced. With the adversary's increasing use of botnets and trend hijacking, aggregating OSIF from small sample sizes could pose legitimate concerns for skewed results and could consequently enable the adversary to manipulate or forecast future U.S. military actions. Information gleaned from a small geofenced or demographic-fenced sample size should always be treated with a high level of skepticism, and the need for corroboration from intelligence disciplines outside of OSINT should be prioritized. Unfortunately, many U.S. adversaries acknowledge this

very fact, which is currently prompting countries like China and Russia to develop and institute their own national intranet or highly censor information coming into their country from the global internet.[27]

Lastly, targeting adversarial entities responsible for carrying out event barrages and disinformation campaigns should be one of the top U.S. priorities during the shaping and deterring phases of any military operation that anticipates "boots on the ground." Though targeting nefarious cyber actors is far from an innovative concept, it is important to note exactly how difficult this would be to achieve with efficacy, especially when we consider the ease in which something like an event barrage could be rapidly projected across the globe. For instance, botnet controllers in Russia could, and likely will, deliver pinpointed disinformation campaigns in support of ground operations in proxy wars they are not overtly involved in. Moreover, the difficulties in overcoming international legal and political boundaries between nation-states could pose a serious problem in the targeting of actors resident within other sovereign nations. As we have seen throughout the last several decades, merely attributing an actor or actors to a single cyberattack is difficult enough, let alone following through with a retaliatory or preemptive targeting effort. We owe it, however, to those commanders responsible for the well-being of their soldiers and the security of the Nation to develop and implement mechanisms to overcome these obstacles. ■

Notes

1. Libor Benes, "OSINT, New Technologies, Education: Expanding Opportunities and Threats. A New Paradigm," *Journal of Strategic Security* 6, no. S3 (2013): S24, http://dx.doi.org/10.5038/1944-0472.6.3S.3.

2. Heather J. Williams and Ilana Blum, *Defining Second Generation Open Source Intelligence (OSINT) for the Defense Enterprise* (Santa Monica, CA: RAND Corporation, 2018), 3, accessed 22 October 2020, https://www.rand.org/pubs/research_reports/RR1964.html.

3. Ben Sullivan, "Twitter's the Only Tool You Need for Tracking the Military," Vice News, 24 April 2017, accessed 22 October 2020, https://www.vice.com/en/article/wn3g99/twitters-the-only-tool-you-need-for-tracking-the-military.

4. Ron Penninger, "Operationalizing OSINT Full-Spectrum Military Operations," Small Wars Journal, 14 January 2019, accessed 22 October 2020, https://smallwarsjournal.com/jrnl/art/operationalizing-osint-full-spectrum-military-operations.

5. Williams and Blum, *Defining Second Generation Open Source Intelligence (OSINT) for the Defense Enterprise*, 34.

6. "About," Live Universal Awareness Map, accessed 22 October 2020, https://usa.liveuamap.com/about#history.

7. "Libya," Live Universal Awareness Map, accessed 22 October 2020, https://libya.liveuamap.com/en/2020/26-june-6-antiaircraft-russianmade-pantsyr-vehicles-arrived.

8. Williams and Blum, *Defining Second Generation Open Source Intelligence (OSINT) for the Defense Enterprise*, 37.

9. Ibid., 10.

10. Penninger, "Operationalizing OSINT."

11. Jarred Prier, "Commanding the Trend: Social Media as Information Warfare," *Strategic Studies Quarterly* 11, no. 4 (2017): 54, accessed 22 October 2020, https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-11_Issue-4/Prier.pdf.

12. Ibid.

13. "White Racially Motivated Violent Extremists Developing Program to Create Bulk Social Media Accounts," Open Source Intelligence Bulletin 20-06-59 (Orlando, FL: Central Florida Intelligence Exchange, 25 June 2020).

14. Janus Rose, "Spoofing Tool Lets You Catch Pokémon from Julian Assange's Embassy Prison," Vice News, 19 July 2016, accessed 22 October 2020, https://www.vice.com/en/article/53d5pk/skylift.

15. Jesse Drucker, "Fox News Removes a Digitally Altered Image of Seattle Protests," *New York Times* (website), 23 June 2020, accessed 22 October 2020, https://www.nytimes.com/2020/06/13/business/media/fox-news-george-floyd-protests-seattle.html.

16. Williams and Blum, *Defining Second Generation Open Source Intelligence (OSINT) for the Defense Enterprise*, 24–25.

17. Kate O'Flaherty, "Twitter Suspends Accounts Posting about DC Blackout for Spreading 'Misinformation,'" *Forbes* (website), 2 June 2020, accessed 22 October 2020, https://www.forbes.com/sites/kateoflahertyuk/2020/06/02/twitter-suspends-accounts-posting-about-dc-blackout-for-spreading-misinformation/#4375b9f8530d.

18. Todd C. Helmus et al., *Russian Social Media Influence: Understanding Russian Propaganda in Eastern Europe* (Santa Monica, CA: RAND Corporation, 2018), 16.

19. Ibid.

20. Ibid., 23.

21. Penninger, "Operationalizing OSINT."

22. Helmus et al., *Russian Social Media Influence*, 22.

23. Mark Thompson, "Costly Flight Hours," *Time* (website), 2 April 2013, accessed 22 October 2020, https://nation.time.com/2013/04/02/costly-flight-hours/.

24. The White House, *National Security Strategy of the United States of America* (Washington, DC: The White House, December 2017), 12–13.

25. "Spamhaus Botnet Controller List," Spamhaus, accessed 3 November 2020, https://www.spamhaus.org/bcl/. See the Botnet Controller List as an example of an approach to consolidate and rapidly disseminate large quantities of known botnets.

26. Isaac R. Porche III et al., "Tactical Cyber: Building a Strategy for Cyber Support to Corps and Below" (Santa Monica, CA: RAND Corporation, 2017), 2.

27. Jane Wakefield, "Russia 'Successfully Tests' Its Unplugged Internet," BBC News, 24 December 2019, accessed 22 October 2020, https://www.bbc.com/news/technology-50902496.

Seeing through the Fog

Developing Fog of War Resistant Visualization

Lt. Col. Richard A. McConnell, DM, U.S. Army, Retired
Lt. Col. Jacob A. Mong, U.S. Army, Retired
Dawn Ptaschek

Gary Klein, the decision-making expert, once did an interview with a fire department commander in Cleveland as part of a project to get professionals to talk about times when they had to make tough, split-second decisions. The story the fireman told was about a seemingly routine call he had taken years before when he was a lieutenant. A fire was in the back of a one-story house in a residential neighborhood, in the kitchen. The lieutenant and his men … "charged the line," dousing the flames in the kitchen with water. … The fire should have abated. But it didn't. … The firemen retreated. … Suddenly the lieutenant thought to himself, there is something wrong. He turned to his men. "Let's get out, now!" he said, and moments after they did, the floor on which they had been standing collapsed. The fire, it turned out, had been in the basement. "He didn't know why he had ordered everyone out," Klein remembers. He believed he had ESP (extrasensory perception). He was serious. He thought he had ESP, and he felt that because of that ESP, he'd been protected throughout his career.

—Malcolm Gladwell

A soldier assigned to the 3rd Battalion, 67th Armored Regiment, runs back to a Bradley Fighting Vehicle 16 June 2020 during exercise Allied Spirit at the Drawsko Pomorskie Training Area, Poland. (Photo by Spc. Erikah Schaible, U.S. Army)

For an extended version of this article, including annexes describing how to build Major Event Scenario Lists (MESLs), visit https://call2.army.mil/toc.aspx?document=17879 and download professional reading supplement (CAC access required).

In the above gripping account from Malcolm Gladwell's book, *Blink*, a leader recounts his experience with visualization in the uncertain and dangerous environment of a house fire. He and his firefighters were in real danger while gaining understanding of a rapidly unfolding situation. Gladwell goes on to describe Klein's analysis of the incident. The lieutenant did not have ESP, but one could understand why he might believe he did. This leader made a habit of keeping the ear flaps on his fire helmet up so he could hear the fire. This act enabled him to realize that the fire was both very hot and very quiet. These clues triggered both intuitive and cognitive conclusions in the lieutenant's mind that prompted him to order all his firefighters out of the house before they all fell through the collapsing floor. This leader was able to perform this vital visualization because of a combination of intuition and training that he had acquired over years of experience. Such visualization combines mental processes with physical senses assisting decision makers as they attempt to make sense of unfolding situations when lives may be at stake.

Although firefighting is a different discipline from combat leadership, both must quickly interpret unfolding situations, assign meaning to what is observed, and make the best choice in the limited time allowed. Thus, the introductory story illustrates an important notion, which is that visualization is important for military professionals and organizational leaders to cultivate both in themselves and in their subordinates, but that alone is not enough. Leaders must be able to perform visualization in the uncertain environment of combat. Put simply, their visualization must enable them to be able to see through what Carl von Clausewitz coined the "fog of war." Visualization may be influenced by stress, uncertainty, heightened stakes, and variations in operations tempo. Therefore, leaders engaged in improving visualization skills must find ways to introduce these stressors to visualization exercises to develop resilient visualization skills. It is the idea of developing resilient visualization that will serve as the focus of this article. As defined in previous articles in this series, "Visualization is both an individual and a collective process. Our ability to visualize has a direct correlation to the quality of our plans and helps us anticipate some of the possibly unexpected events and then take steps to minimize their effects."[1] But before we can discuss how to make visualization skills more resilient, it is important to discuss the nature of visualization as well as the thinking that underpins it.

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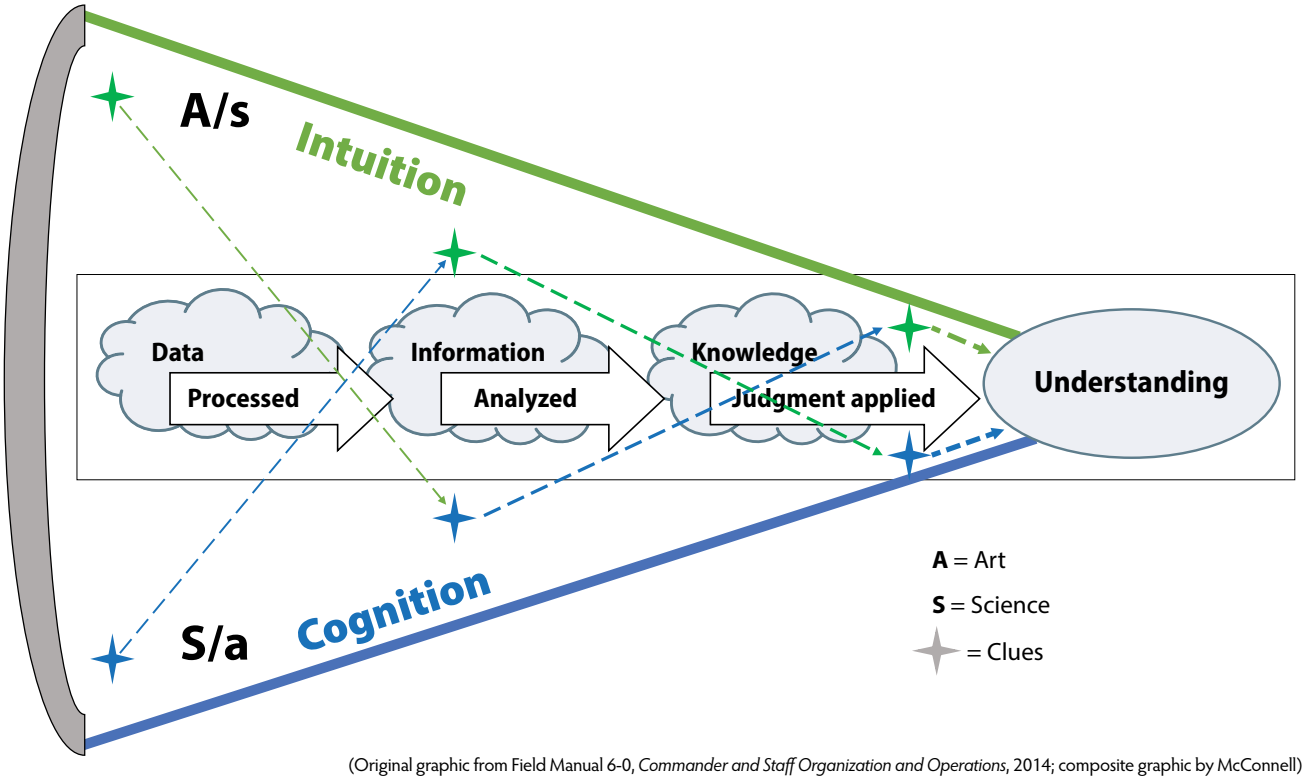


(Original graphic from Field Manual 6-0, *Commander and Staff Organization and Operations*, 2014; composite graphic by McConnell)

Figure 1. Intellectual Bracketing

Achieving Understanding through Cognition and Intuition

Some leaders who are good at visualization are not particularly good at explaining how they did it. What follows is a possible explanation.

Leaders use visualization to enable them to garner clues from the environment and predict what will happen next. This is more than just physically seeing; it is also the ability to interpret and apply meaning to what is seen. Figure 1 depicts a modified model from U.S. Army doctrine describing how leaders achieve understanding through an iterative process of determining meaning from clues in the environment until a decision can be made.[2] This model has been modified by the authors to describe the kind of thinking that supports effective visualization.

There is a kind of thinking described as intellectual bracketing, and the following is an example of how it works. Leaders achieve understanding by taking data and processing it into information, analyzing the information to turn it into knowledge, and then applying judgment to create understanding. This process usually starts with data points that serve as clues either in the intuition or cognition realms. These realms are expressions of a blend of art and science. Specifically, cognition uses more science than art, and intuition uses more art than science.

In the article's opening scenario, the fire lieutenant initially noticed the heat intensity of the fire as well as how quiet it was in the intuition realm (i.e., his experience told him something was wrong). It was not until Klein processed and analyzed this information using cognitive abilities that he was able to make sense of this data/information. Similarly, some leaders might start in the cognitive realm with a data point that might lead them to apply intuition and judgment to make sense of and support their visualization (measuring sound/temperature levels of the fire and comparing to historical trends). Leaders may differ on how they prefer to proceed when assigning meaning to the clues they find in the environment, but understanding how to combine intuition and cognition improves visualization by iteratively building understanding. Knowing how

this process works in establishing understanding and supporting visualization can help leaders create visualization exercises that will increase subordinate visualization skills through deliberate practice.

For example, intuition grows with time and experience. The fire lieutenant had several years of field experience that enabled him to interpret intuition clues. What if the people involved in visualization exercises do not have that kind of experience? Is there a way to use the above model to improve visualization through iterative experiences? We believe there is. Leaders using intellectual bracketing to deliberately educate their subordinates to improve their visualization can accelerate the rate at which subordinate leaders improve their visualization skills.

Since inexperienced leaders lack developed intuition skills, experienced leaders can help them polish their cognitive skills to lead them to clues that then can be interpreted through intuition. By using the model depicted in figure 1, leaders can understand the kind of thinking that underpins visualization and can therefore instill that kind of thinking in their subordinates. We will provide cases that illustrate this process through the following brief literature review. Following the literature review, we will make recommendations for techniques to instill resilient visualization in leaders who can be employed in stressful and uncertain environments such as combat. We will also provide a link to a Center for Army Lessons Learned site where further tools for creating resilient visualization may be located.

The Battle of Midway, 4 June 1942. A mere six months after the attack on Pearl Harbor, the United States and Japan were poised for one of the most significant naval battles of World War II.[3] Being able to visualize and predict/forecast opponent actions would become crucial in this battle. The Imperial Japanese Navy needed to destroy the American aircraft carriers if it hoped to win the war. By attacking Midway, the Japanese hoped to lure the American carriers into an ambush and destroy them. Visualization became key in identifying the Japanese code name for Midway.[4]

Joseph Rochefort oversaw the cryptologic section for the Pacific Fleet in Hawaii, and the fleet had intercepted a Japanese aircraft radio transmission in early 1942 referring to a location known as "AF." Rochefort was convinced that "AF" had to be Midway. Initially, Rochefort's intuition was the key reason he believed this, and he struggled to explain to his superiors how he knew this to be true. Adm. Chester Nimitz needed proof of this conclusion before he could reposition portions of the Pacific Fleet from the Coral Sea. The identity of the "AF" location became important because subsequent messages later in the spring of 1942 indicated an invasion of "AF." If Nimitz could determine the identity of "AF," he could set a trap for the Japanese fleet rather than fall victim to the apparent ambush the Japanese were setting for the U.S. Navy. Rochefort and his colleagues decided to have Midway send a false radio transmission indicating that its water purification equipment had malfunctioned. The cryptologic section was subsequently able to intercept a Japanese radio transmission indicating that "AF" was experiencing water shortages, confirming the identity of "AF" as Midway. Nimitz now had the confirmation of his opponents' intentions he needed to set his trap for the Japanese fleet.

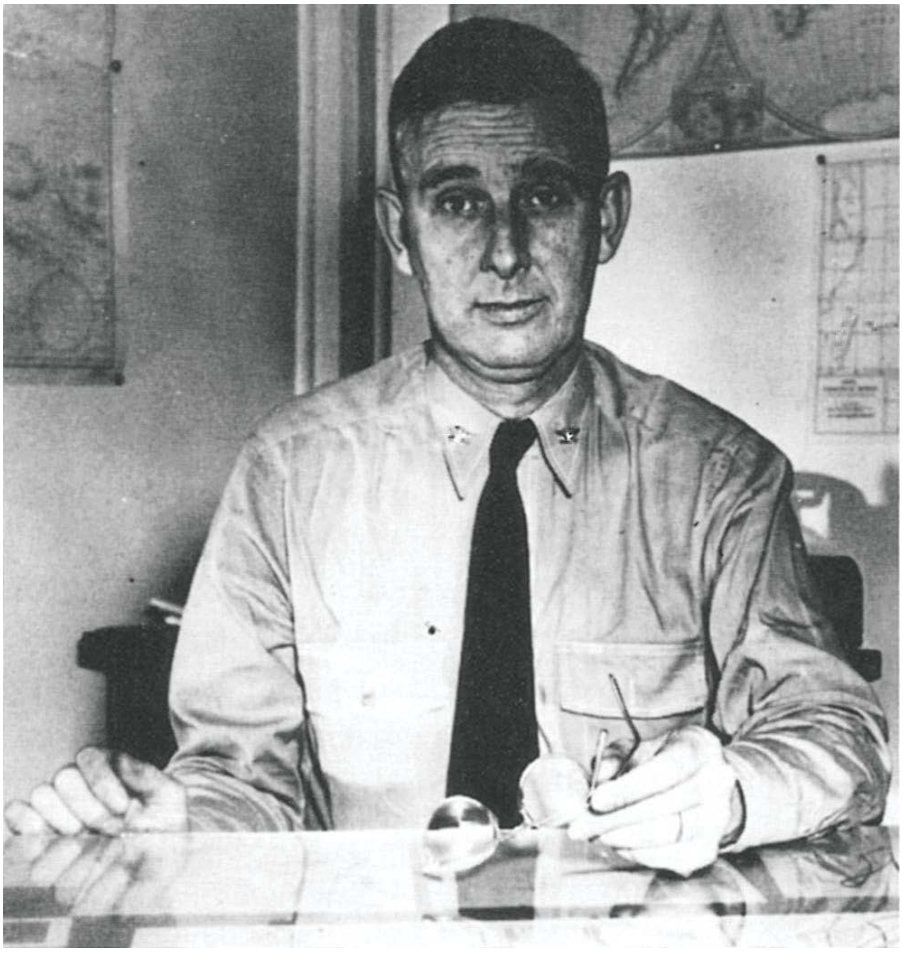
This visualization process started with intuition but had to transition into cognition to entice the Japanese to confirm the identity of "AF" to prove the conclusions reached through intuition. The Battle of Midway is an example of the interplay between intuition and cognition in creating understanding so senior leaders can make decisions through affective visualization. This process can also be useful in accelerating the time needed to get inexperienced visualizers to gain confidence in their intuition in an accelerated time frame through deliberate practice. One of the challenges in this process is to help people who must visualize in situations of stress and uncertainty. It is one thing for Rochefort to visualize affectively while located at the headquarters in Hawaii. It is another thing for a fire lieutenant to visualize during a life-and-death struggle. That is where resilient visualization becomes important.

Resilient Visualization

> We all know resilient people. They inspire us. They seem to soar in spite of the hardship and trauma they face. In fact, the most resilient people seek out new and challenging experiences because they have learned that it is only through struggle, through pushing themselves to their limits, that they will expand their horizons. They are not danger seekers, yet they do not wither when confronted with risky or dangerous situations. Resilient people understand

that failures are not an endpoint. They do not feel shame when they do not succeed. Instead, resilient people are able to derive meaning from failure, and they use this knowledge to climb higher than they otherwise would.[5]

Resilience. For military leaders, the ability to bounce back from adversity and still perform at a high level is a vital trait for success in combat. If leaders are overwhelmed by adversity, their ability to think through multiple data points using cognition and intuition may be degraded. Therefore, senior leaders attempting to improve subordinate visualization skills must find ways to develop skills while incorporating stressors that will build resilient cognitive skills that support visualization. This source is relevant to the discussion of resilient visualization because it not only describes the fundamentals of resilience but also serves as the foundation for a discussion on improving fog of war resistant visualization. A key concept to improving visualization starts with situation awareness.



Lt. Cmdr. Joseph J. Rochefort, U.S. Navy, was a Japanese linguist and trained cryptanalyst who handpicked and led many of the key codebreakers at Pearl Harbor's Station Hypo. In 1985, Rochefort was posthumously awarded the Navy Distinguished Service Medal. (Photo from the U.S. Naval Historical Center via *A Glorious Page in Our History: The Battle of Midway*, Robert J. Cressman, 2001)

Forecasting. In their article "Creating the Environmentally Aware Organization," Gregory Dess, G. T. (Tom) Lumpkin, and Alan Eisner discuss "the role of scanning, monitoring, competitive intelligence, and forecasting" and their contribution to building awareness and ultimately understanding (i.e., visualization).[6] In other words, without situational awareness, leaders struggle to gain understanding of what is happening around them. This unawareness then affects their ability to anticipate the unexpected, a key activity in visualization. In scanning, organizational leaders become aware of emerging trends that may develop into precedents. Environmental monitoring occurs when organizational leaders attempt to further observe and analyze what they identify during environmental scanning to confirm or deny if anything consists of emerging threats or opportunities. Competitive intelligence is the part of building resilient visualization that begins to resemble anticipation as organizational leaders attempt to "avoid surprises by anticipating competitors' moves and decreasing response time."[7] Environmental forecasting, scanning, monitoring, and competitive intelligence provide vital inputs to enabling organizational leaders to predict what is coming next and make decisions to maximize the positive outcomes for their organizations. The Dess, Lumpkin, and Eisner article is relevant to the discussion of resilient visualization because it demonstrates some of the key

parts of visualization and also where senior leaders might focus their efforts in building subordinate resilient visualization. Among the most important skills supporting visualization is "forecasting," which is predicting future states that require a future orientation.

Future orientation. In his book *Farsighted*, Steven Johnson describes how leaders making decisions in complex situations must have the ability to look to the horizon and be future oriented.[8] Such skills are vital if a leader is to be able to gain understanding and make choices. Johnson acknowledges that with all the uncertainty in the world, the need for prediction is vital. He uses a common example of how "daydreaming" enables leaders to envision future events. He also points to the increase in media that produces less value in predictions. However, if decision-makers embrace a wide range of uncertainty, it may lead to better predictions. Decision-makers must be open to new experiences. This is relevant because military leaders are not generally open to new experiences when making decisions.

Johnson uses the example of the earliest efforts to predict the weather.[9] Over time, the measurements and understanding of weather phenomena became more accurate as technology increased the ability to predict future weather patterns. Johnson additionally uses examples of simulation, wargaming, kriegspiel, storytelling, "rehearsing uncertainty," and the use of premortem techniques (how will our plan die?) to increase the accuracy of predictions. These examples are relevant to resilient visualization because even though decision-makers will never be able to see into the future, with better predictive models and information, these kinds of examples should contribute to better decision outcomes. How helpful would such a future orientation have been for decision makers during the COVID-19 pandemic? Before leaders can instill resilient visualization into their subordinates, they must create the kinds of organizations where learning new things are encouraged.

Growth mindset. In her book *Mindset*, Carol Dweck describes the difference between fixed and growth mindsets.[10] Fixed mindset people believe they cannot grow their intelligence, that it is fixed (i.e., I am either smart or not and I cannot change that). Growth mindset people believe they can grow their intelligence with effort (i.e., if I work at it, I can get better at thinking and planning). Dweck then applies the fixed versus growth mindset to organizations, arguing that like people, organizations can have fixed or growth mindsets as expressions of their culture.[11] Organizational leaders temper this culture, but over time, fixed or growth mindset beliefs can take root either positively or negatively, affecting everything the organization does. If an individual is in an organization where he or she believes in genius leaders who come to the organization preformed and everyone else just supports the genius, that individual may be in a fixed-mindset organization. If an individual is in an organization that seeks input from all quarters, believes that anyone can potentially contribute good ideas, and expends effort to make everyone better at thinking and making recommendations, that individual may be in a growth-mindset organization. Dweck's work is relevant to the discussion of developing resilient visualization because organizational leaders who desire to improve visualization skills must endeavor to foster a growth-mindset organization to make those skills a reality. Such organizations may be able to access subordinate intrinsic motivations.

Intrinsic motivation. In his book *Drive*, Daniel Pink discusses the difference between extrinsic and intrinsic motivations and how these motivations are displayed in people.[12] Extrinsically motivated people respond to rewards and punishments (i.e., if they get enough pay, they will be happy regardless of the nature of the work). Intrinsically motivated people respond to their work through the lens of "autonomy, mastery and purpose."[13] In short, intrinsically motivated people like to direct themselves, want to get better at what they do, and want their work to be oriented toward a higher purpose. Pink's work is relevant to the discussion of resilient visualization because effective visualizers tend to be independent thinkers, are driven to get better at what they do, and usually are drawn to work that matters in pursuit of a higher purpose. Leaders who wish to improve resilient visualization skills must be willing to foster autonomy, mastery, and purpose in how their organizations approach problems so that resilient visualization skills can blossom. One way to encourage intrinsic motivation is to understand how to formulate meaningful problem statements. There is nothing more frustrating to an intrinsically motivated person than to engage in an apparent Sisyphean effort to solve an ambiguous problem.

Understanding the problem. In previous articles written by Command and General Staff College faculty members, problem statement formulation has been identified as a challenge for military professionals.[14]

Part of this confusion derives from the fact that Army doctrine is not explicit on how to form problem statements that would be meaningful during planning, execution, and assessment. In contrast to military planners, scholarly researchers focus first on the problem statement and then align everything that they discover through the research process with that problem. As a result, research can be meaningfully assessed on how well it addresses the problem. The inability to accurately identify a problem can undermine resilient visualization and make everything less clear. To address this problem, we have combined a military doctrinal model with concepts from academia that might be helpful. This is Army design methodology combined with John Creswell's work describing dependent, independent, and intervening variables.[15] Figure 2 (on page 65) depicts this model intended to assist planners in creating useful problems statements, which will enable visualization.

The design portion of this model is simply the comparison of the current state to the desired end state, determining obstacles between those two states, formulating a problem statement, and developing an operational approach. Where Creswell comes in is in the explanation of the variables that influence those states. The independent variable is the current state, but the desired end state is the dependent variable (DV). Our ability to achieve the desired state may be influenced by intervening variables (INTV). To mathematically express this would be problem statement = DV/INTVs. Therefore, a meaningful problem statement can be formulated as a question or an assertion depending on how the planners see fit. Army design methodology is usually seen as a conceptual planning approach for ill-structured problems. We assert that the design approach should be applied as a philosophy relevant to any kind of problem, whether ill-structured or otherwise. What follows is an example of a well-structured problem to illustrate this point.

As indicated in red in figure 2, if planners are trying to solve the problem of poor academic performance for a student, the current versus desired end state and intervening variables might be expressed in the following way. The student has poor grades (independent variable GPA <2.0), and improved grades are desired (dependent variable GPA >3.0). After observation, it is determined that the intervening variables include poor study habits, insufficient sleep, and poor diet (caffeinated/sugary drinks prior to bed). These intervening variables can then become lines of effort in an operational approach. Planners can even prioritize lines of effort to get quick wins by making diet the initial main effort. Such a protocol might presume that reduction in sugary drinks late at night might improve sleep, thus improving study habits.

This problem statement and operational approach can serve as an initial protocol for problem solution that can be adjusted during execution. For example, after attempts to adjust the diet of the student, perhaps planners do not obtain an initial quick win. Perhaps they modify that line of effort to also include exercise. In this way, a design mentality throughout planning regardless of level of complexity of the problem might serve as a way to improve visualization by initially assessing what is really going on in the environment right now, what it really needs to look like later, and what is preventing us from getting the outcomes we want. Such a philosophical approach will empower visualization and continual reframing of our view of the problem as necessary.

What is been discussed so far are portions of existing literature that discuss visualization and suggest avenues of inquiry to improve it. What follows are some suggestions on how to grow resilient visualization at an accelerated rate in the skill sets of inexperienced visualizers.

Creating Fog of War Resistant Visualization in Others

It has been argued in previous articles on visualization that it is not some kind of magical power but is a cognitive skill that can be improved through deliberate practice and multiple repetitions.[16] Additionally, some suggestions were proposed for instilling a red teaming mindset, for building Major Event Scenario Lists (MESLs), and to incorporate them in daily command-post battle rhythms.[17]

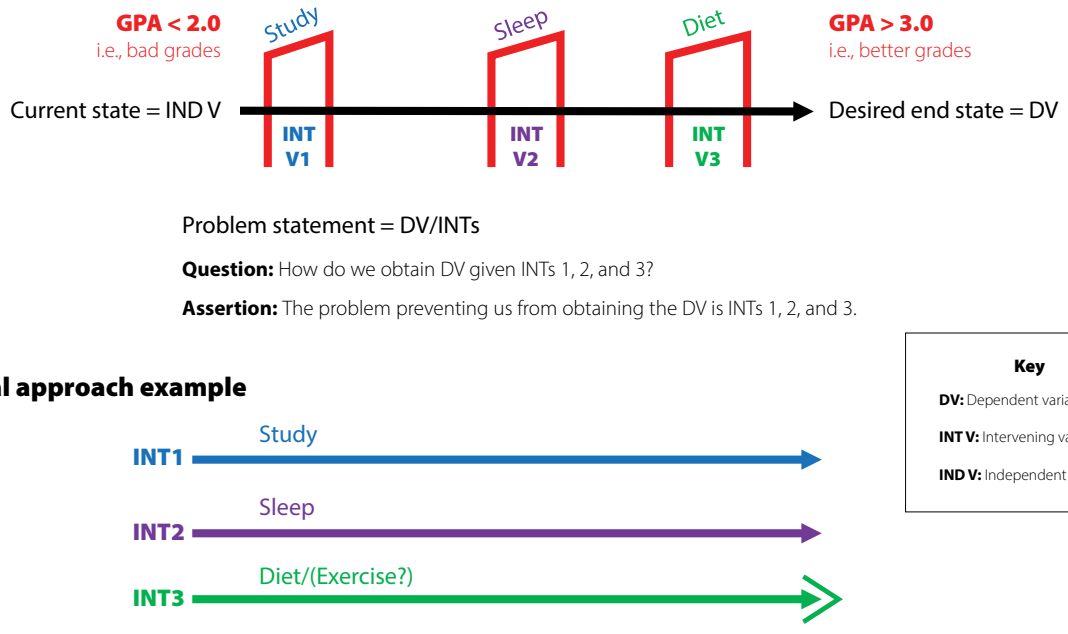
Although helpful, additional tools for improving visualization are still needed. What follows are some suggestions on how to build individual and organizational skills to support resilient visualization. A good place to start is how individuals deal with the stressful conditions of combat

Prebattle veterans, stress inoculation, and tactical breathing. In his book *On Combat,* Lt. Col. Dave Grossman wields the standard, "forewarned is forearmed."[18] Grossman proposes that today we have the tools to create what he has termed "pre-battle veterans," who are individuals with the survival skills

of a veteran warrior but without the tragic cost of real combat.[19] Stress inoculation assumes the form of two key influencers of optimal cognitive functioning: sleep deprivation and tactical breathing, which are indispensable aspects of Grossman's comprehensive training philosophy. Most military professionals are familiar with sleep deprivation, especially at the combat training centers. However, how deliberate are leaders at administering stress inoculation that goes beyond sleep deprivation to include tactical breathing and investigating its influence on cognitive function?

Breathing and blinking are the only two actions of the autonomic nervous systems that can be brought under conscious control at any time. When a person controls his or her breathing, he or she controls the whole autonomic nervous system. To accomplish control of the autonomic nervous system, Grossman recommends a modifiable four-count breathing rhythm: tactical breathing is a "breathe-in through the nose for four counts, hold for four counts, and exhale through the lips for four counts" exercise. The more soldiers practice the breathing technique, the quicker the effects kick in because the effects are the result of the powerful classical and operant conditioning mechanisms.[20]

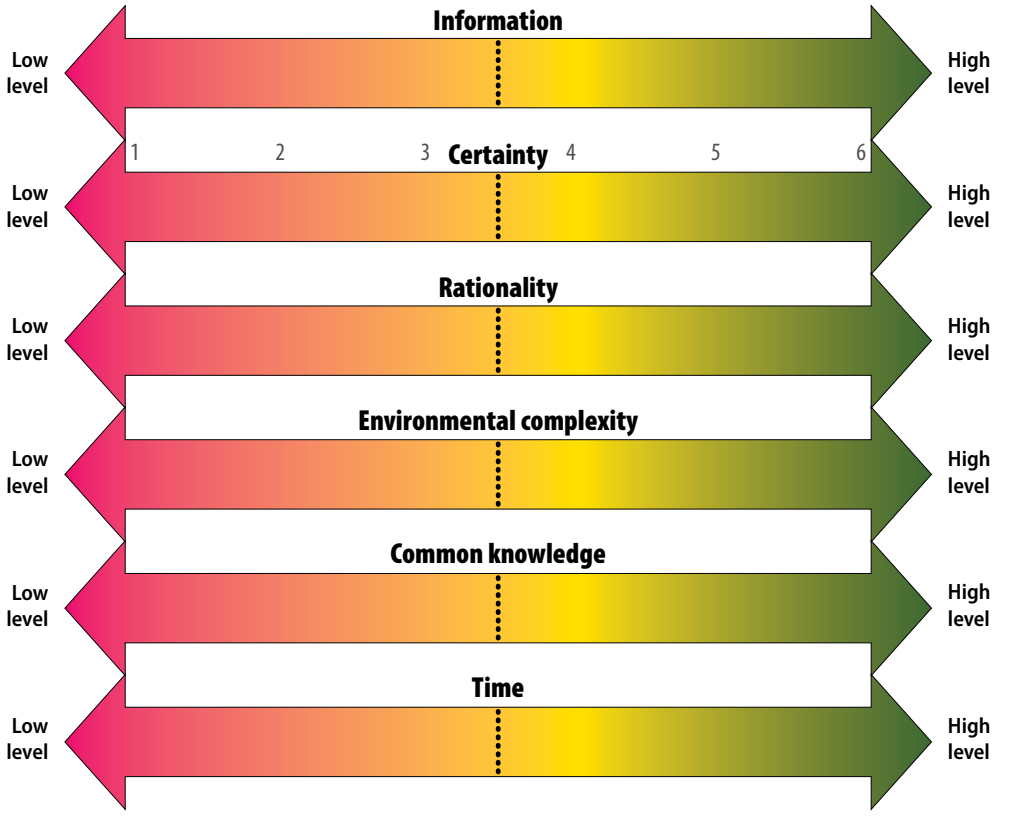
This source is relevant to the discussion of resilient visualization because maximum cognitive efficiency is required to bring data to understanding. For the unit commander designing opportunities to model visualization skill development, a twenty-four-hour training exercise or a dusk-to-dawn event increases stress on the participants. Employing tactical breathing during high-intensity decision-making increases reliability in cognitive processing. What is also needed is a protocol for building events into exercises that will provide a variety of challenges to improve visualization based on the needs of the training audience. In other words, exercises should be tailored to the experience level of the individuals involved and scaled up in difficulty as individuals improve.



(Original graphic from Army Doctrinal Publication 5-0: *The Operations Process*, July 2019; modified by McConnell)

Figure 2. Problem Formulation

Game theory variables and MESL formulation. In the seminal research study on wargaming, a game theory variable instrument was employed to measure participant comfort at making decisions based upon participant visualization.[21] This same instrument can be repurposed for use in creating MESLs that can incrementally increase or decrease exercise difficulty for potential



(Figure by McConnell)

Figure 3. Game Theory Protocol for Visualization Improvement

visualizers based upon their abilities. Before proceeding into the use of this instrument, perhaps a reiteration of the definitions of terminology would be useful.

> As decision-makers engage in a process deciding how to address threats and opportunities within their environment, they examine numerous variables that might influence the level of depth and breadth they might seek for understanding their environment before acting. According to game theory, these variables include but are not limited to the completeness of information, the level of certainty, rationality, given the level of environmental complexity, level of common knowledge required to act, and time.[22]

Visualizers may wonder if they have enough information, certainty, rationality, and time to act. They might grapple with the level of environmental complexity and whether acting falls in the realm of common knowledge. If these are the variables with which visualizers wrestle, those who are designing exercises can use these variables to adjust challenges to improve visualization skills over multiple iterations. These game theory variables can be employed as a sliding scale between extremes for formulating challenges during exercises. Figure 3 depicts those variables and can serve as a protocol for constructing meaningful challenges that will improve visualization.

For example, exercise designers could use these six game theory variables as a foundation upon which they could design training objectives. The MESLs could be designed to support those training objectives and then use the individual game theory variables to "dial up or down" the challenges under each variable. In the information realm, providing a great deal of information might create challenges versus designing exercises wherein very little information is provided and planners must fill in the blanks. In the certainty realm, challenges might test planners' preconceived notions of what might unfold (e.g., surprises and variables that ramp up or down those surprises). In the rationality realm, events could include the amount of rational or irrational actors/variables in the environment. Under the environmental complexity realm, events could reveal simple challenges all the way up to ill-structured problems that might not have been expected. Under the common knowledge realm, events could be shaped to incorporate what the training audience might be expected to know how to do and insert

challenges with which the training audience would be unfamiliar. Under the time realm, expanding versus contracting the amount of time for exercise participants to act could stress their ability to visualize.

Conclusion

Leaders ignore or misinterpret the emergence of exceptional information at their own peril. History is replete with examples of leaders who were experts at visualization and who used that skill to anticipate competitor actions and poise their forces to achieve victory. Most of these leaders had these skills due to their own personal experience and education. They gathered subordinate leaders who could effectively support their visualization. Much of this may have been not by design but by providence (i.e., senior leaders do not always have control over the skill sets of the people they get). Therefore, leaders should endeavor to improve subordinates' visualization skills regardless of the visualization skill levels with which their people arrive.

We face an uncertain future. Environments of uncertainty can generate threats and opportunities at an accelerated rate. Senior leaders will need subordinate leaders whose visualization is fog of war resistant. Creating organizations that can achieve corporate visualization can be accomplished through deliberate practice and multiple repetitions. If senior leaders could instill visualization skills in their subordinate leaders at an accelerated rate that could stand up under the uncertain environment of combat, why wouldn't they? ■

Notes

Epigraph. Malcolm Gladwell, *Blink: The Power of Thinking Without Thinking* (New York: Back Bay Books, 2007), 122–23.

1. Richard McConnell and Mark Gerges, "Seeing the Elephant: Improving Leader Visualization through Simple Wargames," *Military Review* online exclusive, 17 October 2018, accessed 8 December 2020, https://www.armyupress.army.mil/Journals/Military-Review/Online-Exclusive/2018-OLE/Oct/Seeing-the-Elephant/.

2. Army Doctrine Reference Publication 6-0, *Mission Command* (Washington, DC: U.S. Government Printing Office, 2012), 3-1.

3. *Greatest Events of WWII in Colour*, season 1, episode 4, "Battle of Midway," directed by Sam Taplin, aired 8 November 2019 on Netflix, accessed 15 September 2020, http://www.imdb.com/title/tt9103932/episodes?season=1.

4. Ibid.

5. Karen Reivich and Andrew Shatte, *The Resilience Factor: 7 Keys to Finding Your Inner Strength and Overcoming Life's Hurdles* (New York: Broadway Books, 2003), 3–4.

6. Gregory G. Dess, G. T. Lumpkin, and Alan B. Eisner, "Creating the Environmentally Aware Organization," in *Leading Organizations: Perspectives for a New Era*, ed. Gill Robinson Hickman, 2nd ed. (Los Angeles: Sage Publications, 2010), 21–25.

7. Ibid., 23.

8. Steven Johnson, *Farsighted: How We Make the Decisions That Matter the Most* (New York: Riverhead Books, 2018), 8.

9. Ibid.

10. Carol S. Dweck, *Mindset: The New Psychology of Success* (New York: Ballantine Books, 2007), 6–7.

11. Ibid., 142–46.

12. Daniel H. Pink, *Drive: The Surprising Truth About What Motivates Us* (New York: Riverhead Books, 2011), 1–10.

13. Ibid., 47.

14. Dale Spurlin, "The Problem Statement–What's the Problem?," Small Wars Journal, 6 August 2017, accessed 4 September 2020, https://smallwarsjournal.com/jrnl/art/the-problem-statement-%E2%80%93-what%E2%80%99s-the-problem; Richard McConnell, "Connecting the Dots: Developing Leaders Who Can Turn Threats into Opportunities," *Military Review* 100, no. 3 (2020): 27.

15. Army Techniques Publication 5-0.1, *Army Design Methodology* (Washington, DC: U.S. Government Publishing Office, 2015), chap. 5; John W. Creswell, *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (New York: Pearson, 2019), accessed 4 September 2020, https://studylib.net/doc/10147081/creswell-chapter-4---specifying-a-purpose-and-research-qu.

16. Richard McConnell et al., "The Effect of Simple Role-Playing Games on the Wargaming Step of the Military Decision Making Process (MDMP): A Mixed Methods Approach," in *Proceedings of the 45th Annual Conference of the Association for Business Simulation and Experiential Learning (ABSEL)*, vol. 45 (Proceedings of the 45th Annual Conference of the Association for Business Simulation and Experiential Learning [ABSEL], Seattle, WA, 2018); McConnell and Gerges, "Seeing the Elephant," 107; McConnell, "Connecting the Dots," 27.

17. *The Red Team Handbook*, version 9.0 (Fort Leavenworth, KS: University of Foreign Military and Cultural Studies, 2019); Center for Army Lessons Learned [CALL] Newsletter No. 09-28, *Mission Rehearsal Exercise* (Fort Leavenworth, KS: CALL, April 2019), 90, accessed 8 December 2020, https://usacac.army.mil/organizations/mccoe/call/publications. For more tools useful in developing Major Event Scenario Lists (MESL) such as MESL development worksheets, see https://call2.army.mil/toc.aspx?document=17879.

18. Dave Grossman and Loren W. Christensen, *On Combat, The Psychology and Physiology of Deadly Conflict in War and in Peace*, 4th ed. (Millstadt, IL: Warrior Science Publications, 2012), chap. 2.

19. Ibid., 134.

20. Ibid., 329.

21. McConnell et al., "The Effect of Simple Role-Playing Games on the Wargaming Step of the Military Decision Making Process (MDMP)," 346–47.

22. Ibid., 328; Steven Tadelis, *Game Theory: An Introduction* (Princeton, NJ: Princeton University Press, 2013), cited in McConnell et al., "The Effect of Simple Role-Playing Games on the Wargaming Step of the Military Decision Making Process (MDMP)," 328.

Multi-Domain Operations at Division and Below

Maj. Jesse L. Skates, U.S. Army

When critics disparage the multi-domain operations (MDO) concept, they rarely attack the ideas that it proffers; rather, they challenge the maturity or feasibility of its recommended solutions. For instance, one of the most common criticisms of MDO is that the concept ostensibly applies to echelons above division and thus does not describe the employment of the majority of the force that serves at the division or lower. As the operating concept for the entire Army, this is a damning indictment indeed. It is also not true; MDO applies to all echelons.

Division Assault and Gap Crossing

The MDO concept defines solutions that enable the Army to act at corps echelons and higher. For echelons at and below the division, the concept reads like a problem statement. This is not necessarily a new phenomenon. Successive generations of warriors have encountered practical challenges that concepts do not fully elaborate and for which their predecessors can provide useful but insufficient advice. The only way to understand these dilemmas is to develop new operational approaches that enable the effective integration of untested ideas under emergent environmental conditions. The Futures and Concepts Center, using events like the Joint Warfighter Assessment and other experimental environments, has done just that. In the process, concept developers have identified some initial tactical implications that a description of the unique conditions divisions encounter in MDO can explain.

Before providing a description of a division in MDO, it is worth reviewing current doctrine to enable a comparison of contemporary and future approaches to conflict. In current doctrine and division-level training events referred to as Warfighter exercises, a division usually has time to move to and stage in attack positions in preparation for large-scale combat operations. With critical capabilities pre-positioned, the situation transitions to conflict. The division and its subordinate formations uncoil from their attack positions and begin maneuvering along designated avenues of approach in a simulated six-week operation.[1] The division fights between one and three enemy divisions that have superior fires capabilities. Roughly halfway into the fight, the division postures for and executes a deliberate wet-gap crossing using one or more brigade combat teams.[2] Over the course of half a day (roughly thirty-six hours in the simulation), the division completes the crossing, usually losing significant combat power and bridging assets as the threat masses its capabilities to contest this priority operation. After completing the crossing and consolidating forces, the division continues the assault, decisively defeating or isolating critical threat formations.[3] While complicated and dangerous in its own right, this process is comparatively simple and does not replicate the complex operations or requirements inherent in a multi-domain battlefield.

Within MDO, a division must maintain situational awareness and influence for potentially hundreds of kilometers within a seventy-two to ninety-six-hour time span.[4] With little or no warning, the division moves directly from a theater port or training base into the fight. The division and its brigades fight while uncoiling, while an army or corps converges multi-domain capabilities to degrade threat long-range fires and air defenses (both with ranges greater than four hundred

Next page: A U.S. Army UH-60 Black Hawk flies over Yamaguchi Bay, Japan, 9 September 2019 during Orient Shield 2019, which is a premier U.S. Army and Japan Ground Self-Defense Force bilateral field training exercise that is meant to increase interoperability by testing and refining multi-domain and cross-domain concepts. (Photo by Staff Sgt. Jacob Kohrs, U.S. Army)

kilometers). U.S. theater-level long-range fires directly influence tactical maneuver operations by degrading the threat's ability to interdict division-level maneuver. The division rapidly maneuvers to within 150 kilometers of the front, where threat mid-range fires become the primary problem, when enemy long-range systems are sufficiently degraded.[5] This maneuver is significantly easier if the division begins movement during the final phases of competition.[6]

Moving to the point where threat mid-range fires interdict movement is not easy. According to current templated rates of advance for a corps or division in contact, a movement of roughly 300 kilometers (roughly the length of maneuver from initial interdiction from threat long-range fires to the start of enemy mid-range fires effective ranges) should take between two to three days.[7] In MDO, however, the division has one to two days to complete this maneuver, and the next stage requires greater speed in convergence and maneuver.[8]

Enemy extended stand-off capabilities are few in number but exceptionally lethal and effective, requiring less time and more expensive capability to penetrate. More numerous mid-range fires, however, take significant time and capability to attack and degrade sufficiently to open windows for maneuver. The corps, converging as much multi-domain capability as is available, times attacks against enemy mid-range fires to enable seamless divisional maneuver to the front to contest threat fait accompli operations.

If, for instance, the wet-gap crossing occurs during this move from 150 kilometers to 70 kilometers from the front, the division has twenty-four hours to move 80 kilometers and conduct a wet-gap crossing. Assuming that it takes twelve hours to accomplish the maneuver, the division has twelve more hours to move a minimum of two brigade combat teams with a minimum of seven thousand people and a thousand pieces of equipment across a water obstacle. That is less than a minute per vehicle just for the crossing, and it does not account for set up or tear down of the crossing site. This type of rapid crossing would be difficult under ideal crossing conditions. Under future conditions, however, tactical maneuver units probably cross multiple bridging sites that move every forty-five minutes to an hour to mitigate the threat of enemy precision attacks.

If the corps is unable to maintain a window of opportunity for twelve or twenty-four hours, the division commander faces a decision. Does he or she consolidate forces for a contested deliberate gap crossing that slows the advance but enables concentration of protection assets?[9] Or does he or she divide forces in the hope that small elements gain greater speed and

survivability?[10] The second option is faster but rapidly depletes available bridging assets. Further, if the enemy destroys those assets, the corps risks culmination. The risk of culmination increases as the corps leverages significant multi-domain resources to conduct multiple convergence operations in support of numerous axes of advance. Without converging multi-domain resources, however, the division is unable to deliver replacement bridges to dispersed brigade combat teams. In order to reduce the risk of culmination, the next generation of fighting vehicles must have advanced swimming capabilities, which would considerably reduce the complexity and increase the speed of gap-crossing operations.

Once to the other side, the division continues to advance. Now, within seventy kilometers of the enemy's position, the division—largely on its own as the army- and corps-level assets continue to focus on long- and medium-range threat capabilities—leverages its organic capabilities to lead tactical convergence operations. With limited visibility of and access to multi-domain capabilities, the division and its brigades identify targets for army and corps engagement. Concurrently, they engage the enemy's short-range capabilities and the densest part of the anti-access/area denial (A2/AD) system. At this point in the fight, actively employing all available assets becomes essential to success.

Ensuring each tank, mobile protected fire platform, cannon, and multiple launch rocket system effectively engages enemy forces as fast and as often as possible becomes critical. It is at this phase in the operation that more multi-domain capability enters the battlespace through convergence operations at all echelons, overwhelming the enemy and halting its advance. Simultaneously, units rush to cross the last phase line and prevent the fait accompli while progressing deeper into enemy electronic warfare capabilities and further down the primary, alternate, contingency, and emergency (PACE) communications plan. This point also delineates the period when clearing and deconflicting fires becomes vital but exceptionally difficult. To manage the volume of effects and the dynamic nature of the environment, a combination of control measures and artificial intelligence help commanders at all echelons manage risk, integrate multi-domain fires, and protect forces.

It is important to remember, however, that convergence operations are not the end but the means necessary to achieve specific operational objectives. Convergence enables penetration and dis-integration of enemy defenses, thus allowing divisions and brigades to maneuver and control the essential terrain, which prevents the enemy from achieving its objectives.

Tactical Implications

Obviously, a division advance under MDO creates unique demands. Convergence, specifically, presents many challenges at both the operational and tactical levels, particularly in terms of resource availability. During MDO experimentation, analysts became aware of the fluctuating availability of capability in all domains.[11] Each domain has physical limitations such as the speed of satellite orbit; closed cyber networks that require physical penetration; or refuel, refit, and reload times for forces operating in air, sea, and land domains. These physical constraints reduced the availability of forces in all domains. As a result, commanders can choose either to mass all forces for a short period of time or employ some percentage of his or her forces indefinitely. Using the latter approach, operations lasting more than a few hours create cyclical waves of resource availability. By aligning the zenith of multiple domain "sine waves" with tactical operations (see figure, page 71), a commander leverages windows of domain superiority to gain overmatch and achieve mission objectives.

Between these periods of peak convergence, optimization heuristics enabled commanders to identify ideal combinations of multi-domain assets to use against key enemy nodes as opportunities presented themselves. The consistent characteristic of convergence is that it leverages all domains, improves utilization rates of otherwise latent capacity, enhances the overall lethality of U.S. forces, and increases the number of dilemmas that an enemy encounters.

However, it is still unclear how this works and, as importantly, who does this work. This poses significant

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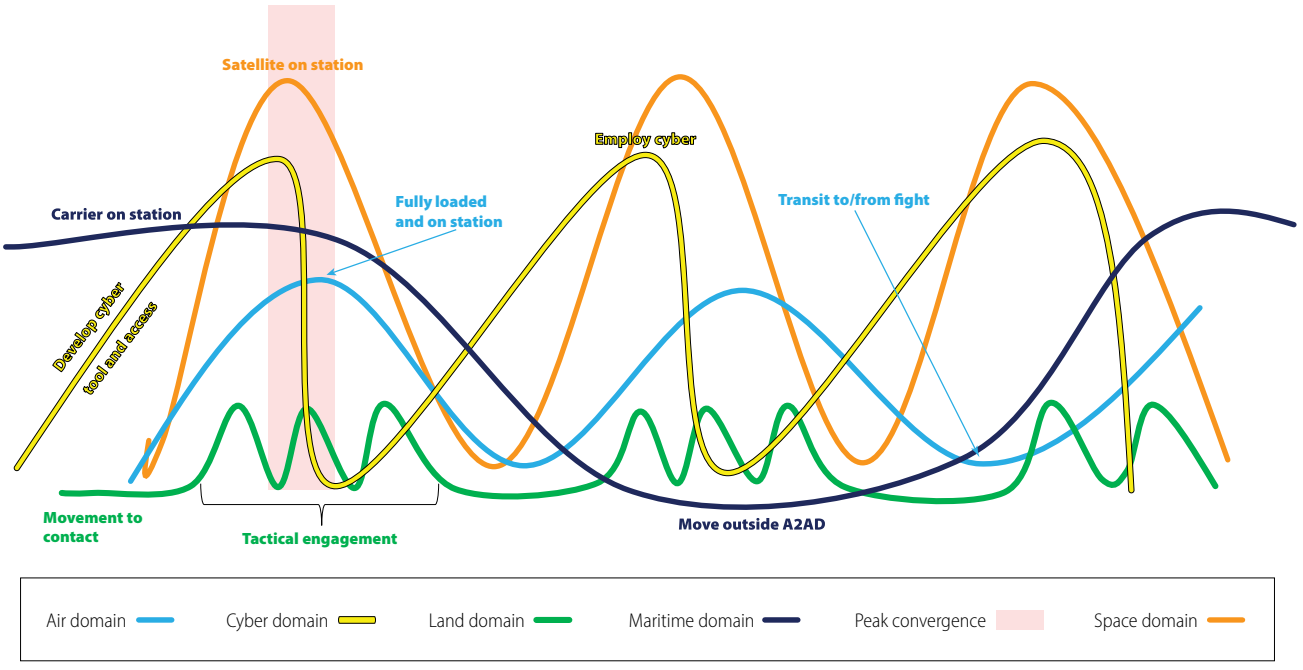


(Figure by author)

Figure. Peak Convergence of Resource Availability in Domains

tactical problems for the Army. For one, how do divisions and brigades understand and observe windows of opportunity provided through convergence operations of army and corps headquarters and exploit them in communications-degraded environments? Once through a convergence window, how does a brigade or division converge its organic capabilities to penetrate and dis-integrate tactical threats? Perhaps most importantly, if any command and control node can employ any shooter at any time for convergence, do divisions and brigades fight using their own capabilities?

Visualizing Multi-Domain Operations

Identifying and exploiting windows of advantage in a dispersed and highly lethal MDO battlefield requires rethinking current visualization and situational understanding approaches. Today, simply gaining situational awareness of all domains requires stacks of computer servers, top secret intelligence processing facilities, and special technical operations vaults, most of which reside in static positions. Further, sharing information with subordinate organizations; allies; and joint, interagency, intergovernmental, and multinational partners is difficult due to the limited data rates of the current tactical networks, insufficient access due to security clearance requirements, and intelligence-sharing limitations. Ideally, access to all domain data is ubiquitous, mobile, and shared with allies and partners; in reality, it is not.

Solutions to the above gaps must be identified and developed in order to exploit windows of opportunity generated by converging effects. Further, any solutions must account for growing communications-related constraints as the force integrates better automation and autonomous systems. Quantum-computing, cloud-based big data, and advanced high-speed computers require sizeable, largely immobile, and vulnerable infrastructure. These new technologies could also limit the employment of forces and headquarters if they require the addition of large facilities and air-conditioning or even refrigeration for processing of multi-domain information.[12]

However, the U.S. military cannot trade mobility for data processing. Doing so would prevent tactical formations from exploiting windows of advantage. Less mobile divisions, brigades, and battalions enabled by advanced but immobile automation would be able to anticipate fleeting advantages. Yet, these maneuver

Polish soldiers with 12th Mechanized Brigade reach land in an amphibious tank 11 June 2020 during exercise Allied Spirit at Drawsko Pomorskie Training Area, Poland. Allied Spirit is a Defender-Europe 20-linked exercise involving approximately six thousand U.S. and Polish soldiers. The modified exercise tested a division-sized unit's ability to conduct a deliberate water crossing, integrate with alliance capabilities, and establish a common intelligence operational picture. (Photo by Sgt. Randis Monroe, U.S. Army)

formations would be unable to rapidly accelerate to and through gaps opened in threat defenses.[13] Further, protecting less mobile formations would require the concentration of forces to defend critical infrastructure, gutting the Army's ability to present a threat with multiple dilemmas. Semi-independent maneuver is critical in the MDO environment. The ability to disperse and maneuver based on immediate tactical conditions increases the rate of advance and the number of dilemmas that the threat's centrally commanded A2/AD forces must confront. Convergence combined with the speed of independent maneuver approximates the impact of the blitzkrieg attacks, which rapidly penetrated defenses and defeated the enemy in depth.[14]

Complicating both convergence and maneuver is the need to anticipate short-lived gaps in enemy defenses, which requires a thorough understanding of the physical limitations and domain "sine waves" described above. Timing the advance of a corps or division moving at three-to-five kilometers per hour against prepared defenses degraded by convergence operations is difficult. Exploiting peak convergence opportunities requires the effective integration of strikes from a jet moving the speed of sound, hypersonic weapons and satellites moving multiple times the speed of sound, and cyber strikes transmitted along fiber-optic cables at the speed of light into maneuver operations. While some of these capabilities are available at all times, others are not, and maneuver forces must be prepared to exploit ninety-minute windows provided by a capability only available for a brief five minutes. Degraded communications environments further complicate this process by disrupting near real-time coordination.

Once that ninety-minute window opens and friendly forces begin operations, access to multi-domain information and support diminishes. Tactical formations must operate independently. During these periods,

divisions and brigades must become much more opportunistic, leveraging their organic systems and formations to identify and exploit emergent advantages.

Maneuver forces at echelon must first operate according to the original plan and then rapidly transition to decentralized execution to gain and maintain the initiative in an MDO campaign. This transition requires assured access to critical information at tactical echelons throughout operations because advancing units must understand changes to the higher mission and intent, targeting priorities and plans for the next phase of the operation in order to seize and maintain the initiative.

There are various methods of providing sufficient information to operate in a contested information environment. These methods may include communications systems that are more mobile, smaller data packets, and transmission assured through multiple paths over low-bandwidth systems. Then the rapid, wide distribution of information can occur across the force to enable shared understanding and disciplined initiative.

Conversely, development of analog indicators will assist commanders in identifying windows of advantage without computer aids. These indicators include the integration of American or coalition fourth-generation fighters into attacks or the lack of enemy electronic interdiction at certain points in the operation. These indicators help commanders understand the operational environment even if they do not have perfect communications or situational awareness. However, analog metrics are insufficient to support highly centralized decision-making in widely distributed operations. Thus, in MDO, empowered tactical commanders must take on more responsibility in decision-making and execution of operations.

A final method of gathering information for operations may include the delegation of better automation capability to lower echelons and blockchain-like security, which protects information openly communicated across unsecure but ubiquitous communications platforms.[15] In this option, formations leverage artificial intelligence (AI) capabilities that identify and mitigate degraded communications. These AI-based systems then monitor the alignment of domain capabilities and unanticipated changes in the plan. Advanced automation then instantly modifies plans and redistributes new control measures including boundaries and phase lines to forces in contact based on optimal combinations of domain capabilities.[16]

There is no single solution to operating in an information-contested environment, and a combination of advanced information systems, analog indicators, and AI-enabled staffs is required for MDO. These solutions simply enable tactical formations to see and exploit windows provided by higher echelons. The next question is how maneuver formations create their own opportunities.

Tactical Penetration and Dis-Integration

While *The U.S. Army in Multi-Domain Operations 2028* highlights echelons above division in its discussion of penetration and dis-integration operations, penetration and dis-integration happen at every echelon.[17] In fact, retired Brig. Gen. Mark Odom, an author of *The Army in Multi-Domain Operations 2028*, acknowledged the direct relationship between proximity to threat forces and density of the defenses requiring penetration.[18] As a result, penetration and dis-integration become more difficult and essential the closer a tactical formation gets to the battle. The following section explains how tactical penetration and dis-integration operations potentially unfold.

Penetration and dis-integration happen in many ways. During competition, Army headquarters pre-position forces based on policy directives and a perception of enemy intentions. By pre-positioning during competition, tactical formations penetrate threat A2/AD coverage prior to armed conflict.

Upon the transition to armed conflict, army and corps headquarters attack and defeat high-value, long-range threat systems, enabling divisions and brigades to maneuver within threat A2/AD coverage. This advantage is temporary, and in a matter of hours, the window of advantage closes. Threat forces, now leveraging operational capabilities, find and attack friendly tactical formations with numerous drones, cyber, and kinetic fires capabilities.[19] Simultaneously, threat forces amplify electronic warfare measures, complicating efforts to distribute data, avoid detection, and coordinate follow-on operations.

Largely reliant on organic capabilities and limited multi-domain means and authorities, friendly tactical units make contact with and probe the enemy's defenses and find vulnerabilities.[20] Once identified, smaller combat formations maneuver while engaging the threat with fires, countering longer-range enemy platforms starting with multiple rocket launcher systems and medium range air defenses.[21] As the army, corps, and

division peel back each layer of the enemy A2/AD system, additional maneuver space opens offering commanders more opportunities to exploit threat vulnerabilities. Simultaneously, divisions and brigades use multi-domain effects to obscure their forces and movement while degrading the command and control nodes in enemy fires and integrated air defense systems.[22] With each step, critical enemy nodes are attacked and cohesion destroyed.[23] Simultaneously, more of the joint force enters the fight, exponentially increasing available offensive power and presenting multiple dilemmas to the enemy, tipping the scale toward friendly success.

The approach described above appears similar to unified land operations because it leverages the same operational theory. The scope, scale, and access required, however, are different from what U.S. forces enjoy today. For instance, U.S. forces were able to establish overwhelming all-domain superiority over Mosul during counter-Islamic State (IS) operations in 2017.[24] Using these capabilities, land and air component staffs coordinated deliberate actions to exploit a relatively static defense in isolated terrain, enabling Iraqi security forces to retake Mosul.

The level of constant domain access and superiority that coalition forces gained over IS will not exist against peer adversaries. Whereas multiple layers of ground-based fires and air support enabled three divisions of partner forces to maneuver against a brigade of IS fighters in Mosul, a corps of American forces will maneuver against several enemy-corps equivalent formations in the future.[25] Each threat formation will have its own fires, electronic warfare assets, special purpose forces, partisans, and air defenses.[26]

The adversary employs these assets nearly simultaneously to present multiple dilemmas to advancing tactical formations, separating ground forces from the close air support and other warfighting enablers on which they have become dependent.[27] To counter, divisions must maximize use of other domains and integrate swarms of less exquisite, nonstealth systems while rapidly adapting to shifting operational conditions and weather effects. Brigades must then exploit advantages created by echelons at division and higher, quickly maneuvering against less mobile and tactically proficient enemy formations.

Who Fights What?

Perhaps the most perplexing question of MDO is who fights what capabilities? Currently, the brigade combat team is the primary unit of action. Under MDO, the division becomes the eminent tactical unit of employment.

While the unit of action changes, expectations for tactical commanders also shifts. Currently, tactical commanders fight their own capabilities, executing tactical tasks in support of broader operational objectives. In the future, however, optimization algorithms may interfere with this process. As divisions maneuver their organic capabilities to exploit emerging opportunities, these assets will become the best option for engaging a broader range of enemy capabilities. Simultaneously, a growing number of headquarters will have access to these increasingly automated effects. Under the any sensor, any command and control node, any shooter paradigm of convergence, optimization heuristics will employ data to identify the best combination of multi-domain assets for employment against specific threat capabilities. Automated systems could then actively recommend the employment of those assets regardless of domain or human perspectives.

This will create a competition for capabilities and resources required to execute and sustain the fight. Weighting optimization processes too heavily toward operational or strategic considerations could rapidly run divisions and brigades out of critical supplies and the ability to execute tactical operations. Conversely, weighting tactical considerations too heavily could reduce options for strikes against critical operational or strategic targets. Thus, the calibration of automation, like force posture, must adequately support strategic and operational priorities while accounting for tactical initiative, protection, and consumption considerations.

Conclusion

This article begins a conversation about the tactical application of MDO, describing the Army's latest operating concept as a problem statement for tactical forces. The description of a division attack helps make explicit three challenges to implementing MDO. Discussing these challenges in detail, the author then introduces potential solutions to each.

The first challenge was the use of data in the MDO environment. Current communications do not allow commanders to rapidly combine and employ multi-domain effects. They do not support the visualization of brief periods of opportunity—referred to as windows of opportunity or advantage—and they negatively affect maneuver and protection operations. Future tools must

provide advanced analytics capable of identifying and employing optimal combinations of domain capability. They must also provide visualization tools that enable commanders at echelon to anticipate windows of advantage. Further, future automation and communications must provide these capabilities without impeding the mobility of tactical maneuver units. This likely requires a first principles review of our current approach to data collection, usage, and communication.

The second challenge was tactical penetration and dis-integration. While operational echelons such as armies and corps converge to penetrate highly capable threat long-range fires and air defenses, tactical echelons penetrate and dis-integrate a dense web of shorter-range capabilities. This requires the active employment of as many organic capabilities as possible, likely requiring better automation. Convergence of effects is not the only way to penetrate and dis-integrate. In fact, rapid, semi-independent, and opportunistic maneuver is another and perhaps the best method to defeat centrally controlled threat A2/AD units.

The final tactical challenge was employing the any sensor, any command and control node, and any shooter paradigm without undermining tactical initiative. This required calibration of optimization heuristics to account for both operational and tactical requirements. If managed properly, automated integration of forces will improve both operational and tactical lethality.

If the Army finds effective doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy solutions to these challenges, then MDO, which are infeasible now, will be both a feasible and mature solution to the standoff problem presented by U.S. adversaries. ■

Notes

1. Wayne Grigsby, "Commander's Planning Guidance," Warfighter Exercise 16-4 Academics (Commander's Planning Guidance, Fort Leavenworth, KS, 15 October 2015).
2. Ibid.
3. Ibid.
4. Desmond Bailey, "Multi-Domain Operations Frontages" (PowerPoint presentation, Multi-Domain Operations Frontages, Fort Eustis, VA, 15 March 2020).
5. Ibid.
6. Desmond Bailey (former director of the Concepts Development Division, Maneuver Center of Excellence), email message to author, 15 April 2020.
7. The Research and Analysis Center, Futures and Concepts Center and Army Futures Command, established the rate of advance for maneuver based on terrain and enemy capability. However, this analysis is not described in doctrine.
8. Jim Owens, *Battlefield Development Plan* (Fort Eustis, VA: U.S. Army Futures and Concepts Center, 1 March 2020).
9. Army Techniques Publication 3-90.4, *Combined Arms Mobility* (Washington, DC: U.S. Government Publishing Office [GPO], 8 March 2016), 4-1.
10. Ibid., 4-2.
11. Matthew Bandi (chief of the Battlefield Development Plan Branch, Joint and Army Concepts Division, Directorate of Concepts, Futures and Concepts Center), email message to author, 15 April 2020.
12. Peter H. Diamandis and Steven Kotler, *The Future is Faster Than You Think: How Converging Technologies Are Transforming Business, Industries, and Our Lives* (New York: Simon & Schuster, 2020), 27.
13. Bill Hix and Bob Simpson, "Accelerating into the Next Fight: The Imperative of the Offense on the Future Battlefield," Modern War Institute at West Point, 26 February 2020, accessed 15 October 2020, https://mwi.usma.edu/accelerating-next-fight-imperative-offense-future-battlefield/.
14. Edward N. Luttwak, *Strategy: The Logic of War and Peace* (Cambridge, MA: Belknap Press, 2003), 123–30.
15. Bettina Warburg, *How the Blockchain will Radically Transform the Economy*, TEDSummit Conference, June 2016, accessed 10 November 2020, https://www.ted.com/talks/bettina_warburg_how_the_blockchain_will_radically_transform_the_economy#t-233404.
16. Bandi, email message.
17. David Farrell (analyst for the Russian New Generation Warfare Study and the Multi-Domain Battle, Multi-Domain Operations, and Battlefield Development Plan concepts), email message to author, 23 April 2020.
18. Mark Odom, "Multi-Domain Operations Briefing" (all hands briefing, Army Futures and Concepts Center, Fort Eustis, VA, 18 October 2018).
19. Bandi, email message.
20. Ibid.
21. Odom, "Multi-Domain Operations Briefing."
22. Bob Simpson (senior concept developer at the Futures and Concepts Center), interview with author, 20 September 2017.
23. For an overview of the eight forms of contact, see Army Doctrine Publication 3-90, *Offense and Defense* (Washington, DC: U.S. GPO, 31 March 2019).
24. U.S. Army Training and Doctrine Command, Mosul Study Group Phase II Report (Fort Eustis, VA: Army Capabilities Integration Center, 31 July 2018).
25. Ibid.
26. Simpson, interview with author.
27. Ibid.

Service members from participating nations salute 20 June 2014 during the playing of the Mongolian national anthem at the opening ceremony of Khaan Quest 2014 (KQ14) at Five Hills Training Area, Mongolia. KQ14 is a regularly scheduled, multinational exercise cosponsored by U.S. Army Pacific and hosted annually by the Mongolian armed forces. It is a continuing series of exercises designed to promote regional peace and security. (Photo by Sgt. Edward Eagerton, U.S. Army National Guard)

Impact of Cultural Globalization on Soldiering

An Emerging Concern for Future Leaders

Maj. Md Sajibul Islam, Bangladesh Army

Duty, Honor, Country. Those three hallowed words reverently dictate what you ought to be, what you can be, what you will be.

—Gen. Douglas MacArthur

Gen. Douglas MacArthur quoted the above epigraph while on the verge of his "fading away" from the U.S. Army after sixty years of soldiering. Anyone can feel the spirit of soldiering in those "three hallowed words." Soldiering is one of the oldest professions in human civilization, and its role has transformed through the ages.[1] Soldiering emerged as the noble cause of fighting for the nation after the Thirty Years' War.[2] It became more than a job, built on intrinsic motivation of sacrificing the dearest possession of human beings—life.[3] Consequently, leaders could lead millions of people into war and alter the history of warfare. The world witnessed soldiers' manifestation of self-sacrifice, guided by those admired values that emanated from the love of culture. However, in stepping into the age of the fourth industrial revolution, humanity is going through rapid transformation in thought and spirit. Arguably, cultural globalization is the catalyst for this transformation and makes leadership increasingly challenging.

Cultural globalization refers to the transmission of meanings, ideas, and values around the world to extend and intensify social relations.[4] It is not a new phenomenon; instead, it is a natural continuation of civilization from the tribal age to the technological age. Technological innovations and multinational enterprises are turning the world into one homogeneous global village. Despite many positive attributes, cultural globalization influences a soldier's cultural orientation, thereby negating the influence of the military organizational culture.

Soldiers are a faction of a society built upon its own culture. A society's unique characteristics define every culture.[5] Geert Hofstede's cultural dimensions (see table 1) explain the variation between different cultures.[6] Nevertheless, cultural globalization is gradually diluting these differences, and a homogeneous world is emerging. Change in cultural dimensions in any particular society may bring changes to human needs, which are directly linked to motivation. As such, cultural globalization creates a ripple effect that may negate the present motivational concepts of soldiering.

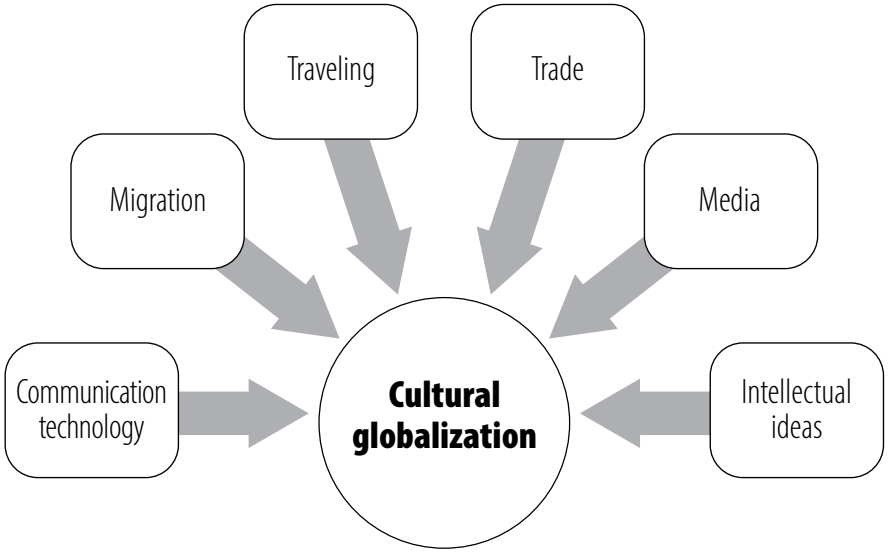
Table 1. General Meaning of Hofstede's Cultural Dimensions

Dimensions	Meaning
Power distance index	Relates to the state of power distribution in an organization or a nation in the face of the fundamental problem of human inequality
Individualism vs. collectivism	The degree to which people in a society are integrated into groups; indicating a sense of privacy and personal space and dependency to the group in a society
Masculinity vs. femininity	Related to the distribution of value between genders and a division of emotional roles between women and men
Uncertainty avoidance	A society's tolerance for ambiguity and the acceptance of its members in unstructured situations
Long-term orientation vs. short-term orientation	Influenced by the economic growth, traditions, social spending trend, etc.; related to the choice of focus for people's efforts: the future, present, and past
Indulgence vs. restraint	Related to the "gratification versus control of basic human desires" for enjoying life

(Table by Geert Hofstede, *Dimensionalizing Cultures: The Hofstede Model in Context* [Berkeley, CA: The Berkeley Electronic Press, 2011], 8, accessed 29 January 2020, https://scholarworks.gvsu.edu/orpc/vol2/iss1/8)

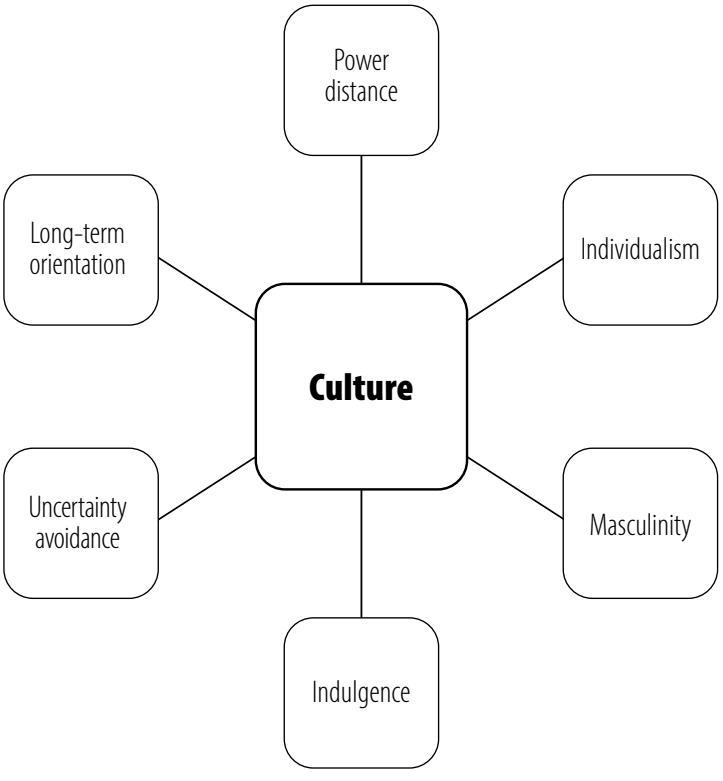
An Analysis of Cultural Globalization: Definition and Genesis

As an effect of globalization, cultural globalization is the process of interaction and integration among people, businesses, and nations.[7] It started as an instinctive human curiosity more than five thousand years ago when people in cities began to trade within and between cities.[8] Due to communication limits, globalization was slow and limited to trade and religion. Nevertheless, the rate of cultural globalization intensifies with different factors. The Renaissance and Industrial Revolution in Europe,



(Figure adapted from Abderrahman Hassi and Giovanna Storti, "Globalization and Culture: The Three H Scenarios," in *Globalization–Approaches to Diversity* [Rijeka, Croatia: IntechOpen, 2012])

Figure 1. Causes of Cultural Globalization



(Figure by Geert Hofstede, *Dimensionalizing Cultures: The Hofstede Model in Context* [Berkeley, CA: The Berkeley Electronic Press, 2011], 8, accessed 29 January 2020, https://scholarworks.gvsu.edu/orpc/vol2/iss1/8)

Figure 2. Geert Hofstede's Cultural Dimensions

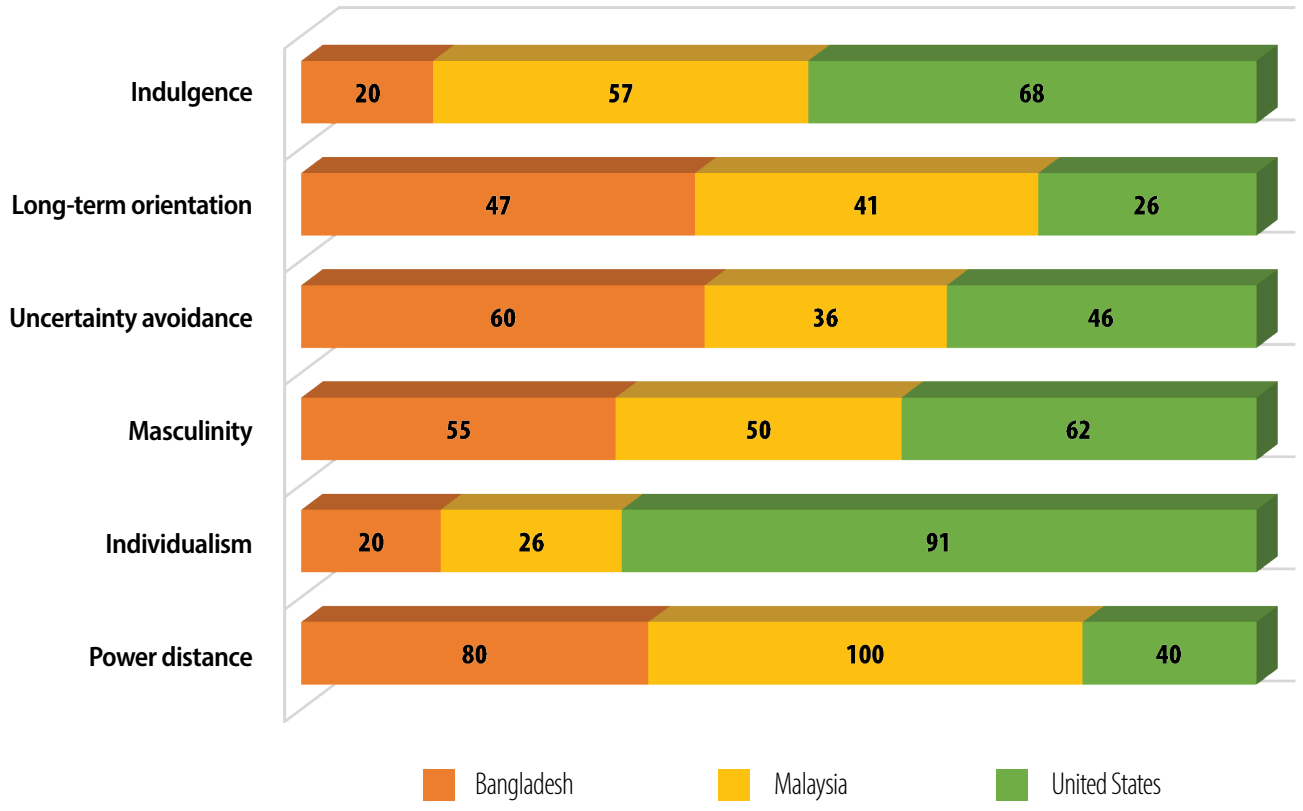
for example, brought two factors that expedited cultural globalization: faster transportation and colonization, which brought about easier transmission of intellectual ideas.

Causes of Cultural Globalization

Currently, different factors fuel cultural globalization. Of the various causes, as delineated in figure 1, the rapid development of communication technology and the media stands out as a major catalyst for cultural globalization. While the development of transportation and migration can physically bring people from different cultures closer, the advent of the internet and its easy accessibility is more effective for transmitting ideas. Cultural globalization happens when different ideas, beliefs, and values spread globally.[9] Knowledge of different cultures can change a person's fundamental cultural values. The physical experience of traveling, mass migration, diverse cultures in society, and common usage of popular technology brands can challenge the traditional cultural identity of communities and promote the emergence of a homogeneous world.[10]

Understanding National Culture: Hofstede's Cultural Dimensions

The environment of a nation-state, its social structure, and the experience of the preceding generation shape human characteristics.[11] In short, culture shapes human characteristics. In this context, Hofstede's cultural dimension comes as a great tool to analyze national culture. In 1991, Hofstede identified six dimensions to analyze the differences of various national cultures, as illustrated in figure 2.[12]



(Figure adapted from Hofstede Insights Country Analysis USA [Helsinki: Hofstede Insight 2019], accessed 28 January 2020, https://www.hofstede-insights.com/country/the-usa/; 6D model scores are estimated)

Figure 3. Comparison of Hofstede's Dimensions for Bangladesh, Malaysia, and the United States

Heterogeneity of Human Behavior in Different Cultures

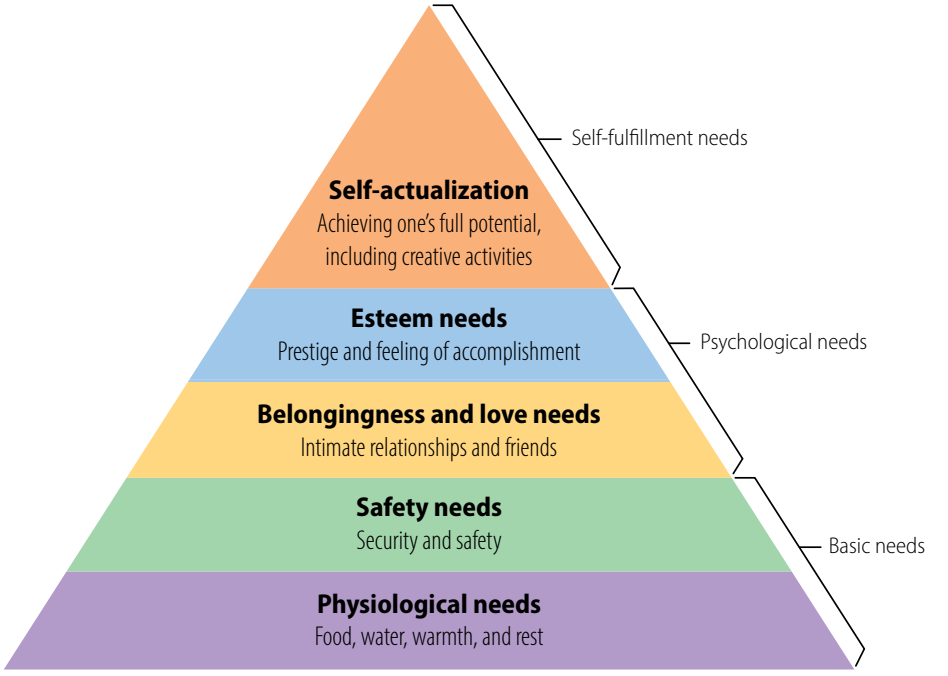
Hofstede's idea was groundbreaking in dissecting different cultures and their impact on human behavior. Figure 3 is based on Hofstede's cultural analysis and displays a comparison between three different cultures: the United States, Bangladesh, and Malaysia.

As displayed, Malaysia and Bangladesh are very high in "power distance index" (PDI) and low in "individualism." This essentially means that these societies accept power inequality while possessing a collective and cohesive mindset. Though historically, Malaysia was a feudal system and Bangladesh was an idyllic republic, the British ruled both. These societies, however, are historically collective, and both loyalty and allegiance were highly placed in their societies. Conversely, the United States ranks low in PDI and very high in "individualism"; its Pledge of Allegiance is based on the premise of "liberty and justice for all."[13] That said, cultural globalization is changing the states in figure 3.

The Ripple Effect of Cultural Globalization: The Road toward One World

Different studies indicate a changing trend in various indexes of Hofstede's cultural dimensions. Professor Ming-Yi Wu, a researcher at Western Illinois University, found significant changes in various American cultural dimensions.[14] Her work proved that power distance and masculinity are reducing in the United States, while uncertainty avoidance and individualism are ascending. On the other hand, millennials and Generation Z are rejecting a high-PDI environment in most Asian countries.[15] The Arab

Spring, Hong Kong protests, and "Me Too" movements are some remarkable examples of this wave of change.[16] These changes of cultural dimensions and social trends pose a question: Are human needs evolving with this cultural change?



(Figure by Abraham H. Maslow, "A Theory of Human Motivation," *Psychological Review* 50, no. 4 [1943]: 370–96.)

Figure 4. Maslow's Theory of Needs

Human Need: A Bridge between Culture and Motivation

A brief look into human need is essential to draw inference on the interrelationship of culture and soldiering. Motivation and human needs are interwoven. According to the *Merriam-Webster Dictionary*, "motivation" originated from "motive," which means needs, desires, wants, or drives within an individual.[17] Motivation is the process of stimulating people to act in order to accomplish certain goals. Therefore, a discussion on "need theory" is imperative. In this context, none could define it more precisely than Abraham H. Maslow.

Maslow's Theory of Needs

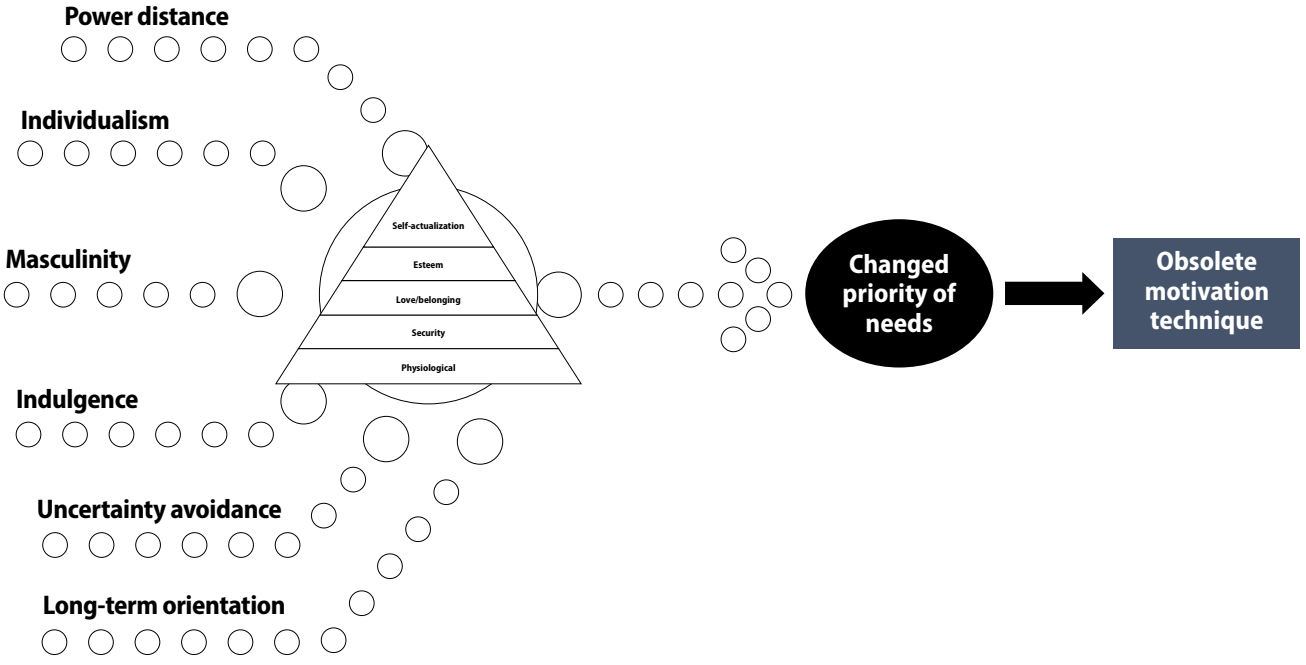
In his groundbreaking paper, "A Theory of Human Motivation," Maslow categorized five different types of human motivational needs: physiological, security, belonging, esteem, and self-actualization (see figure 4).[18] Broadly categorizing them into basic needs, psychological needs, and self-fulfillment needs, Maslow initially argued that without fulfilling basic needs, higher needs do not generally arise.[19] A starving man will not seek self-actualization. However, human spirit and motivation are unique, and a strong sense of purpose and passion can overrule the hierarchical characteristics of Maslow's theory.

History illustrates that a more significant purpose of belongingness, esteem, or self-actualization can drive people beyond physiological needs. Since time immemorial, ideas, principles, and passions drove people to cross the barrier of safety needs. Though Maslow's theory initially claimed that each need had to be satisfied sequentially, he later realized that 100 percent fulfillment of basic needs is not a prerequisite for the emergence of higher needs.[20] Thus, we can deduce that humans can strive to fulfill different levels of needs simultaneously. Ideas transmitted through cultural globalization can influence those human needs, which puts the universality of human need in question.

Universality of Human Needs

Although Maslow's hierarchy of needs tried to establish its universality, Maslow himself struggled with this idea. He mentioned that different cultures set different definitions for the same need.[21] For example, a majority of Americans do not feel real hunger as a basic need; they feel an appetite. Citizens in lesser-developed countries experience the opposite. Moreover, characteristics of different generations will differ in how people prioritize needs and, subsequently, vary the trigger for their motivation. Thus, time and culture prove characteristics' influence on human needs.

Drawing specific interrelation between cultural dimensions and human needs is exhaustive and beyond the scope



(Figure by author; created based on preceding discussions)

Figure 5. Influence of Cultural Dimensions on Human Motivation

of this article. However, figure 5 displays the deductions of the aforementioned arguments that different cultural dimensions significantly influence an individual's priority of human needs. Consequently, existing motivational techniques might be obsolete due to this change in the needs of different generations. Therefore, in any particular time and space, the interdependence of Hofstede's cultural dimensions and Maslow's hierarchy of needs must be understood by military leaders.

Impact of Cultural Globalization on Soldiering: A Soldier's Entanglement with National and Military Cultures

The impact of national culture mostly supersedes the influence of military culture in a soldier. The military is an organization with distinct cultural artifacts.[22] According to J. L. Soeters, military organizations are different in that they represent *s*pecific occupational cultures that are relatively isolated from society.[23] D. M. Snider opined that the emergence of a military culture is directly linked with its task and purpose. Hence, the different nature of a military separates it from its society.[24] Despite the significant differences between military culture and national culture, the latter shapes the cultural orientation of a soldier. Both Soeters' and Snider's arguments might be valid to a certain extent. Conflict with these ideas will arise as we dissect different layers of military organizational culture and identify possible conflicts with an individual's cultural assumptions before joining the military.

Fons Trompenaars and Charles Hampden-Turner developed a conceptual framework for organizational culture with three different layers.[25] Detail analysis has been delineated in figure 6 (on page 82), which was created to illustrate the

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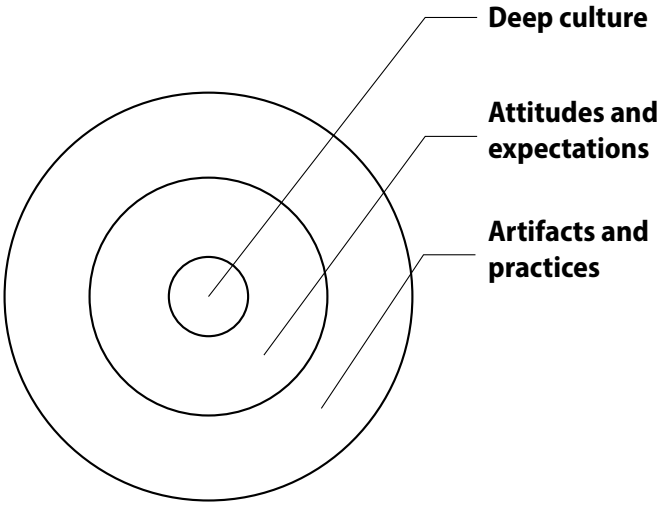
relationship between a soldier's cultural orientation and military organizational culture.[26]

In an all-volunteer military force, individuals are principally motivated to lay down their lives for their nation.[27] However, a soldier's underlying assumptions about his or her own culture are formed before he or she joins the military.[28] As shown in figure 7 (on page 83), the core beliefs of a society also affect the understanding of human needs. No organizational artifacts can change that permanently. When further influenced by cultural globalization, friction is inevitable between individual core values and military values.

The impact of cultural globalization remains superior in its effect because it is dynamic and continuous in a society and in the information environment. Conversely, hierarchical military culture is conservative and traditional. A soldier's stance, consequently, is paradoxically conflicted between these two distinct cultural environments.



(Figure adapted from Fons Trompenaars and Charles Hampden-Turner, *Riding the Waves of Culture* [London: McGraw-Hill, 1993], 21)

Figure 6. Conceptual Framework for Organizational Culture

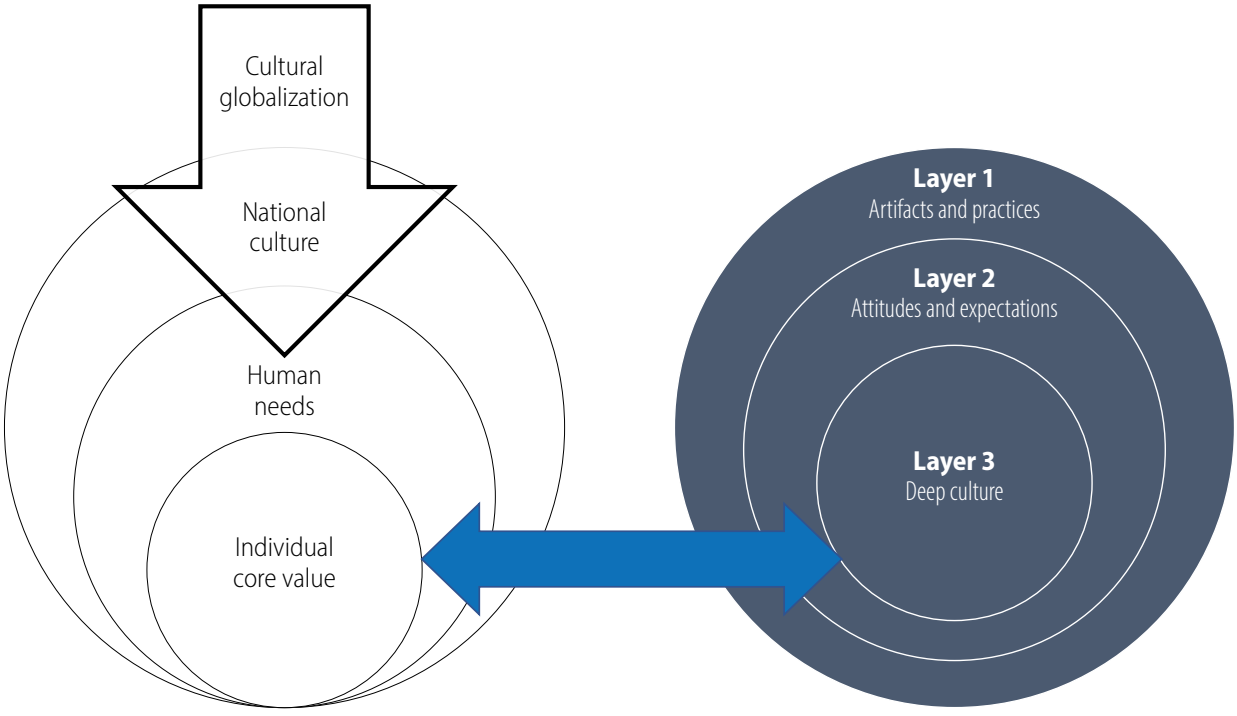
Critical Motivational Factor of Soldiering

Cultural globalization can affect the fighting spirit of soldiers. Killing a human is not easy; it is more than pulling a trigger. Either a substantial cause or a unique cultural ethos can infuse that fighting spirit. History is a reminder of how humanity fought between different cultures. Differences in identity, race, and culture created a superiority or inferiority complex that fueled the fighting spirit of different societies. Thereby, the militaries of an individualistic society and a collective society are significantly different in their core motivation. For instance, Allied forces suffered more casualties in the Pacific than in other theaters of war.[29] Japanese kamikaze attacks during World War II or Chinese "human wave" attacks during the Korean Conflict directly reflect aspects of Eastern culture. In both cases, motivations of the Japanese and Chinese soldiers led them to suicide attacks against U.S. troops.[30] These motivational drives resulted from coinciding the organizational deep layer with a soldier's cultural value, as displayed in figure 7.

Samuel P. Huntington, in his 1996 book *Clash of Civilizations*, illustrates how current and future warfare will be based on a clash between different ideas. However right he is, global civil society emerged in the later 1980s as a counterforce to conflict around the globe.[31] The global populations' increasing interconnectedness to each other's ideas, cultures, and perspectives is causing an emergence of a global civil society as an antidote for war.[32] This apparent utopian positivity of cultural globalization is also a cause for decay in the fighting spirit of younger generations.

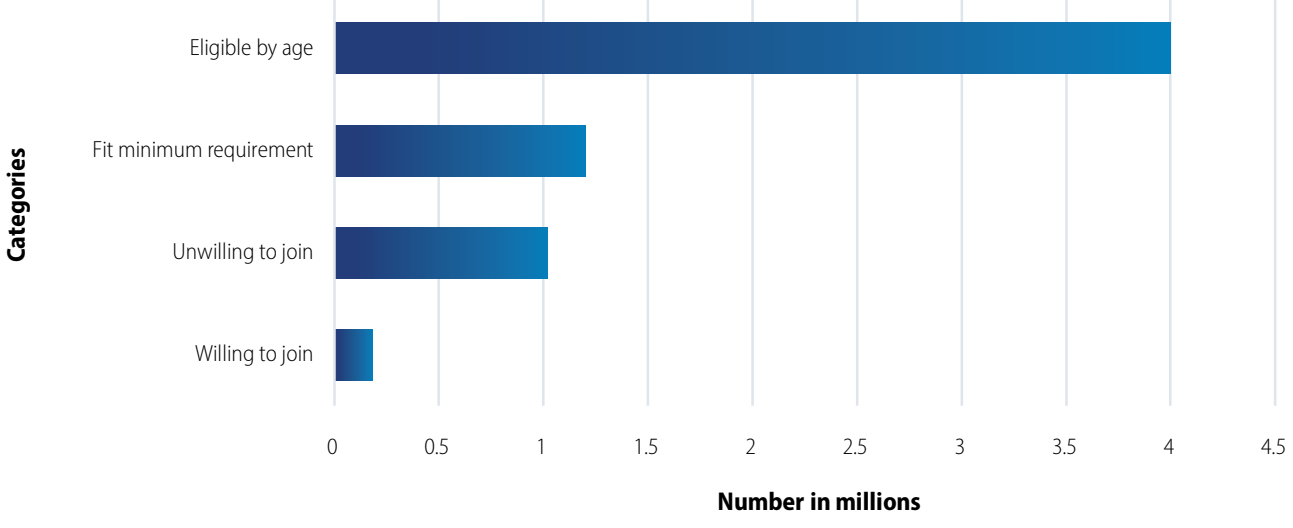
Recruitment Standards

Recruitment is one of the most discussed issues of different militaries affected by cultural globalization. The U.S. military, as well as many others, faces difficulties in recruiting candidates with expected psychological spirit and qualities. Some identified causes behind this problem include lack of mental aptitude, poor physical fitness, criminal records, and drug abuse, to name a few.[33] As displayed in the graph in figure 8 (on page 83), only 15 percent of ideal candidates for the military from Generation Z are willing to serve.[34] This is the state of the most influential and spirited army of the world, from the most influential culture impacting globalization. Culturally less influential countries are facing tremendous setbacks in their soldiering standard. This situation may justify the findings that Generation Z values individualism and diversity over united services.[35] An increase in materialistic benefits contributed to minimizing this recruitment problem in the United States but created another new problem—materialism.



(Figure adapted from Fons Trompenaars and Charles Hampden-Turner, *Riding the Waves of Culture* [London: McGraw-Hill, 1993], 21)

Figure 7. Impact of Organizational Culture in Individual Cultural Orientation

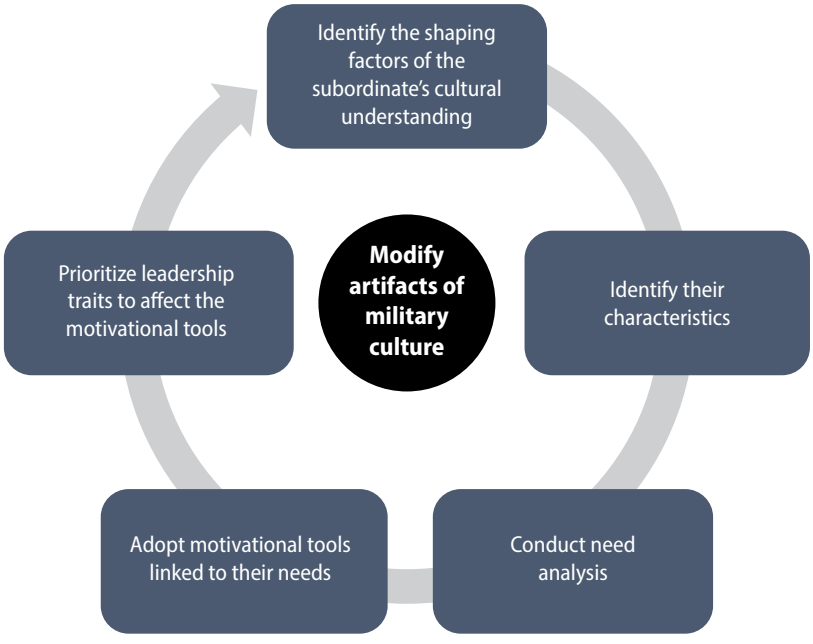


(Figure by author; created based on Dennis Laich, "Manning the Military: America's Problem," *Military Times* [website], 22 July 2019, accessed 30 January 2020, https://www.military-times.com/opinion/commentary/2019/07/23/manning-the-military-americas-problem/)

Figure 8. Assessment on Recruitment Data 2019

Materialistic View on Soldiering

The materialistic attitude of soldiers might change a military organization into a mercenary company. The prime difference between mercenaries and an all-volunteer force is service member's attitude to materialism. Maj. Gen. Dennis Laich identified the prime reason for joining the U.S. military in the U.S. context to be individual financial security and not patriotism.[36] He argued that in America's all-volunteer force, 1 percent of poor and middle-class service members are manning the military, while 99 percent minimize guilt through placing an "I support our troops" bumper sticker on their cars. Furthermore, joining the military for materialistic gain causes nonalignment of moral value, and increases misconduct that is affecting the U.S. Army.[37] When soldiers-at-arms pursue materialistic goals, fancy words such as patriotism, glory, or esprit de corps will be relegated to books and history museums.



(Figure by author; created based on preceding analyses)

Figure 9. Minimizing Negative Impacts of Cultural Globalization on Men

Ethical Dilemma

Cultural globalization has increased ethical dilemmas among military personnel.[38] The military uses a theoretical ethical triangle to facilitate decision-making where value-based, principle-based, and consequence-based ethics work in concert. However, history shows the ignorance of military decision-making from value-based ethics, which was compensated by loyalty. As globalization puts humanity first, a soldier's ethical dilemma increases. For example, several whistleblowers from different armies have voiced their discontent with the unethical decision-making of their leaders.[39] Our previously discussed priority of human needs also affects prioritizing ethical approaches. For instance, "belonging" or "self-actualization" needs may influence prioritizing ethical approaches to put humanity before the nation. Thus, cultural globalization increases the ethical dilemma by undefined "belongingness" of individual soldiers.

Affected Core Military Values

The ripple effect of cultural globalization has changed the idea of loyalty and obedience. Military culture is essentially "conservative, rooted in history and tradition, based on group loyalty and conformity and oriented toward obedience to superiors."[40] However, in this information age, knowledge is accessible to all. As society is context aware, people are more informed, and their definition of values may become misaligned with traditional values. Citizens and soldiers wake up in the morning and see variations of the same news. Both factions of society are adapting to the chaos of misinformation, and it makes them instinctively good at spotting lies.[41] Consequently, loyalty and obedience are redefined concepts with a younger generation and require new leadership approaches.

A Way Forward for Future Leaders

As civilization progresses, cultural globalization will expand rapidly. Stopping it is not only impossible but also counterproductive to its numerous blessings and opportunities. Similarly, changes in generational characteristics are indisputable. That leaves military organizations with

one aspect to focus on in a solution-adaptive leadership. In Field Manual 6-22, *Army Leadership*, adaptive leadership is mostly focused on dealing with changes in a dynamic operational environment.[42] As the "agent of change," adaptive leaders also need to address dynamic changes in the cultural orientation of their soldiers.

Figure 9 (on page 84) is my approach to minimizing the negative impacts of cultural globalization in subordinates. Cultural globalization affects mostly newer generations in the military; therefore, analyzing the tendencies and characteristics of these people can provide insight into the required leadership style. Table 2 illustrates the characteristics of Generation Z, the most-affected generation due to cultural globalization, and what those characteristics imply for military leaders.[43] Moreover, as the priorities of human needs vary from soldier to soldier, leaders need a comprehensive approach to fulfill those different needs: basic, psychological, and self-fulfillment. No organization can realistically fulfill all needs. However, careful consideration and an attitude to care about subordinates' needs can pay dividends.

Identifying all soldier needs can lay the next steppingstone—applying time-demanding

Table 2. Characteristics of Generation Z and Its Leadership Implications

Serial	Characteristics	Implications to leadership
1	Generation Z is more entrepreneurial than previous generations.	Transformational leadership that empowers followers to be trained as leaders might be suitable for Generation Z. Besides, practice of mission command also aligns with their expectations from the workplace.
2	Their entrepreneurial spirit infuses craving for independence in their leadership.	
3	They expect mentoring, learning, and professional development opportunities, and a workplace that encourages their entrepreneurial skills.	
4	Generation Z tends to verify before trusting.	Authenticity and integrity are prerequisites in leading them. Moreover, participative leadership appears suitable to meet their workplace expectations.
5	They admire transparency in service.	
6	They put substantial importance on truth.	
7	They want to be informed, to be allowed to respond, and to have their responses heard and acknowledged.	
8	Generation Z is the most technologically sophisticated generation.	Suitable to be employed in tech-based military services, their employment can also facilitate automation in different military services.
9	They are an "identity nomad," with less of a rigid cultural or religious tie than previous generations.	Since they are less affected by traditional "belonging needs," infusing "esprit de corps" in them is challenging unless motivated by an agreed upon cause.
10	Generation Z is self-reliant and highly individualist yet culturally tolerant.	
11	Financial awareness and long-term orientation.	Comparatively better pay with a definite career plan might attract them to the military.
12	Preference on enjoyable office atmosphere and work-life balance over salary.	Military organizational climate needs modification to retain them.
13	Craves for flexibility and personal freedom.	
14	They expect the work environment to be friendly, which allows for flexible schedules.	
15	They are more skill focused.	Talent management can help their utilization in military services and solve future adaptive problems through diverse skill set.

(Table by author; created based on multiple sources as cited in note 43)

motivational techniques. Rewards and punishments are always useful if applied appropriately. However, the definition of reward varies from person to person. Human need can dwell in different layers simultaneously, and motivational tools must be used to meet those needs. Similar to Generation Z, future generations are likely to crave realization of both psychological and self-fulfillment needs. In this regard, talent management and creative employment are likely to be crucial to create a conducive military environment.[44] Besides, talent management will enable an adaptive leader to solve adaptive problems in the highly ambiguous future.

Based on identified subordinate needs and motivational tools, prioritization of leadership traits is the next step. A modified level of leader-led interaction is crucial in creating an impact upon any new generation. Though American society is based on individualism, military organizational culture is built upon esprit de corps. While military effort in nurturing the cohesive culture is vital in maintaining esprit de corps, generational craving for freedom and personal space should not be forgotten by leaders.[45] A delicate balance between these two can be maintained by optimizing the military environment periodically, which can support the varied needs of its members. Apart from personal interaction, authenticity in leaders may be the silver bullet to gain the trust of new generations.[46]

Finally, modifying military artifacts based on the changed national culture can minimize the discord identified in figure 7. Growing a secure attachment to a national identity is a prerequisite to do so. Nevertheless, the organization's core values must not be compromised during this process. For the U.S. military, minimizing discord can be achieved by expanding military traditions, educating young generations with glorious history, and imbibing them with the uniqueness of American culture. Nevertheless, success will lie in aligning individual cultural orientation with organizational culture.

Conclusion

In this highly connected world, national identity and globalization are in constant tension. The tension for individuals expands when they join a military organization. While soldiering demands specific conservative traits, cultural globalization is infusing current society with liberal ideas. These ideas, in conjunction with homogeneous cultures, are changing the priorities of human needs. Despite numerous benefits of this heterogeneity and changing human needs, military organizations are facing different problems: recruitment, decay of spirit, materialism, and lack of motivation—to name a few. Consequently, the military profession must not become a mere job but remain a profession based upon selfless service with patriotic feelings.

Therefore, time demands adaptive leadership in military organizations with the focus not only on "the mission" but also on "soldiers." Scrutinizing the characteristics of those generations in service, identifying their needs, developing suitable motivational techniques, and identifying prioritized leadership traits may minimize the negative impact of cultural globalization among the military personnel. Since the United States is the world's largest cultural melting pot, the U.S. military needs to update its doctrine on adaptive leadership. Hopefully then "duty, honor, country," the three hallowed words of MacArthur, will echo among the hearts of soldiers and will transcend through generations beyond time. ■

Notes

Epigraph. "MacArthur Biography," MacArthur Memorial, accessed 15 February 2020, https://www.macarthurmemorial.org/DocumentCenter/View/1689/BioDouglasMacArthur.

1. *Merriam-Webster*, s.v. "soldiering," accessed 21 March 2020, https://www.merriam-webster.com/dictionary/soldiering.

2. Samuel P. Huntington, *The Soldier and the State: The Theory and Politics of Civil-Military Relations* (Cambridge, MA: Belknap Press, 1957), 21.

3. MacGregor Knox and Williamson Murray, *The Dynamics of Military Revolution, 1300–2050* (Cambridge, UK: Cambridge University Press, 2001), 60.

4. Funlayo Vesajoki, *The Effects of Globalization on Culture* (Jyväskylä, Finland: University of Jyväskylä, 2002), 8.

5. Ibid., 10. From the perspective of globalization, "culture should be seen as the process of the cultivation of an intricate inner life that takes on form and meaning in social action on a global scale. Inner life in this context would refer to the knowledge of humankind as a single and inseparable species common to earth."

6. Geert Hofstede, *Dimensionalizing Cultures: The Hofstede Model in Context* (Berkeley, CA: The Berkeley Electronic Press, 2011), 8, accessed 29 January 2020, https://scholarworks.gvsu.edu/orpc/vol2/iss1/8.

7. "What Is Globalization?," The Levin Institute, 2016, accessed 1 February 2020, http://www.globalization101.org/what-is-globalization/. Globalization refers to acceleration and intensification of interaction among the people, companies, and governments of different nations; Aditya Sarthak, *Transport, Geography, Tribalism* (London: Aditya Publications, 2006).

8. Abderrahman Hassi and Giovanna Storti, "Globalization and Culture: The Three H Scenarios," in *Globalization–Approaches to Diversity* (Rijeka, Croatia: IntechOpen, 2012), accessed 12 February 2020, https://www.intechopen.com/books/globalization-approaches-to-diversity/globalization-and-culture-the-three-h-scenarios.

9. Vesajoki, *The Effects of Globalization on Culture*, 9.

10. Nkosinathi Sotshangane, *What Impact Globalization has on Cultural Diversity?* (Yalova, Turkey: Yalova University, 2002), 214–31.

11. Lindsay Stace, "Culture, Mental Models, and National Prosperity," in *Culture Matters: How Value Shapes Human Progress*, ed. Samuel P. Huntington and Lawrence E. Harrison (New York: Basic Books, 2000), 282.

12. Hofstede, *Dimensionalizing Cultures*, 8.

13. "What About the USA?," Hofstede Insights, accessed 28 January 2020, https://www.hofstede-insights.com/country/the-usa/.

14. Ming-Yi Wu, "Hofstede's Cultural Dimensions 30 Years Later: A Study of Taiwan and the United States," *Intercultural Communication Studies* XV, no. 1 (2006): 37–41.

15. *Merriam-Webster*, s.v. "millennial," accessed 21 March 2020, https://www.merriam-webster.com/dictionary/millennial. Millennials refers to generations born in the 1980s or 1990s; *Merriam-Webster*, s.v. "Generation Z," accessed 21 March 2020, https://www.merriam-webster.com/dictionary/Generation%20Z. Generation Z refers to the generation of people born in the late 1990s and early 2000s; Kate Sweetman, *In Asia, Power Gets in the Way* (Brighton, MA: Harvard Business Publishing, 2012), accessed 19 February 2020, https://hbr.org/2012/04/in-asia-power-gets-in-the-way.

16. Sweetman, *In Asia, Power Gets in the Way*.

17. *Merriam-Webster*, s.v. "motivation," accessed 21 January 2020, https://www.merriam-webster.com/dictionary/motivation.

18. Abraham H. Maslow, "A Theory of Human Motivation," *Psychological Review* 50, no. 4 (1943): 370–96.

19. Ibid., 380.

20. Abraham H. Maslow, *Motivation and Personality*, 2nd ed. (New York: Harper and Row, 1970), 54.

21. Maslow, "A Theory of Human Motivation," 38.

22. *Multinational Military Operations and Intercultural Factors*, ed. Angela R. Febbraro, Brian McKee, and Sharon L. Riedel (Brussels: North Atlantic Treaty Organization Research and Technology Organisation, 2008), 1–8.

23. J. L. Soeters, "Culture in Uniformed Organizations," in *Handbook on Organizational Culture and Climate*, ed. Celeste P. M. Wilderom, Mark F. Peterson, and Neil M. Ahskenasy (London: Sage, 2004), 465.

24. D. M. Snider, "An Uninformed Debate on Military Culture," *Orbis* 43, no. 1 (1999): 11–26.

25. Fons Trompenaars and Charles Hampden-Turner, *Riding the Waves of Culture* (London: McGraw-Hill, 1993), 21.

26. Ibid., 20, 21. As displayed in figure 6, layer one, layer two, and layer three represent artifacts and practices, attitude and expectations, and deep structure, respectively. Layer one (artifacts and practices), the surface layer, is tangible and observable, which represents the explicit culture of the organization. For the military, explicit culture includes the uniforms, ceremonies, and traditions. The second layer (attitude and expectations) is more intangible; the military attitudes and expectations are built through traditions, customs, myths, and beliefs. Deep structure is built into the third layer, which represents the underlying assumptions of an individual in the organization. Bringing change to these layers becomes progressively difficult from layer one to layer three.

27. Dennis Laich, *Skin in the Game: Poor Kids and Patriots* (self-pub., iUniverse, 2013), 9.

28. Tarak Barkawi, "Globalization, Culture, and War: On the Popular Mediation of 'Small Wars,'" *Cultural Critique* 58, no. 1 (2004): 115–47, accessed 2 January 2020, https://www.jstor.org/stable/4140775.

29. David Haberstam, *The Coldest Winter: America and the Korean War* (New York: Hyperion Books, 2007), 307.

30. Thomas G. Bradbeer, *Eighth Army Fights Back* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 2019), 14.

31. John Keane, *Global Civil Society?* (Cambridge, UK: Cambridge University Press, 2003), 114.

32. Ibid., 3.

33. Mark Perry, *The Recruitment Problem the Military Does Not Want to Talk About* (Washington, DC: The American Conservative, 2018), 2, accessed 22 January 2020, https://www.theamericanconservative.com/articles/the-recruitment-problem-the-military-doesnt-want-to-talk-about.

34. Dennis Laich, "Manning the Military: America's Problem," *Military Times* (website), 22 July 2019, accessed 30 January 2020, https://www.militarytimes.com/opinion/commentary/2019/07/23/manning-the-military-americas-problem.

35. Levy Leidy, "Generation Z Stalls Army Recruitment Efforts," Valor Worldwide, accessed 24 January 2020, https://www.ourmilitary.com/generation-z-army-recruitment.

36. Laich, *Skin in the Game*, 9.

37. Kyle Borne, "The Army's Moral Recruiting Problem," Small Wars Journal, 17 September 2016, accessed 24 January 2020, https://smallwarsjournal.com/jrnl/art/the-army%E2%80%99s-moral-recruiting-problem.

38. Jack Kem, "Ethical Decision Making: Using the 'Ethical Triangle'" (paper, CGSC Ethics Symposium, Fort Leavenworth, KS, 21 April 2016), 3. Ethical dilemmas can be defined as conflicts between two different values that are correct from different approaches.

39. Ted Thomas and Ira Chaleff, "Moral Courage and Intelligent Disobedience," *InterAgency Journal* 8, no. 1 (Winter 2017): 59, accessed 11 March 2020, http://thesimonscenter.org/wp-content/uploads/2017/03/IAJ-8-1-Winter2017-pg58-66.pdf.

40. Gail Zellman et al., "Implementing Policy Change in Large Organizations," in *Sexual Orientation and US Military Personnel Policy: Options and Assessments* (Washington, DC: RAND Corporation, 1999), 370.

41. Tracy Francis and Fernanda Hoefel, "'True Gen': Generation Z and Its Implications for Companies," McKinsey & Company, 12 November 2018, accessed 21 March 2020, https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/true-gen-generation-z-and-its-implications-for-companies.

42. Army Doctrine Publication (ADP) 6-22, *Army Leadership* (Washington, DC: U.S. Government Printing Office, 2012 [obsolete]), 9-5, superseded by ADP 6-22, *Army Leadership and the Profession*, November 2019.

43. Denise Villa, *The State of Gen Z 2017: Meet the Throwback Generation* (Austin, TX: The Center for Generational Kinetics, 2017), 4. Generation Z is the new "kid on the block," born between 1996 and 2015. That generation is part of the incoming workforce and the future of the military services. In the United States, the terrorist attacks on 11 September 2001 are the main event for shaping perspectives of millennials and Generation Z. Generation Z does not remember it at all, while 9/11 is a defining moment for millennials. Generation Z, a technologically sophisticated generation, reflects the impact of cultural globalization more significantly than the previous generations. Though few studies on the generation are available in military literature, a lot of generational analyses exist in the fields of business and anthropology. Scrutiny of scholarly research addressing the generation identified Generation Z's various characteristics in the workplace.

Table 2 illustrates those characteristics and their likely implications for a military leader. For more information regarding the characteristics of Generation Z, see Amarendra Pratap Singh and Jianguanglung Dangmei, "Understanding the Generation Z: The Future Workforce," *South-Asian Journal of Multidisciplinary Studies* 3, no. 3 (April 2016): 1–5; Teresa Bridges, "5 Ways the Workplace Needs to Change to Get the Most out of Generation Z," Fast Company, 19 August 2015, accessed 21 March 2020, http://www.fastcoexist.com/3049848/5-ways-the-workplaceneeds- to-change-to-get-the-most-out-of-generation-z; "From Innovation to Expectation–How M&E Leaders are Responding to Gen Z," (New York: Ernst & Young, 2016), accessed 20 February 2019, http://www.ey.com/Publication/vwLUAssets/ey-media-entertainment-leaders-respond-to-gen-z/$FILE/ey-media-entertainment-leaders-respond-to-gen-z.pdf; Bascha, "Z: The Open Source Generation," OpenSource, 19 September 2011, accessed 25 February 2020, https://opensource.com/business/11/9/z-open-source-generation; Francis and Hoefel, "True Gen"; Bridges, "5 Ways the Workplace Needs to Change to Get the Most out of Generation Z"; Matt Kampbell, "Generation Z Talent: How the New Generation of Workers will Reshape Talent Management" (Amstelveen, Netherlands: KPMG, 2019), accessed 20 March 2020, https://advisory.kpmg.us/articles/2019/generation-z-talent.html; Villa, *The State of Gen Z 2017*, 14; "'Deep Focus' Cassandra Report: Gen Z Uncovers Massive Attitude Shifts toward Money, Work and Communication Preferences," Deep Focus, 30 March 2015, accessed 21 March 2020, https://www.globenewswire.com/news-release/2015/03/30/1308741/0/en/Deep-Focus-Cassandra-Report-Gen-Z-Uncovers-Massive-Attitude-Shifts-Toward-Money-Work-and-Communication-Preferences.html.

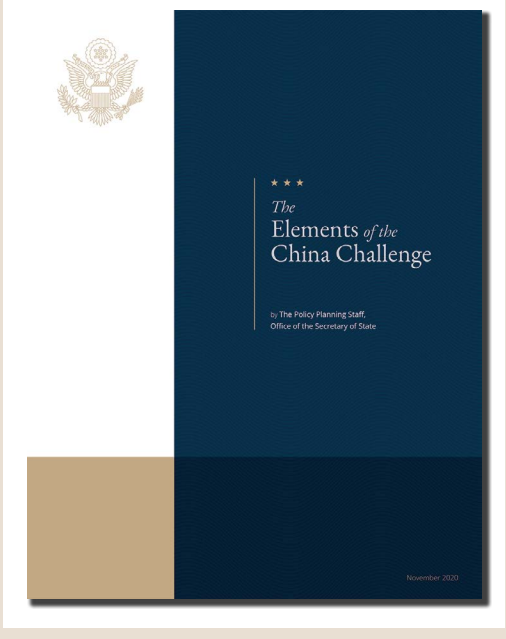
44. "Deep Focus' Cassandra Report."

45. Kampbell, "Generation Z Talent."

46. "From Innovation to Expectation."

Military Review

WE RECOMMEND



This U.S. State Department policy paper published in November 2020 provides historical background and elaborates on China's aggressive foreign policy initiatives that stretch to every region of the world. Flouting international law, communist China has openly asserted territorial claims against many of its neighbors and waters in the South China Sea and espoused policy objectives that include becoming the predominate military, economic, and cultural power in the world. Furthermore, it aims not merely at preeminence within the established world order—an order that is grounded in free and sovereign nation-states—but to fundamentally revise world order, placing the People's Republic of China at the center and serving Beijing's totalitarian goals and hegemonic ambitions. To view this paper, visit https://www.state.gov/wp-content/uploads/2020/11/20-02832-Elements-of-China-Challenge-508.pdf.

A soldier assigned to the 101st Airborne Division uses the Virtual Battle Space 3 (VBS3) system 3 May 2019 at the Joint Multinational Simulation Center's Tactical Gaming Division at Camp Aachen, Germany. VBS3 is a flexible, video game-based platform through which service members can train using virtual scenarios as they would in the field. (Photos by Sgt. Christopher Stewart, U.S. Army)

Teaching the Army

Virtual Learning Tools to Train and Educate Twenty-First-Century Soldiers

Angela M. Riotto, PhD

In October 1988, Gen. Carl E. Vuono, then chief of staff of the U.S. Army, considered the value of the staff ride as an educational tool. In an article in *The Army Historian,* Vuono observes that the study of history "infuses with living immediacy the matrix of tactics, logistics, command, terrain, and technology."[1] He explains that when executed properly, the staff ride can "bring together the realities of war."[2] When Vuono wrote

these words over thirty years ago, the U.S. Army staff ride was one of the few methodological tools for battle analysis available outside of the classroom.[3] Fortunately, this is no longer the case. Today, soldiers have access to several enhanced learning tools through which to study military history, maneuver, command and control, fires, sustainment, and other concepts central to large-scale combat operations doctrine. The on-the-battlefield staff ride remains a foundational instructional activity, but now the U.S. Army also offers virtual staff rides (VSRs), simulation training, and documentary films. Each of these multimedia products draws on historical case studies to develop a richer understanding of the effects of combat on Army personnel. The products available through the Army University Press Films and Staff Ride teams, as well as the National Simulation Center, work well independently, but when used in collaboration, battle simulations, staff rides, and films enhance combat readiness, improve doctrinal and technological competence, and foster a sense of heritage among soldiers. Multimedia learning tools such as these are effective and entertaining means of training and education for twenty-first-century soldiers.

Angela Riotto received her PhD from the University of Akron in 2018. Her research examines the ways in which both Union and Confederate former prisoners of war discussed their imprisonment between 1862 and 1930. She currently works as a historian with the Army University Press Films team. She recently published "Defending Our Suffering: Union and Confederate Ex-Prisoners of War and their Postwar Publications" in *The War Went On: Reconsidering the Lives of Civil War Veterans* with Louisiana State University Press; and "Libby Prison War Museum: Site of Commemoration or Commercial Enterprise" in *Essays on the Nineteenth Century, Memory, and Modern Identity: Consuming Commemoration* with Palgrave Macmillan.

Each of these tools is available through the Combined Arms Center (CAC) at Fort Leavenworth, Kansas. CAC, as a subordinate headquarters of the U.S. Army Training and Doctrine Command (TRADOC), synchronizes and integrates doctrine, training, education, and leadership development for officers, noncommissioned officers, warrant officers, and civilians. Training is the means by which Army professionals prepare for future operations and gain mastery of individual and collective tasks. CAC-Training supports this mission by conducting training in a realistic, complex training environment, both virtually and in person.[4]

Along with training soldiers to perform tasks, CAC also educates soldiers in leadership, critical thinking, ethics, judgment, situational awareness, and problem-solving. These skills must accompany the tactical and technical skills acquired in training to ensure and maintain an informed force.[5] The main component of CAC's educational framework is Army University (ArmyU). When CAC established ArmyU in 2015, then Secretary of the Army John McHugh stressed, "We must continue to educate and develop soldiers and civilians to grow the intellectual capacity to understand the complex contemporary security environment to better lead Army, Joint, interagency, and multinational task forces and teams."[6] VSRs, simulations, and documentary films assist in both the training and education missions.

CAC, as part of TRADOC, strives to provide a learning model to challenge and inspire learners who grew up in the digital world. In 2011, TRADOC published TRADOC Pamphlet (TP) 525-8-2, *The U.S. Army Learning Concept for 2015* (*ALC* 2015) to develop a training and educational model for the all-volunteer Army and, specifically, the twenty-first-century soldier. *ALC* 2015 outlines that the Army must institute a "continuum of learning from the time soldiers are accessed until the time they retire."[7] This focus on the digitally fluent learner highlights the need for and the value of enhanced instructional tools such as simulation programs, VSRs, and films. These products enable learning in and out of the classroom, thus exceeding the expectations of *ALC* 2015.

In 2017, TRADOC amended the learning concept with TP 528-8-2, *The U.S. Army Learning Concept for Training and Education, 2020-2040* (*ALC-TE* 2017). Like *ALC* 2015, this pamphlet emphasizes the need for a progressive, continuous, learner-centric, and competitive learning environment. *ALC-TE* 2017 expands *ALC* 2015 by clarifying that the future learning environment will consist of "tough and realistic conditions and include joint, interorganizational, and multinational components to prepare leaders for 2025 and beyond."[8] This revised concept also focuses on the Army's efforts to enrich learning in the classroom, in the field, and through self-development. To provide learning opportunities in

each of these spaces requires innovative, flexible, and accessible learning tools. Incorporating technology, such as simulations, VSRs, and documentary films, ensures continuous learning for Army personnel, regardless of the soldiers' environment—whether in the classroom, their home station, or in the gym.

> By merging in-classroom study and on-the-battlefield execution, staff rides bring history to life and teach valuable lessons in leadership, strategy, and tactics.

To understand what these multimedia tools offer to the Army, it is important to review their origins, purposes, and products. Each increases Army readiness by delivering creative educational and training solutions, enabling and supporting complex training, and integrating military history. Each organization aims to help the Army learn, train, and win. The study of military history is essential to these products' success and relevancy as instructional tools in professional military education (PME), training, and professional development. Even though military technology has unquestionably changed over time, the nature of war has remained the same. History is full of valuable lessons for the professional soldier. One of the first training tools to integrate history with terrain and troop analysis was the staff ride. After reviewing the origin of the staff ride, this article considers the virtual alternatives to the traditional staff ride and combat training and what these tools have to offer twenty-first-century soldiers.

The Staff Ride

The staff ride as a training tool is not new. The concept originated in the mid-nineteenth century with the Prussian general and theorist Helmuth von Moltke the Elder. The Prussian staff ride model consisted of rigorous study of a specific battle or campaign, tabletop war games, and an opportunity to reflect on the lessons derived from the experience.[9] Students at the U.S. Military Academy at West Point participated in a nascent version of a staff ride shortly after its conception in the 1860s. In these initial exercises, West Point instructors asked cadets to analyze historical battles from the various commanders' viewpoints. Although these early staff rides rarely occurred on the actual terrain where the event transpired, students examined all aspects of the event through the study of official reports, correspondence, and maps. The main goals of the staff ride were, and continue to be, to develop terrain analysis and leadership skills among the next generation of Army leaders.

The on-the-battlefield (or ground) staff ride, as we know it today, was added to the U.S. Army Command and General Staff College (CGSC) curriculum in 1906. For the first staff ride, Maj. Eben Swift took twelve students to the site of the 1864 Battle of Chickamauga.[10] Interrupted by World War II, military history instructors at CGSC and the Army War College reintroduced the staff ride to PME in the late 1960s. Historian and CGSC professor William Glenn Robertson codified the Army's staff ride doctrine with *The Staff Ride* handbook in 1987.[11]

The ground staff ride provides a unique method of conveying the lessons of military history to present-day Army leadership. A staff ride consists of three distinct phases: preliminary study, field study, and integration.[12] By merging in-classroom study and on-the-battlefield execution, staff rides bring history to life and teach valuable lessons in leadership, strategy, and tactics. The staff ride remains an important part of professional development and education of Army leaders, from Academy cadets to field grade officers at the School of Advanced Military Studies.

The Virtual Staff Ride

To satisfy TRADOC's request for virtual learning tools, staff rides are no longer limited to battlefield excursions and tabletop war games. In the *Staff Ride Handbook*, Robertson argues that the "historical case study encourages the identification of universal military lessons [and] a visit to the actual site is the ultimate means of reinforcing these lessons in the minds of students."[13] But what happens when instructors and students are unable to visit the historical site of operations? What happens when the battlefield

no longer exists? What can PME instructors offer beyond tabletop war games, whiteboard sessions, and in-classroom discussions? Questions like these led to an innovative and fun solution to the challenges of on-the-battlefield staff riding-the virtual staff ride.

The Staff Ride team at Army University Press develops and conducts live and virtual staff rides. By focusing on the timeless and universal aspects of warfighting, staff rides provide critical insights into military operations, leadership attributes, and the realities of war through historical case studies. The Staff Ride team also provides information and guidance to Army organizations on how to conduct staff rides.[14]

A VSR follows the same methodology as a ground staff ride, but the terrain exists in a virtual database. This model replicates terrain based on satellite imagery and the construction of three-dimensional models using Virtual Battlespace 3 (VBS3) to immerse students in virtual terrain. This detailed reconstruction provides the most realistic version of the battlefield as possible. VBS3 is a tactical training and mission rehearsal, three-dimensional, first-person military training simulation program. It provides a visually rich gaming environment with flexible scenarios and terrain options.[15] VBS3 provides less expensive, more efficient training and educational opportunities by enabling participants to exercise on a variety of tasks. These capabilities make VBS3 a versatile, applicable, and compelling instructional program.

In 2005, the CAC commander, Lt. Gen. William S. Wallace, directed the Staff Ride team, then a part of the Combat Studies Institute (CSI), to develop a VSR for Operation Iraqi Freedom. Wallace championed the traditional staff ride method, and he sought to expand the topics covered by CSI to include modern conflicts, such as the Global War on Terrorism.[16] Because visiting these sites would be expensive and dangerous, an Operation Iraqi Freedom staff ride would require bringing the terrain to the students instead of the students to the terrain.

To accomplish this mission and still follow *The Staff Ride* handbook guidelines, CSI embraced new technologies and techniques. The team outlined three conditions for this new instructional program to be considered successful. First, team members needed 3-D artists/terrain developers to construct elaborate terrain databases that simulated the actual terrain. For instance, the Staff Ride team offers a Battle of Stalingrad VSR. Stalingrad of World War II no longer exists, but the terrain developers created the historical terrain from period maps and photographs. These databases also include more than just terrain features. As representations of real battlespaces, the terrain also offers architecture, vehicles and equipment, and weather. Second, the Staff Ride team wanted databases that allowed for free movement within that terrain. Other simulation software only provides limited terrain paths. VBS3, however, allows for free-moving simulations so that VSR technicians can virtually move around the terrain at varying elevations and to numerous locations. This free movement facilitates discussion about the commanders' differing perspectives and encourages more in-depth terrain examination among participants. Third, this software had to be portable so that the Staff Ride team could conduct VSRs outside of Fort Leavenworth when requested. By loading the software onto laptops and using gaming controllers, the Staff Ride team can travel and conduct staff rides at installations and schools in the United States or abroad.[17]

As of 2020, the Staff Ride team has developed several VSRs that can function independently or supplement the field staff ride offerings. While the value of VSRs is very similar to that of ground staff rides, VSRs offer additional advantages. First, VSRs permit students to visit the terrain without incurring expensive travel costs (the Pacific), endangering themselves (active combat zones), or that no longer exist (World War II-era Stalingrad). Featuring 3-D imagery produced from satellite imagery, photographs, footage, and firsthand accounts from veterans, VSRs employ current technology to conduct effective staff rides without leaving the classroom or home station. VSRs for Iraq and Afghanistan, for example, assist Army units in predeployment preparation before arriving in those countries. Another benefit is the free camera movement, that allows for participants to transition between stands rapidly by moving virtually rather than spending time and money on ground transportation.

Virtual terrain used by the Staff Ride team can be easily incorporated into classes and alongside other products. For instance, the AUP Films team has integrated virtual terrain into its documentaries. This collaboration between teams makes virtual terrain more available to soldiers and the American public without

Soldiers from the 2nd Battalion, 23rd Infantry Regiment, participate in the Battle of Chipyong-ni virtual staff ride 7 August 2019 at Fort Carson, Colorado. The same battalion fought in the actual Battle of Chipyong-ni in February 1951. (Photo courtesy of the Army University Press Staff Ride team)

(Screenshot courtesy of Army University Press)

Screenshot from the *Korea: Chipyong-ni* Film

requiring a scheduled staff ride. What's more, in the case of the Battle of Stalingrad VSR and documentaries, individuals can take advantage of both to gain a greater understanding of that battle. Together, the Staff Ride and Films teams bring history to life and offer an engaging learning opportunity.

Since producing the first VSR in 2005, the Staff Ride team has provided the Army with a new platform for PME, professional development, and training. Although a nontraditional approach to the original staff ride concept, VSRs fulfill Professor William Robertson's condition that staff rides should "further the professional development of U.S. Army leaders."[18]

The Staff Ride team, however, is not the only team to leverage virtual technology to enhance education and training. As mentioned, the AUP Films team also uses virtual terrain to boost its innovative approach to teach Army doctrine and military history through documentary films.

(Screenshot courtesy of Army University Press)

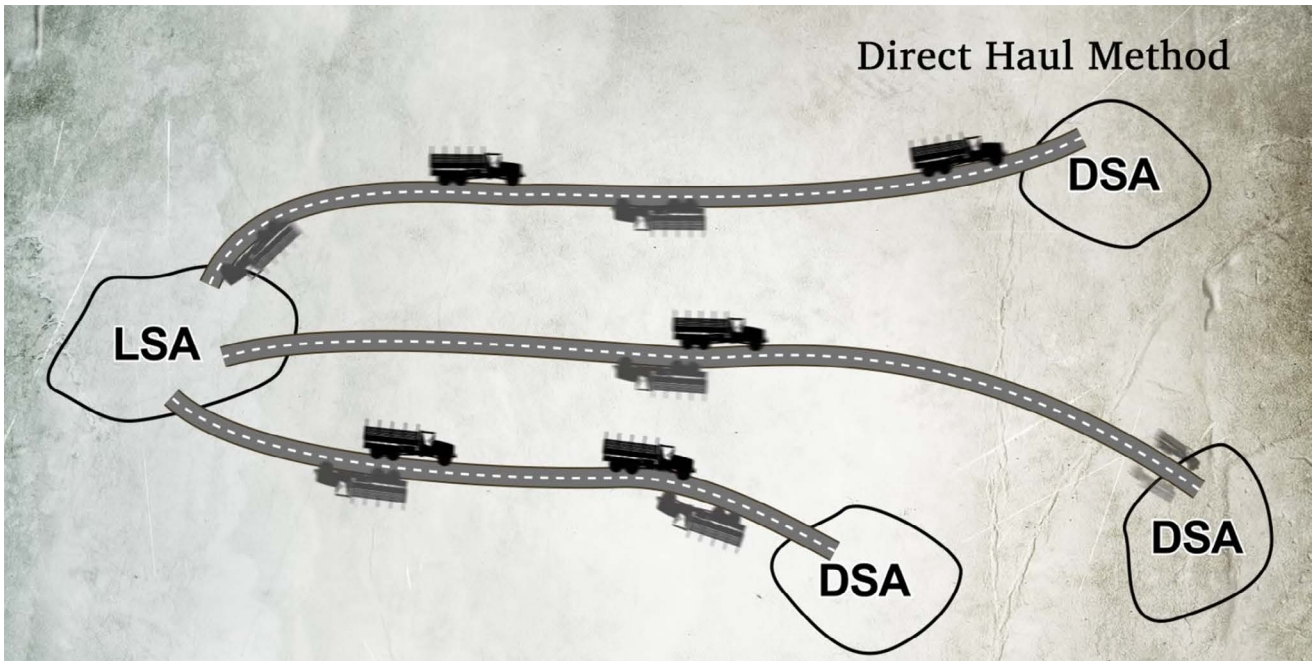
Battle of Stalingrad Virtual Staff Ride Teaching Elements

Documentary Films

Recognizing film's usefulness as an educational tool, CAC, in conjunction with TRADOC, formed the AUP Films team at Fort Leavenworth in 2018. The Films team produces doctrine-focused, historically accurate documentaries for CAC, TRADOC, and the U.S. Army at large. By collaborating with the Combined Arms Doctrine Directorate, Army Centers of Excellence, and ArmyU, the Films team selects relevant doctrine and historical topics that best serve the modern force.

Today's students have more experience with multimedia and technology in and out of the classroom.[19] Films expand the learning environment by leveraging the technology already available to soldiers. Both *ALC* 2015 and *ALC-TE* 2017 ask that the Army provides effective training and education opportunities for the next generation of soldiers. Although neither of these documents mention film, their emphasis on technology by which to teach teamwork, collaboration, critical thinking, problem-solving, and other leadership skills dovetails with the benefits of film. Film can serve as a powerful tool in developing critical- and creative-thinking skills; introducing new topics, ideas, and themes; and increasing students' awareness of differing perspectives. Pairing film with readings, PowerPoint presentations, and writing assignments enable students to reach their highest learning potential from multiple learning styles.[20] To assist instructors and students with meeting their learning objectives, the Films team also provides a list of sources for each film. Recommending these resources alongside the film enables the students to comprehend the doctrine and history presented more fully.

Film is also an engaging medium through which to teach and learn doctrine. In recent years, CAC has directed the revision of several of its key Army doctrine publications and field manuals to align with large-scale combat operations and multi-domain operations. By incorporating these revised concepts into documentaries, the Films team provides the Army with an exciting and accessible learning opportunity. For instance, to



(Screenshot courtesy of Army University Press)

Screenshot of Animated Trucks, Supply Routes, and Logistics Sites Used for Direct Haul from the *France '44: The Red Ball Express* Film

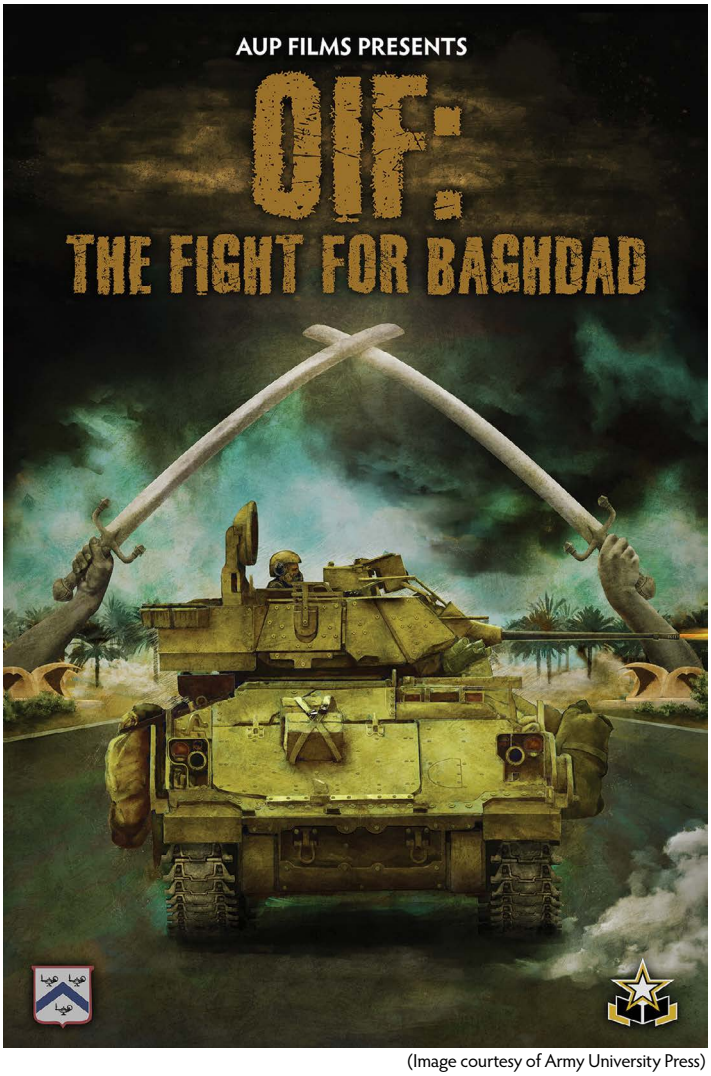
convey the different modes of supply in *France '44: The Red Ball Express*, the film shows animated trucks, supply routes, and logistics sites. When paired with an auditory description of the supply routes, this visual depiction communicates complicated sustainment doctrine with greater effect than text or voice alone.[21]

Another reason film is an excellent learning tool is because people seldom need to be coaxed into watching movies. In some adult research theory, many students would rather watch a film than read a textbook, monograph, or doctrine manual. Films are more entertaining, or at least more engaging and emotion provoking.[22] Film serves as an entertaining and useful tool to help soldiers develop critical thinking and analytical skills as well as familiarize the viewers with Army history.[23] For example, films about the invasion of Iraq in 2003 can help deployed units or units preparing to deploy to Iraq or Kuwait better understand the history of the conflict and why the United States still has boots on the ground in the region.[24]

Instructors or leaders can incorporate films into education and training in several ways. First, PME instructors can assign films alongside or in place of reading. Films provided by AUP Films are available to be streamed online or downloaded. These documentaries range in length from forty-five to fifty-five minutes. A student could easily watch one of these feature-length films in less time than it takes to read a book or a long book chapter. The Films team also organizes its films into sections. These section breaks allow the viewer to pause the film without disrupting its overall flow. This organization provides an opportunity to review the previous section, propose questions for the next section, or assign the film by section. The Films team also produces shorter videos (five to fifteen minutes); like the sections in the feature-length films, they can facilitate discussion and provide additional insight into specific doctrinal concepts or historical events.

Instructors can also show video clips in class or at the break between sections to make a specific point or elaborate on the course lesson. The inclusion of film into a course creates an intellectually stimulating as well as emotionally provoking learning experience.

Using film as concrete evidence is an effective way to deliver knowledge in an entertaining way and broaden classroom learning beyond assigned readings. David Kolb's Learning Style Inventory supports this approach to teaching. Kolb explains that effective learning occurs when a student progresses through a cycle of four stages: having a concrete experience, reflecting on that experience, forming abstract concepts and conclusions, and testing hypotheses in future situations.[25] How a student resolves the tensions between conceptualization and experience and between action and reflection determines the student's dominant learning style: convergent, divergent, assimilative, or accommodative. The introduction of film to the classroom experience, then, provides instructors with a compelling and useful tool to help students develop critical-thinking and analytical skills.[26]



(Image courtesy of Army University Press)

***OIF: The Fight for Baghdad* Film Poster**

If the instructor is unable to show films or film clips as part of the classroom experience, film can also be offered as a supplementary resource. Films broaden students' understanding without disrupting the course schedule or syllabus. PME develops leaders into disciplined and well-educated professionals capable of meeting challenges of a complex world; as such, course directors and lesson authors are expected to adhere to learning outcomes. Film serves as a useful, fun, and flexible tool to enhance courses, meet learning objectives, and engage the enthusiastic learner without encroaching on class time.

One of the advantages of the films offered by the Films team is that they are accessible anytime and anywhere. Viewers can access the videos on classroom computers, personal computers, or on the go from tablets or mobile devices.[27] Former CAC commander Lt. Gen. Michael Lundy envisioned a learning tool that soldiers could enjoy on the treadmill, in the hallway between classes, or sitting on their couches. AUP Films offers just that. The products are accessible and fun ways to learn about military history and doctrine.

Films, however, are not limited to students in PME. Army leaders can also use films as part of professional development or mentoring exercises for soldiers. For instance, the U.S. Army's continued presence in Korea and its relationship with the Republic of Korea Army benefits from AUP's three-part *Korea* film series. The series begins with the invasion of June 1950 and focuses on the U.S. Eighth Army's counteroffensive in winter 1950-1951. These films not only explain the history of the Korean War but also foster a sense of pride and heritage among U.S. soldiers deployed to Korea.[28]

The films produced by the Films team are accessible, adaptive to multiple learning environments,

entertaining, and suitable to visual learners and the twenty-first-century soldier. Packed full of historical footage, photographs, animated maps, interviews, and virtual terrain, these films are educational entertainment products suitable for the self-directed learner, the history buff, soldier, or veteran.

> Films provided by Army University Press Films are available to be streamed online or downloaded. … A student could easily watch one of these feature-length films in less time than it takes to read a book or a long book chapter.

Although designed as learning tools by the Army for the Army, these movies are not just for soldiers. The films are available on the AUP's official website, social media sites (Facebook, Twitter, LinkedIn), and on its YouTube and DVIDS pages. The films are free to viewers for streaming and download and on DVDs by request.[29]

National Simulation Center Training Tools

In addition to VSRs and films, CAC also promotes the use of live synthetic training to enhance, enable, and support training across ArmyU, the Centers of Excellence, and the various training environments. The National Simulation Center (NSC), also based at Fort Leavenworth as part of CAC-Training, provides simulations and virtual games for soldiers. Like VSRs and documentary films, the tools provided by NSC enable users to immerse themselves in their learning environment. This dynamic visualization and active participation set the NSC's training programs apart from the VSRs and films. As such, these products can be used separately as effective learning tools. When Army professionals use them together, however, these tools create a vigorous learning experience.

The NSC uses two systems to generate training environments and simulations: the Division Exercise Training and Review System (DXTRS) and VBS3. DXTRS is a simulation application that creates a game between opposing sides that manufacture cause and effect in combat situations. DXTRS depicts the operational environment, as well as friendly, enemy, and neutral forces. Designed to familiarize students with tactical and operational decisions, DXTRS is a low-cost application that presents the learner with forces, equipment, buildings, and realistic behaviors. This simulation style works well for a decision-making exercise or for teaching complex tasks, such as wet-gap crossing. DXTRS is especially useful for battalion and brigade-level training. Not only does it allow students to test a plan's effectiveness in the program, but instructors can also load predeveloped scenarios.

DXTRS is a reusable, versatile, and low-cost training alternative to live, in-person training. DXTRS provides units of both the institutional and operational Army a training solution that supports battalion through division staffs. CAC adopted DXTRS because it is a relatively inexpensive, schoolhouse-centric alternative to combat training centers (CTC). DXTRS introduces staff officers into an operational environment and situation similar to those experienced by officers at a CTC without incurring additional expenses or taking time away from other courses.

Soldiers can operate DXTRS independently or paired with other systems, such as VBS3, Command Post of the Future, and Joint Capabilities Release. By linking its simulation training with current software systems, NSC is able to train soldiers on multiple systems simultaneously and in real-time. For instance, at the U.S. Army Chaplain Center and School, NSC incorporates both VBS3 and DXTRS to train Army personnel on the use of Tactical Mission Command systems. This capability allows soldiers to operate their vehicles in VBS3 while watching their plan play out on the computer screens in front of them. In

turn, this synthetic training tool simulates the chaos and complexity of combat.

VBS3 is more versatile as an instructional tool than DXTRS. When used for simulation training, VBS3 is excellent for testing tactical processes. Similar to DXTRS, VBS3 allows students to immerse themselves in the environment, even allowing the user to read maps, navigate, and operate equipment. Although more suitable for smaller unit operations, it is adaptable enough for platoon- through division-level operations. Like DXTRS, VBS3 leverages the human component by requiring the user to act in scenarios rather than the computer system dictating the actions and results. It is a comprehensive virtual training environment with over sixteen thousand models of military and civilian vehicles, weapons, and characters and more than one hundred combined arms training tasks. This flexible and versatile training system feels like a game, thus making training fun and informative.[30]

Both of these virtual training tools encourage users to exercise both tactical and strategic thought. Unlike traditional training at a CTC, these enhanced training tools do not require face-to-face instruction or expensive in-person exercises. Soldiers can learn and master skills key to the Army's success from the comfort of the classroom or their personal computers.[31]

Through collaboration with the Staff Ride and AUP Films teams, NSC has produced historically accurate training scenarios to teach complex military operations. For example, NSC has adopted AUP's virtual terrain of Stalingrad to train soldiers on new equipment in dense urban terrain. NSC also collaborated with the Films team to depict the complexities found in wet-gap crossings. Like VSRs and films, NSC's training products can be used effectively alone, but when used together these tools provide an enhanced and deeper learning experience for the twenty-first-century soldier.

Conclusion

Simulations, VSRs, and documentary films are well suited for inclusion into PME as well as unit training. They can be incorporated as supplementary educational and training resources in and out of the classroom. Films especially allow for self-paced and self-directed instruction as soldiers can learn in a variety of environments and from a variety of multimedia formats. Unlike traditional in-classroom and live training, these instructional tools do not require face-to-face instruction or time-consuming training exercises. Soldiers can learn and master skills key to the Army's success from the comfort for their own homes or while deployed. As the Army continues to prepare soldiers and leaders to succeed in a complex world, the flexibility and accessibility of virtual instructional tools can address the types of scenarios and challenges faced in the future. ■

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Notes

1. Carl E. Vuono, "The Staff Ride: Training for Warfighting," *The Army Historian* 12 (October 1988): 1, accessed 30 October 2020, https://www.jstor.org/stable/26303443.

2. Ibid.; Charles Bowery Jr., "The Center of Military History and Army Staff Rides: Innovative Doctrine, Topics, and Techniques for the Twenty-First Century," *Army History* 110 (Winter 2019): 7–9, accessed 30 October 2020, https://www.jstor.org/stable/26563873. *The Army Historian* was the predecessor to *Army History*.

3. Vuono, "The Staff Ride," 1–2.

4. "Training," U.S. Army Combined Arms Center, accessed 29 October 2020, https://usacac.army.mil/organizations/cact.

5. "Education," U.S. Army Combined Arms Center, accessed 29 October 2020, https://usacac.army.mil/.

6. *A Statement on the Posture of the United States Army Before the Committee on Armed Services, United States House of Representatives*, 113th Cong., 2nd sess. (25 March 2014) (statements of John McHugh, Secretary of the Army, and Gen. Raymond T. Odierno, Chief of Staff, U.S. Army), 5–6, accessed 9 November 2020, https://www.army.mil/

article/122485?from=st; "Army Establishes The Army University," U.S. Army Combined Arms Center, accessed 29 October 2020, https://usacac.army.mil/node/969.

7. U.S. Army and Training and Doctrine Command (TRADOC) Pamphlet (TP) 525-8-2, *The U.S. Army Learning Concept for 2015* (Fort Monroe, VA: TRADOC, 2011 [obsolete]).

8. TP 525-8-2, *The U.S. Army Learning Concept for Training and Education, 2020-2040* (Fort Eustis, VA: TRADOC, 2017), iii.

9. David Ian Hall, "The Modern Model of the Battlefield Tour and Staff Ride: Post-1815 Prussian and German Traditions," *Connections* 1, no. 3 (September 2002): 97–98, accessed 30 October 2020, http://connections-qj.org/system/files/01.3.12_hall.pdf.

10. William Glenn Robertson, *The Staff Ride* (Washington, DC: U.S. Government Printing Office, 2014), v. In 1906, Maj. Eben Swift served as the assistant commandant of the General Service and Staff School, what is now the U.S. Army Command and General Staff College.

11. Ibid.

12. Ibid., 5.

13. Ibid., 4.

14. Curtis S. King, "Virtual Staff Rides: Their Benefits and Methodology," *Army History* 110 (Winter 2019): 37, accessed 30 October 2020, https://www.jstor.org/stable/26563877.

15. "Virtual Battlespace 3," Stand-To, 19 May 2014, accessed 29 October 2020, https://www.army.mil/standto/archive/2014/05/19/.

16. King, "Virtual Staff Rides," 38. In 2008, the Combat Studies Institute developed its second Global War on Terrorism virtual staff ride (VSR) for Operation Anaconda in Afghanistan. As with Operation Iraqi Freedom (OIF), this VSR was developed to support a Command and General Staff College elective but now is used for unit training and professional development across the Army.

17. "Educational Services: Staff Ride Team," Army University Press, accessed 30 October 2020, https://www.armyupress.army.mil/educational-services/staff-ride-team-offerings/.

18. Robertson, *The Staff Ride*, 5.

19. Kanessa Trent, "Motivating and Educating Millennials," *Journal of Military Learning* 3, no. 1 (April 2019): 34–46, accessed 30 October 2020, https://www.armyupress.army.mil/Journals/Journal-of-Military-Learning/Journal-of-Military-Learning-Archives/JML-Apr-2019/Trent-Ed-Millennials/.

20. Thomas G. Bradbeer and Scott A. Porter, "Enhancing Learning Using Multimedia in Professional Military Education," *Journal of Military Learning* 1, no. 2 (October 2017): 56–68, accessed 30 October 2020, https://www.armyupress.army.mil/Journals/Journal-of-Military-Learning/Journal-of-Military-Learning-Archives/October-2017-Edition/Bradbeer-Enhancing-Learning-using-Multimedia/.

21. *France '44: The Red Ball Express*, directed by Christopher Carey (Fort Leavenworth, KS: Army University Press Films team, 3 September 2020), accessed 6 November 2020, https://www.youtube.com/watch?v=T6WCFwUrKrA&t=1s.

22. Lawrence H. Suid, *Guts and Glory: The Making of the American Military Image* (Lexington, KY: University Press of Kentucky, 2002).

23. Ryan Sprau and Larry Keig, "I Saw It in the Movies: Suggestions for Incorporating Film and Experiential Learning in the College History Course Survey," *College Student Journal* 35, no. 1 (March 2001): 101–12.

24. *OIF: The Drive to Baghdad*, directed by Roy Parker and Angela Riotto (Fort Leavenworth, KS: Army University Press Films team, 8 October 2019), accessed 6 November 2020, https://www.youtube.com/watch?v=O7pbW1QoPaI; *OIF: The Fight for Baghdad*, directed by Angela Riotto (Fort Leavenworth, KS: Army University Press Films team, 14 August 2020), accessed 6 November 2020, https://www.youtube.com/watch?v=d8uaFZAxzpw.

25. David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development*, 2nd ed. (Upper Saddle River, NJ: Pearson Education, 2015), 143–46.

26. Sprau and Keig, "I Saw It in the Movies," 101.

27. Angela M. Riotto, "Guts, Glory, and Doctrine: Film as an Educational Tool for the U.S. Army," *Journal of Military Learning* 3, no. 2 (October 2019): 124, accessed 30 October 2020, https://www.armyupress.army.mil/Journals/Journal-of-Military-Learning/Journal-of-Military-Learning-Archives/October-2019/Riot-to-Guts-Glory-Film/.

28. *Korea: Twin Tunnels*, directed by Kimball Johnson and Robert Thompson (Fort Leavenworth, KS: Army University Press Films team, 7 June 2020), accessed 6 November 2020, https://www.youtube.com/watch?v=p97eFNwv_Mg; *Korea: Chipyong-ni*, directed by Kimball Johnson and Robert Thompson (Fort Leavenworth, KS: Army University Press Films team, 21 April 2020), accessed 6 November 2020, https://www.youtube.com/watch?v=_QJgPfH9SG8; *Korea: Sustaining Operation Killer*, directed by Kimball Johnson and Robert Thompson (Fort Leavenworth, KS: Army University Press Films team, 22 May 2020), accessed 6 November 2020, https://www.youtube.com/watch?v=jaqCKY7KwRw.

29. Documentary films are available on several websites: https://www.armyupress.army.mil/Educational-Services/Documentaries/, https://www.youtube.com/c/ArmyUniversityPress/, https://www.dvidshub.net/unit/armypress; Riotto, "Guts, Glory, and Doctrine," 124–25.

30. C. Todd Lopez, "Latest 'Virtual Battle Space' Release Adds Realism to Scenarios, Avatars," Army.mil, 4 April 2014, accessed 30 October 2020, https://www.army.mil/article/123316/.

31. Both DXTRS and VBS3 are free to authorized users under an Army enterprise license and can be downloaded off the MilGaming website at https://milgaming.army.mil/;"Virtual Battlespace 3."

The Rock of Gallipoli

The Leadership of Mustafa Kemal

Maj. Eric T. Venditti, U.S. Army

I am not ordering you to attack. I am ordering you to die. In the time that it takes us to die, other forces and commanders can come and take our place.

—Mustafa Kemal, 25 April 1915

When the Ottoman Empire joined Germany and the Central Powers against the Allies, a bad situation became worse. With Germany mere miles from Paris and the Russians losing whole armies in the field, the Allied powers knew they could not long withstand a protracted war. They attacked on several fronts all along the Ottoman borders—Russians in the Caucuses and the British and French in Egypt and Mesopotamia. Those efforts were succeeding but too slowly to have an effect. The Ottomans threatened to starve the Russians; the only yearlong seaport available was on the Crimea, and the only access to the outside world ran straight through Istanbul and the Dardanelles. First Lord of the Admiralty Winston Churchill proposed a daring plan to simultaneously secure the waterways to Russia and strike at the heart of Turkey. The Allies would invade a small spit of land called Gallipoli that controlled access to the Dardanelles, the Ottoman capital, and on to Russia itself.

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The preparations started with the fleet bombarding the forts along the coast in March.[1] The invasion began a month later. The Turks went to sleep on the night of 24 April with the Allied fleet on the horizon. They awoke at dawn to find an army already on the beaches and with more on the way.[2] The entire campaign hinged on the first few hours—success or failure could come down to a single misstep on either side. However, fortune favored the Turks on this day; they had a competent commander with a brilliant mind and a powerful will. Mustafa Kemal, commander of the 19th Division and the entire 5th Army's reserve, stood at Boghali, seven kilometers away from landings at Ari Burnu.[3] He was in the right place with the right tools at the right time, but that in itself did not guarantee victory. It came down to the leader and how he led.

Of the six activities of the commander in the operations process, Kemal executed the first five with the greatest effect, motivating his own troops and halting the enemy.[4] Kemal's grasp of these commander's activities saved the battle for the Turks in the first hours of the Battle of Gallipoli. He *understood* a chaotic situation, *visualized* the conditions necessary for success, *described* them to his subordinates, *directed* his units, *led* the battle, and constantly *assessed* his position against a brave but battered enemy.

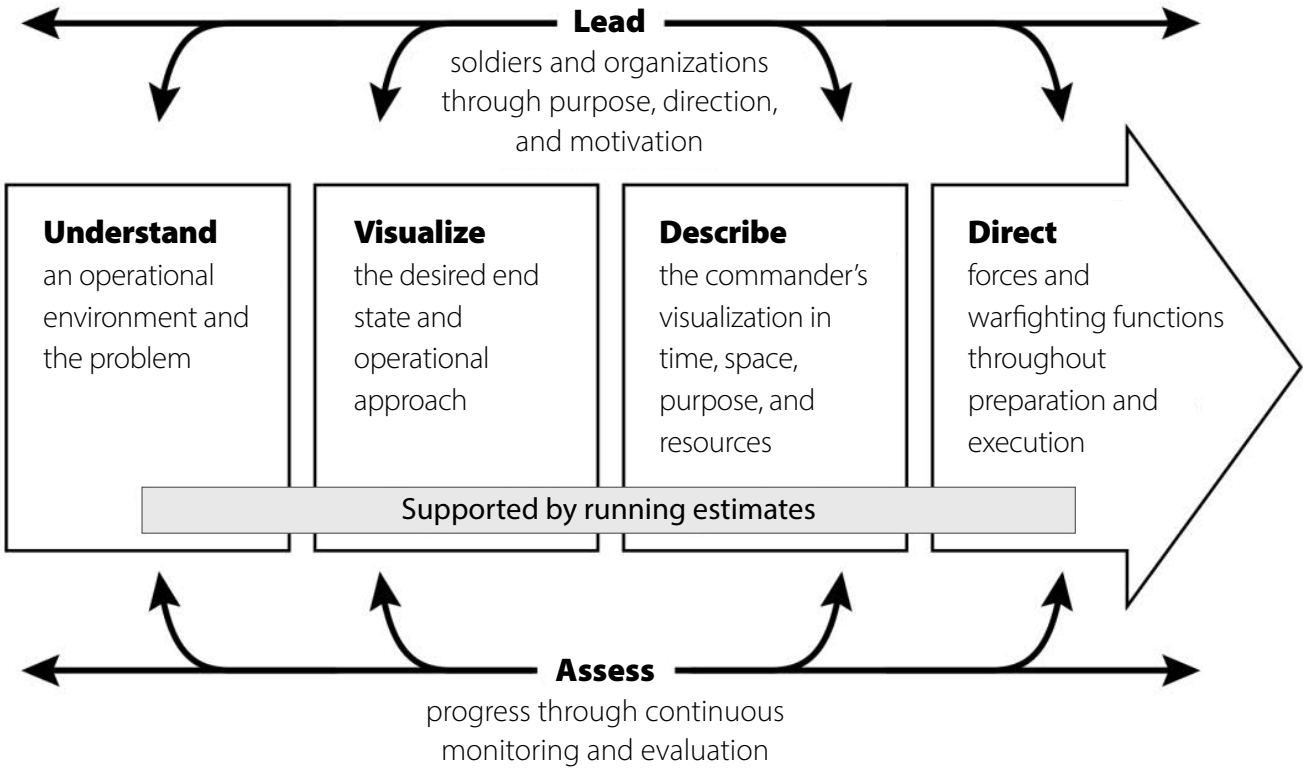
Kemal lacked any intelligence and instruction concerning the invasion. For the first two hours after the initial landings, he received no guidance from his corps commander—only intermittent reports from the commander of the 9th Division.[5] Khalil Sami Bey's division held the defensive line in the south along Cape

Lt. Col. Mustafa Kemal (*lighter uniform at left*) and his commanders on the Gallipoli Peninsula in 1915. (Photo courtesy of Wikimedia Commons)

Helles.[6] One company from the 27th Regiment defended Ari Burnu at the far northern flank of his line. Sami reported that the 27th made contact with a battalion from the Australia and New Zealand Army Corps (ANZAC) moving northeast toward the high ground of Chunuk Bair.[7] Sami believed it was only part of a feint, but he requested Kemal release one of his battalions to reinforce the 9th Division's north line.[8] Kemal immediately realized that if an Allied battalion was attacking, then they must have had more forces in support—far more that a feint required.[9] Kemal reasoned this was a main landing zone for the Allies.[10] He also knew the terrain well enough that whoever controlled the three ridgelines running southwest-northeast along Chunuk Bair controlled access to Maidos, the nearest city and a command node for the Turkish defense.[11] From those heights, the ANZAC could break out from its beachhead, seize the city, cut the 5th Army in half, and defeat the Turkish defenders in detail.[12] He did not know how many ANZAC soldiers he would face, but he knew what forces he had to stop them.

With the barest amount of intelligence but the fullest amount of understanding, Kemal ordered his division into action. The situation was dire. ANZAC forces attacked along the first and second ridgelines to seize the key terrain of Chunuk Bair in order to divide the peninsula in two.[13] The loss of that key terrain would mean failure for the defense and the loss of Gallipoli. Kemal visualized his end state. Turkish forces had to hold their defensive line—there was no room for retreat and no ground to give. The enemy could not establish a position on or beyond the ridgelines overlooking the beaches—a hill could become a strongpoint and would allow the ANZAC to expand its lines, making room for reinforcements to press the Turkish defenses. His division had to contain the ANZAC to the beach. Most importantly, the high ground must remain in Turkish hands, whatever the cost. With that singularity of purpose and with all deliberate speed, Kemal briefed what forces he had and led them to the heights.

The 19th Division was the 5th Army's entire reserve for the Dardanelles defense. Committing his regiments required their release from 5th Army Commander Gen.



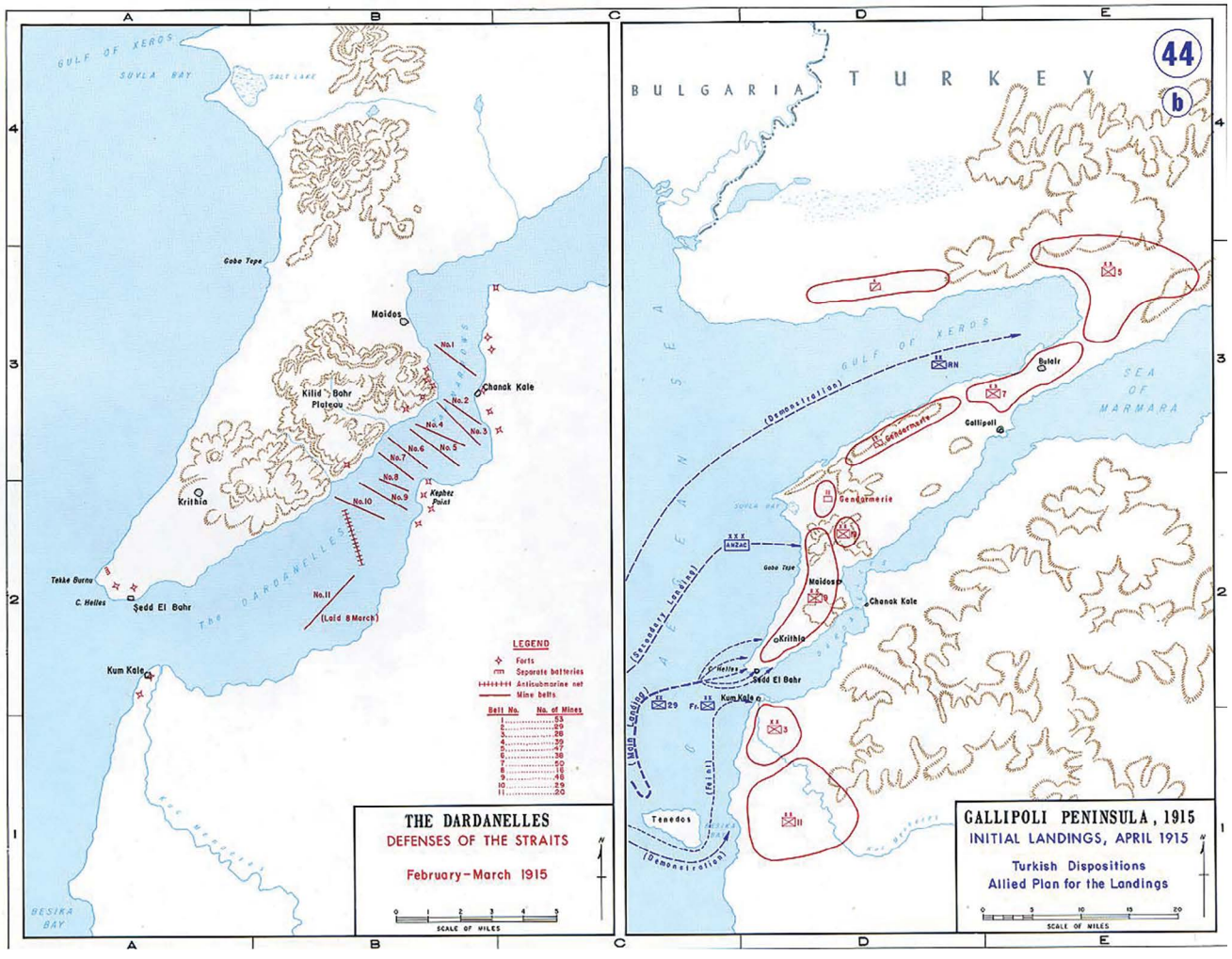
(Graphic from Army Doctrinal Publication 5-0, *The Operations Process*, July 2019)

The Commander's Role in the Operations Process

Liman von Sanders or at least III Corps's Essat Pasha. At this point in the battle, and with ANZAC forces closing in on the heights, Kemal knew there was no time to wait for orders.[14] There was not even enough time to muster his men. Kemal wired headquarters of his intentions and gave the order to attack. He briefed the commanders of the 57th and 77th regiments, leaving the 72nd in reserve. His chief of staff assumed the task of assembling the 77th.[15] The 57th Regiment was already in the field for a training exercise, so Kemal joined with them.[16] He briefed his subordinate on his mission: attack the ridge at Ari Burnu and push the ANZACs into the sea. Kemal spoke clearly. They were the first responders, and they could not let the Allies take any part of the ridgeline. "There is no flight from the enemy. There is [only] fighting with the enemy. If you have no ammunition, you have your bayonets."[17] Reinforced with a mountain battery of artillery, the regiment moved west across the peninsula.

Kemal traveled with the advance guard toward Hill 700 and Battleship Hill. During the approach, they encountered men of the 9th Division's 27th Regiment retreating from the fight.[18] Kemal pressed his men. The regimental commander lost contact with his force while negotiating the difficult microterrain, so at the point of friction, Kemal himself gave the orders to the battalion commanders .[19] The first battalion would attack southwest down Hill 700 and Mortar Ridge. The second battalion would attack north-northwest over Hill 700 and down the Nek. The third battalion was the reserve. The mountain battery emplaced on Scrubby Knoll to the rear east of the regiment.[20] Having seen the broken disposition of the 27th south of his forces, Kemal wired his headquarters at Boghali to send the 77th into the gap between the 57th and the fragile 27th lines. This left the 5th Army with a single regiment in reserve—the others committed without higher approval.[21]

Kemal had to meet with his corps commander. He went back to Maidos to brief Essat Pasha and to make clear his concern that this was the Allied main force. In his first confirmation of the day, Essat validated



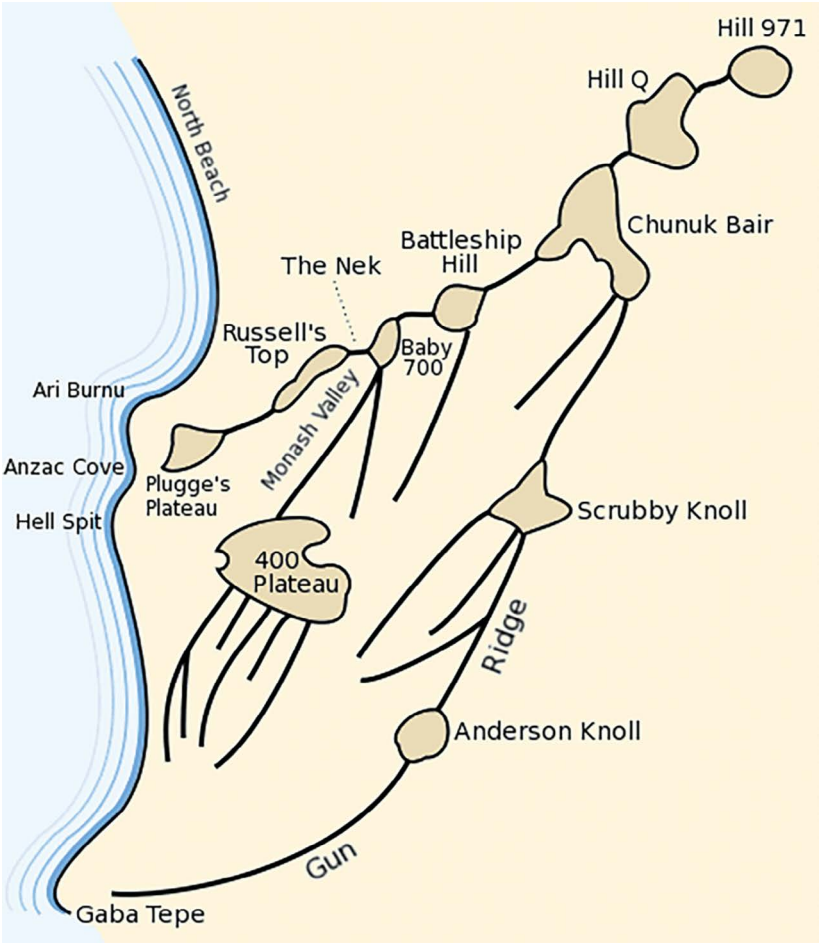
(Image by Edward J. Krasnoborski, Frank Martini, Raymond Hrinko, and Jeff Goldberg, Department of History at the U.S. Military Academy West Point)

The Allied and Ottoman Dispositions Prior to and on the Day of the Landings

Kemal's actions, giving the latter tactical command of the 27th and releasing the last reserves for the battle.[22] Kemal held the 72nd at Boghali until he knew where, when, and how to employ them. In the initial hours of the battle, Kemal's clear and concise instructions carried the fight at Ari Burnu.

Kemal hurried back to the front to direct the combat. Up to this point, his application of the warfighting functions sought to maximize one thing: protection. Looking at what Kemal actually had at his disposal suggests he did as much as he could with what little was available, and he succeeded because he did it at the right time. Kemal had virtually no intelligence or guidance from his higher echelon commanders in the initial stages of the battle, and he had very little actionable intelligence from Sami's 9th Division. Kemal did get a distance, direction, and an approximate disposition of the advancing ANZAC force, but more importantly for Kemal, he knew the terrain. He understood the quality of the key terrain dominating the area, and he visualized the Allied plan of action; in the absence of clear enemy intelligence, he based his maneuver plan on that.

Kemal committed his battalions and regiments piecemeal, but that was a risk he was willing to undertake—he based his scheme of maneuver less on the principles of concentration or massing of fires and more on immediacy.[23] It was not the ideal plan, but at that point in the battle, the Turks simply needed men. The 57th spearheaded



(Graphic by Gsl via Wikimedia Commons)

Named Terrain Features and Ridgelines on Which the Turks and ANZACs Fought/Mustafa Kemal's Area of Operations

the move; the purpose of its defense was to gain time for the rest of the division to join the battle. Kemal gave orders that were simple and direct: frontal attack across the ridge, push the Allies into the sea, maximize surprise, simplicity, and violence of action. They had no ground to give and no room to retreat. Kemal deployed his mountain battery of artillery from Scrubby Knoll—its inclusion in the vanguard proved critical. The battery rained effective fires on the invaders, suppressing ANZAC units and halting their advances. At one point, the commander of the 57th realized how spread out his forces became—they were vulnerable to an ANZAC exploitation.[24] The battery's position presented them a clear field of fire along the entire front, and the 57th commander called in artillery against the ANZACs opposite his 1st Battalion. The fires gave him the time to consolidate and reform parts of his force for a bold counterattack.[25]

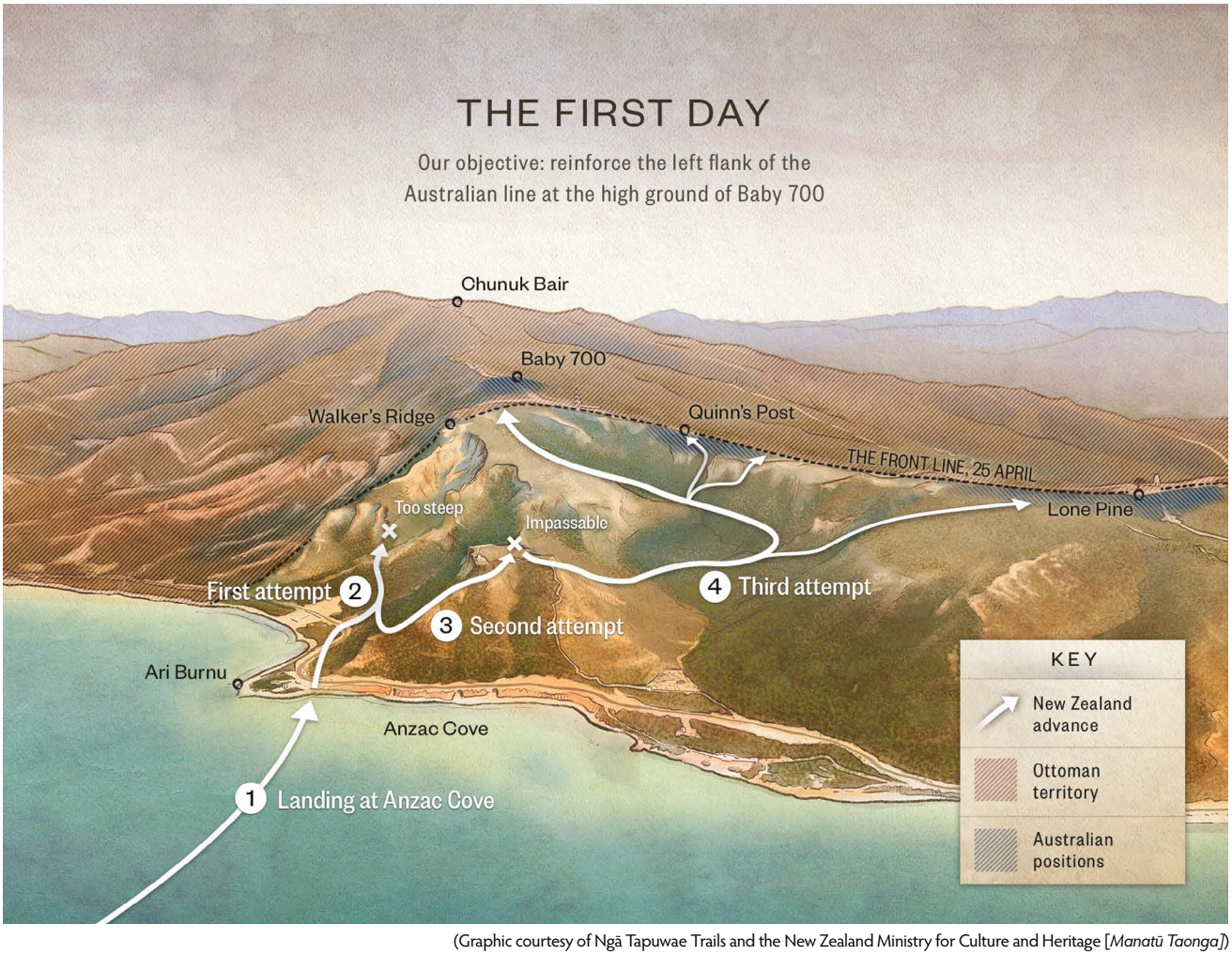
Kemal committed his reserves to fill the gaps in his lines, reinforce the defenses, and link with the 27th to his south. Again, all these maneuvers maximized protection of the division's position. Every time Kemal committed a reserve, its purpose was to reinforce a position or strengthen his lines. The 3rd Battalion of the 57th completed the lines between the other two, denying the Allies a potential salient.[26] The 77th connected the 57th's southern flank with the 27th's northern line.[27] Kemal ordered the 72nd, last to arrive late in the day, to finally reinforce the 57th's decimated line.[28] All of his attacks enabled the division to secure itself in its defense. More importantly, Kemal knew that his defense was the linchpin for the entire Turkish force. A failure here meant the exploitation of the lines and a clear road to Maidos. The ANZACs could cut the defenses in half and defeat the Turks in detail. Almost half a century before, Col. Joshua Chamberlain faced a similar situation on Little Round Top. He knew his position anchored the flank of the Union line—if he failed, the Confederates would roll up the flank and give Gen. Robert E. Lee the battle. Much like Chamberlain, Kemal knew that the integrity of the entire Turkish defense depended on his stand at Ari Burnu.

Kemal was a leader and a good one at that. He knew what his commanders required of him, he knew what his men needed to do, and he knew how to get them to do it. In all of his orders, Kemal gave his soldiers clear direction, a sense of purpose, and the motivation to inspire them to act. Nowhere is this clearer than in the order to the 57th Regiment: "I am not ordering you to attack. I am ordering you to die."[29] True to his words, the men of the 57th carried out his order. They threw themselves into a vicious,

hand-to-hand counterattack. Out of ammunition and armed only with bayonets, they repulsed the Allied attack against the hilltops overlooking the beaches but at great cost. The 57th fought to the last man and ceased to be a unit by the end of the day.[30]

No man willingly goes into a suicide mission unless there is some other factor weighing on his mind. In this case, the Ottoman culture had a sort of code of honor for soldiers: a man either returned home a victor or he died gloriously as a martyr.[31] Any war for the Ottoman Empire, the seat of Islam, was cast as a holy war, and its soldiers were holy warriors. Kemal appealed to this attitude more than once during his various commands, from the campaigns of the Great War to the fight for the Turkish Republic. Of all his battles and all his appeals, the order to the 57th on 25 April on the slopes of Baby 700 and Battleship Hill wrought the bloodiest and most successful result. In the end, his words led to the annihilation of the regiment, halted the Allied invasion, saved the battle, and cemented Mustafa Kemal as the great victor of Gallipoli.

The fighting on 25 April ended after nightfall.[32] Both sides fought to exhaustion. Gen. William Birdwood, the ANZAC commander, requested his corps withdraw from the sector.[33] His superior, Gen. Ian Hamilton, refused. Nine months of brutal hand-to-hand trench warfare followed. In January 1916, the Allies evacuated the peninsula and ended their Dardanelles Campaign.[34] The Ottomans withstood the full force of the Allies on their home soil and stood



(Graphic courtesy of Ngā Tapuwae Trails and the New Zealand Ministry for Culture and Heritage [*Manatū Taonga*])

Terrain from the Allied Landings at Anzac Cove on the First Day of the Invasions, 25 April 1915

firm—a lone victory that overshadowed the series of defeats on other fronts throughout the Ottoman Empire. Winston Churchill, the main proponent of the Dardanelles Campaign, lost his job over the fiasco. Kemal, the hero of Gallipoli, went on to lead men in the defense of the Turkish Republic after dismantling the Ottoman Empire. He became Mustafa Kemal Atatürk, the father of modern Turkey and the first president of the republic. The U.S. and British navies applied the lessons learned at Gallipoli to amphibious assaults in Europe and the Pacific in the next world war.[35] Those were the fates and lessons left to the survivors—most of the men who fought did not leave that small spit of land overlooking the Dardanelles. When the battle finally ended, almost half a million men had become casualties at Gallipoli.[36]

Kemal's grasp of the commander's role in the operations process serves as a persisting lesson for the leaders of today. His knowledge of the terrain and its effect on the likely enemy approach is still the basis for the intelligence preparation of the battlefield used by today's commanders. More important is what Kemal did with that knowledge. Since he lacked any detailed intelligence on the Allied forces in his sector, he focused on the heights overlooking the beaches. He did not know what the Allies were doing, but he knew what he had to do to stop them from succeeding. The lesson here is, in the absence of intelligence, attack the terrain. If we attack the terrain, we can find the enemy and maintain the initiative.

Another lesson is to know what motivates soldiers. Kemal appealed to heroism, honor, victory, and religion to push his men to do the impossible against overwhelming odds. As leaders, the task we have is to understand what inspires our troops. By doing so, we can tailor our words and deeds to arouse in our soldiers that spirit of purpose and stir the hearts of men into action.

The third lesson we gain from this case study of Kemal is to understand where we as leaders fit in the organization. Kemal realized early on that his sector was too important to concede time or ground. As the reserve, he could not commit to battle unless ordered to do so by his superiors. He charged forward anyway and with good reason. Once he identified the Ari Burnu sector as a main landing zone and the heights of Chunuk Bair as key terrain for the fight, he knew that his line would become the linchpin of the entire Turkish defense. That is why he continued to push into the meat grinder—he had to hold, whatever the cost, not just for his division but for the entire 5th Army. Chamberlain learned the same lesson at Gettysburg, and it is a lesson we need to learn as well. We cannot lose focus of the big picture and simply settle in on our narrow task. We are part of the whole. Everything we do helps to achieve a higher goal. We are the tools our superiors use to accomplish their mission. The failure of any part could spell catastrophe for the greater whole. Like the old proverb says, a kingdom was lost for want of a nail.[37] It is too easy to lose sight of that fact, but leaders must understand and make certain that their purpose extends beyond themselves to benefit the whole. Despite the changing face of war and the means by which we wage it, the same principles of leadership transcend the generations. So, even a century after the first shots fired on Gallipoli, we still find the lessons of the battle and the men who fought it as applicable today as they were then, and we can be certain they will remain guiding principles of leadership in the years to come. ■

Notes

Epigraph. George W. Gawrych, "The Rock of Gallipoli," in *Studies in Battle Command* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1995), 89.

1. Eric Bush, *Gallipoli* (New York: St. Martin's Press, 1975), chap. 8.
2. Ibid., chap. 9.
3. N. E. McCluer, *The Counterattack of the Turkish 19th Division* (Fort Leavenworth, KS: Command and General Staff School [CGSS], 1932), 2.
4. Army Doctrine Publication 6-0, *Mission Command: Command and Control of Army Forces* (Washington, DC: U.S. Government Publishing Office, July 2019), 2-13–2-16. "Commanders drive the operations process through understanding, visualizing, describing, directing, leading, and assessing operations."
5. McCluer, *The Counterattack of the Turkish 19th Division*, 2.
6. Ibid.
7. George W. Rice, *A Study of the Counterattack of the Turkish 19th Division on 25th April, 1915* (Fort Leavenworth, KS: CGSS, 1933), 3.
8. McCluer, *The Counterattack of the Turkish 19th Division*, 2.

9. Rice, *A Study of the Counterattack of the Turkish 19th Division on 25th April, 1915*, 3.
10. McCluer, *The Counterattack of the Turkish 19th Division*, 3.
11. Ibid.
12. Gawrych, "The Rock of Gallipoli," 87.
13. Ibid., 88.
14. McCluer, *The Counterattack of the Turkish 19th Division*, 3.
15. Gawrych, "The Rock of Gallipoli," 88.
16. Rice, *A Study of the Counterattack of the Turkish 19th Division on 25th April, 1915*, 3.
17. Gawrych, "The Rock of Gallipoli," 88.
18. Rice, *A Study of the Counterattack of the Turkish 19th Division, on 25th April, 1915*, 4.
19. Ibid.
20. McCluer, *The Counterattack of the Turkish 19th Division*, 3.
21. Ibid.
22. Gawrych, "The Rock of Gallipoli," 89.
23. Ibid., 88–89.
24. Rice, *A Study of the Counterattack of the Turkish 19th Division on 25th April, 1915*, 5.
25. Ibid.
26. Ibid.
27. McCluer, *The Counterattack of the Turkish 19th Division*, 4.
28. Rice, *A Study of the Counterattack of the Turkish 19th Division on 25th April, 1915*, 6.
29. Gawrych, "The Rock of Gallipoli," 89.
30. Ibid.
31. Ibid.
32. Ibid., 90.
33. Ibid.
34. Bush, *Gallipoli*, chap. 25.
35. Ibid., 313–14.
36. Ibid., 318.
37. *Farlex Dictionary of Idioms* (2017), s.v. "for want of a nail," accessed 20 August 2020, https://idioms.thefreedictionary.com/for+want+of+a+nail. The proverb by an anonymous author means, "Due to a minor inconvenience or mishap, something much worse has happened." The full proverb is "For want of a nail the shoe was lost. For want of a shoe the horse was lost. For want of a horse the rider was lost. For want of a rider the battle was lost. For want of a battle the kingdom was lost. And all for the want of a horseshoe nail."

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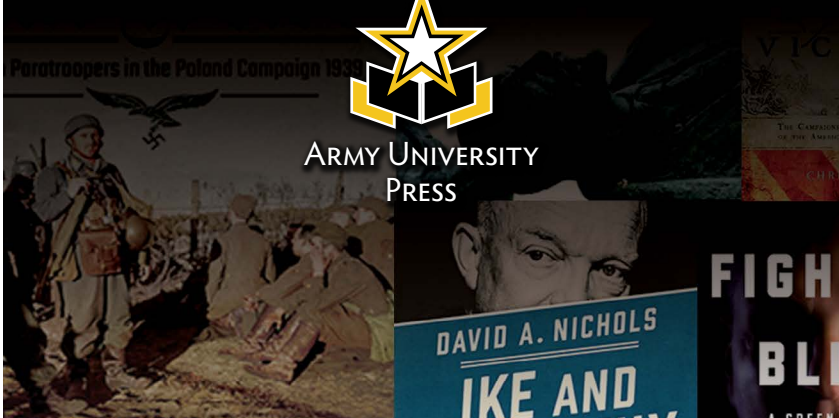


People walk among the rubble of Port-au-Prince 31 January 2010 where over 97,000 buildings were destroyed and 188,000 were damaged when a 7.0 magnitude earthquake rattled Haiti on 12 January 2010. (Photo by author)

The Pitfalls of Well-Meaning Compassion

Joint Task Force-Haiti's Infowar of 2010

Col. John "Jay" Boyd, PhD, U.S. Army Reserve, Retired

U.S. Air Force Col. Buck Elton was proud of his team. Landing at Port-au-Prince, Haiti, at close to 7 p.m. on 13 January 2010, his 1st Special Operations Wing had reopened the city's earthquake-damaged airport to humanitarian assistance/disaster relief (HA/DR) flights in a record twenty-eight

minutes. Upon arrival, Elton's airmen immediately set up a reception center for incoming urban search-and-rescue teams and initiated a landing-slot system for hundreds of humanitarian flights coming into Haiti. "Most of us operated nonstop without sleep for the first 40 hours," Elton admitted. "Mosquitoes are everywhere, and [it is] absolute carnage outside the wire."[1]

Elton's team made tough decisions. His airmen ran the airport for days, initially diverting many aircraft wanting to land due to overcrowding. "We were landing over 250 aircraft per day without phones, computers, or electricity, and people were complaining about the logjam at the airport," he recalled.[2] Elton did not realize the complaining had just started. His team had done exceptional work, but "no good deed goes unpunished."[3]

U.S. Southern Command (USSOUTHCOM) and Joint Task Force-Haiti (JTF-H) engaged in a prickly information war with U.S. allies, international detractors, U.S. political pundits, and factions of the American public. Ten years later, in 2020, this experience provides constructive lessons for future American HA/DR operations.

An American success story, Operation Unified Response (OUR)—its soldiers, sailors, airmen, marines, coastguardsmen, and others—stayed on task and accomplished its mission. JTF-H minimized human suffering, delivered essential medical care, and offered security support to United Nations (UN) forces and the government of Haiti (GOH). It provided the UN, the U.S. Agency for International Development (USAID), and the GOH the capacity to function in the long term, achieving its end-state goals.[4]

The Quake

At 4:53 p.m. on 12 January 2010, the island nation of Haiti, the poorest nation in the Americas, experienced a 7.0 magnitude earthquake. In an event lasting less than thirty seconds, an estimated 230,000 people died.[5] The quake's epicenter—ten miles southwest of Haiti's largest city, Port-au-Prince (PaP), experienced another thirteen aftershocks in the next seven hours and a total of thirty aftershocks during the first twenty-four hours. Within a forty-one-mile radius, an estimated 3.9 million people had been affected. Over 97,000 buildings were destroyed and 188,000 were damaged. Eight hospitals were knocked out, and fourteen of sixteen GOH public buildings were rendered useless.[6] The harbor of PaP was assessed as unusable due to pier damage. The only major facility capable of receiving humanitarian aid and personnel was the nation's airport, which remained functional although the airport terminal and tower had collapsed and were thus unavailable.

U.S. Embassy-Haiti pushed out an emergency request for aid at 4:11 a.m. on 13 January, part of which stated, "Providing such assistance is in the interest of the U.S. Government because of humanitarian concerns and the importance of demonstrating that Haiti's closest friends stand ready to help."[7]

Joint Task Force-Haiti: The Initial Response

Lt. Gen. P. K. "Ken" Keen, the USSOUTHCOM deputy commander, was in Haiti visiting the U.S. ambassador to Haiti, Kenneth Merton, at Merton's home on the day of the earthquake; both survived unscathed.[8] The USSOUTHCOM commander, U.S. Air Force Gen. Douglas Fraser, quickly opted to build JTF-H with Keen in command.

The concept for OUR was textbook, utilizing doctrine contained in the then new Joint Publication (JP) 3-29, *Foreign Humanitarian Assistance*.[9] In addition, JTF-H was directed to conduct phase I (emergency response); move to phase II (relief operations); and begin to transition (redeploy) during phase III (restoration); as the GOH, UN Stabilization Mission in Haiti (MINUSTAH), nongovernmental organizations (NGOs), and UN agencies assumed responsibility for phase IV (stabilization) and phase V (recovery).[10]

Per JP 3-29, Keen requested a joint public affairs support element, Secretary of Defense Public Affairs

Col. John "Jay" Boyd, U.S. Army Reserve, retired, holds a BA from Vanderbilt University, an MA and an MEd from the University of Cincinnati, and a PhD from the University of Kentucky. During his career, he served with the 4th Battalion, 54th Infantry Regiment, 194th Armored Brigade; the 100th Division; the 15th Psychological Operations Battalion; and the 45th and 20th Military History Detachments. He worked as a Department of Defense command historian for the 81st Readiness Division, U.S. Office of Army Reserve History, and the U.S. Army Chaplain Center and School. His military deployments include Bosnia, Iraq, and Haiti, where he served as the Joint Task Force-Haiti command historian.

(Figure by Army University Press)

Joint Task Force-Haiti's Phased Response

Office (PAO) support, and a combat camera team.[11] Starting with two public affairs officers on 13 January, over one hundred public affairs and information operations personnel were busily at work in Haiti ten days later.[12]

USSOUTHCOM's Office of Strategic Communications (StratComm) issued its guidance for Haiti at 8:16 a.m. on 14 January, and not a moment too soon. "Press is everywhere, so hard to avoid. We said the obvious," Keen had emailed the day before.[13] In StratComm's list of possible "tripwires and constraints" was the need to (1) manage expectations—explaining that the United States could not fix everything it assessed as damaged; (2) deflect any stories that the relief mission was focused only on U.S. citizens and personnel; and (3) disavow assertions that "an a/c carrier, amphib ships, Marines, 82nd AB" was "an invasion of Haiti."[14]

Previous USSOUTHCOM HA/DR efforts usually resulted in criticism of relief efforts for either being too slow or not robust enough. Anticipating this, Joseph "Pepper" Bryars from the USSOUTHCOM Office of Strategic Communications offered up some veteran advice. "While we're working the assessment to provide the most needed and effective HA for Haiti, I recommend that we also focus on immediately generating the vital optic of the U.S. military delivering 'something.' If that optic isn't seen soon, then it will harm our credibility in the future."[15]

Unfortunately, criticisms of U.S. efforts were already in play; the *Christian Science Monitor* struck early, asking, "Why is it taking so long for Pentagon aid to reach Haiti?" and Reuters asked, "Who's Running Haiti?" before proceeding to describe a state of anarchy in which the GOH had ceased to exist and the UN peacekeeping force MINUSTAH had been rendered impotent by the earthquake.[16] Latin America expert Dan Erikson of the Washington-based Inter-American Dialogue think tank commented: "The sad truth is that no one is in charge of Haiti today. This vacuum, coupled with the robust response from the Obama administration, has inevitably created a situation where the U.S. will be the de facto decision-maker in Haiti."[17]

Initially, JTF-H sorely lacked the situational awareness for making any decisions; U.S. assessment teams were still en route to PaP. During the first days, civilian news media in Haiti outnumbered the U.S. military, becoming the dominant source of information. Having few options, USSOUTHCOM made decisions based on anecdotal media reports, which often triggered what staff members called the "10,000 mile screwdriver."[18]

One such "screwdriver" was retired Lt. Gen. Russell Honore, of Hurricane Katrina fame. "The next morning after the earthquake, as a military man of thirty-seven years' service, I assumed … there would be airplanes delivering aid, not troops, but aid," the general ranted to *USA Today*. "What we saw instead was discussion about, 'Well we've got to send an assessment team in to see what the needs are.' And anytime I hear that, my head turns red."[19]

All major news services sent doctor-reporters into PaP, among them Dr. Sanjay Gupta of CNN.[20] Reaching the city's General Hospital ahead of U.S. forces, Gupta broadcast an urgent request for security and emergency medical help. He even contacted Honore, who called USSOUTHCOM, which informed JTF-H of the situation. Doctor-reporters on the scene often amplified the sense of urgency, triggering hasty responses from JTF-H. In one instance, on 19 January, approximately sixty U.S. troops on helicopters used the lawn of Haiti's presidential palace as a landing

zone and marched to the General Hospital to provide security. For some Haitians, it looked like an invasion.[21]

Trouble at the Airport

The congested situation at Port-au-Prince's Toussaint Louverture International Airport added to international criticism. Elton admitted,

> We took some heat at the airfield early on for the large number of diverts international flights were executing … We had 40–50 diverts a day for the first few days because there were no flow control measures to meter the number of aircraft that wanted to land here.[22]

Doctors Without Borders was unhappy, claiming three to five of its aircraft carrying medical supplies had been diverted. Commercial planes were often rerouted because they took longer to unload than military aircraft.[23] Flights that failed to coordinate with USSOUTHCOM for landing slots at PaP were also turned back.[24] Unfortunately, this triggered accusations that the United States was monopolizing the airport to evacuate only its own citizens. When U.S. air controllers diverted a French relief flight and U.S. ground troops delayed the evacuation of sixty-three French citizens, tempers flared. French Cooperation Minister Alain Joyandet protested, saying, "This is about helping Haiti, not about occupying Haiti."[25]

Later, Guido Bertolaso, the head of Italy's Civil Protection Agency, who had managed a 2009 earthquake in Italy, denounced the U.S.-led effort as "pathetic," declaring, "It's a truly powerful show of force, but it's completely out of touch with reality. They don't have close rapport with the territory, and they certainly don't have a rapport with international organizations and aid groups. … [W]hen confronted by a situation of chaos." Bertolaso told Italy's RAI television, the United States tends "to confuse military intervention with what should be an emergency operation, which cannot be

Aviation experts from various U.S. agencies work under austere conditions 12 January 2010 to ensure ramp operations and slot times are processed for inbound and outbound air traffic into Haiti's Toussaint Louverture International Airport. Port-au-Prince's main seaport was destroyed and most roads were impassible, leaving the airport as the only lifeline for relief to the Haitian people. (Photo by Kenneth Langert, Federal Aviation Administration)

Soldiers assist Haitian citizens 2 February 2010 by carrying bags of food from the World Food Program distribution point. U.S. soldiers were instrumental in initially opening nine distribution points around Haiti. (Photo by author)

entrusted to the armed forces. We are missing a leader, a co-ordination capacity that goes beyond military discipline."[26] This criticism came from U.S. allies.

Inserted into this mix, Col. Billy Buckner, 18th Airborne Corps, was selected to head the JTF-H StratComm office. Keen also secured the services of The Rendon Group (TRG). Founded by John Rendon in 1982, TRG would provide JTF-H with "public affairs recommendations, media monitoring and analysis (depending on functional level of Haitian media), and quantitative and qualitative data collection for the Strategic Assessment."[27]

Back at USSOUTHCOM, Bryars continued to work on strategic communications. He suggested intelligence sharing, rules of engagement, hand-cranked radios, and a "unified face." "Perhaps we should consider a daily process of posting appropriate intelligence products on the nonclassified portal for use by NGOs, coordinated through Partnering," he recommended. "I'm sure there are potential risks associated with this, but sharing images of open roads, concentrations of people, open hospitals, etc., would help build the desired narrative of a 'Unified Response.'" As to the U.S. military role in security, it was subject to "audience interpretation," which would raise a wide range of "law-and-order" questions. These would need to be managed. Bryars recommended a unified face, where JTF-H personnel were always seen as subordinate or working with U.S. government civilians.[28]

Open Season on JTF-H: The Radical Fringe Attacks

Four days into OUR, a cacophony of criticism descended on the newborn JTF-H. "Bolivia's socialist President Evo Morales called the U.S. relief effort 'unjust, inhuman and opportunistic' and called for United Nations action to counter purported Yankee imperialism."[29] Never one to disappoint, Venezuela's Hugo Chávez accused the United States of using Haiti's earthquake to occupy the country. "Why send three thousand armed soldiers unless it is for war?" he fumed,

"It appears they are militarily occupying Haiti, taking advantage of the tragedy."[30] His comments were echoed by other anti-American leaders such as Nicaragua's Daniel Ortega. "What is happening in Haiti seriously concerns me," Ortega chimed in, "It seems that the bases [in Latin America] are not sufficient … Haiti seeks humanitarian aid, not troops."[31] He blamed American militarism and President Barack Obama, demanding the immediate withdrawal of the U.S. military.[32]

None of this was particularly surprising. What was surprising was the number of mainstream media outlets—foreign and domestic—that were pushing out negative critiques of the U.S. relief effort. According to Army South's Regional Media Analysis, *Recent Trends in Media Coverage*, on 18 January, negative media stories outpaced positive stories throughout Latin America by almost two to one.[33]

Responding to negative attacks, Lt. Gen. Keen aimed to get JTF-H on message. He sought advice from TRG's John Rendon in an email, saying, "I know we are getting our teeth kicked in but that is understandable quite frankly (I guess) :(."[34]

"The stories are not negative. The issue is negative," Rendon answered. "The first story box is about the magnitude of the tragedy; the next one will be about First Responders." He believed JTF-H was on message, that Keen needed to "press forward" with more social messaging. He also urged JTF-H to thank other countries, individually and collectively. Even countries who were helping symbolically, "the ones we perhaps don't like." Rendon went on, saying,

> Military relief is too slow; Military is not handling logistics problems once there (airport is disorganized, planes aren't allowed to land; supplies aren't getting to people). These criticisms are almost inevitable given the scope of the problem and the 24/7 nature of the media. The responses we've seen so far are appropriate. Providing daily updates on progress will assist. It might even make sense to provide a micro briefing on each plane that is landing (and those that are holding and why), what it contains and where the relief supplies will go and when, use podcasts as well. Showing the capabilities of the U.S. military, not just telling the media what those capabilities are, will also begin to change the tone. There need to be more quotes in the coming days from non-USMIL people addressing the positive work being done (NGO's, partner nations and Haitian citizens thanking the U.S. military for their help) … When we thank them, they are likely to thank us, and those quotes of them thanking us will result in positive and credible press coverage.[35]

The "ideological fringes" accusing the United States of invasion or being used as a "meal on wheels" were not mainstream. "I would usually say don't get distracted," Rendon counseled, "but I'm certain questions about these fringe criticisms will be asked on the Sunday morning shows because they [the media] like that political game, use the time honored techniques of Answer, Transfer, Message."[36]

No matter the messaging, JTF-H was not immune from self-inflicted wounds. As previously mentioned, on 19 January, soldiers of the 82nd Airborne used the lawn around the collapsed Haitian presidential palace as a landing zone, inserting several platoons intended for security at the General Hospital. However, the optics were aggravating. For those critical of the U.S. Army, the photos looked like an American invasion; for others, it looked like a rescue mission. "We are happy that they are coming, because we have so many problems," said Fede Felissaint, a hairdresser who watched the landings. He had no problems with U.S. troops at the palace. "If they want they can stay longer than in 1915," he said, recalling that U.S. Marines had occupied his country for nineteen years (1915–1933).[37]

Other Haitians were not so forgiving. The military arrival at the palace was not welcomed by several refugees camping nearby. "It's an occupation. The palace is our power, our face, our pride," asserted Feodor Desanges.[38] Critics accused U.S. troops of landing with "shoot to kill orders."[39] Canadian conspiracy theorist Michel Chossudosvsky interpreted the landing as part of a larger American scheme:

> The unspoken mission of U.S. Southern Command (SOUTHCOM) with headquarters in Miami and U.S. military installations throughout Latin America is to ensure the maintenance of subservient national regimes, namely U.S. proxy governments, committed to the Washington Consensus and the neoliberal policy agenda. While U.S. military

> personnel will at the outset be actively involved in emergency and disaster relief, this renewed U.S. military presence in Haiti will be used to establish a foothold in the country as well [as] pursue America's strategic and geopolitical objectives in the Caribbean basin, which are largely directed against Cuba and Venezuela.[40]

Getting the Narrative Right

Landing at the PaP airport on 16 January, Secretary of State Hillary Clinton, along with the new head of USAID, Dr. Rajiv Shah, made a four-hour visit to show U.S. support and confer with Haitian President René Préval.

On 20 January, Clinton reacted to OUR criticism. "I am deeply concerned by instances of inaccurate and unfavorable international media coverage of America's role and intentions in Haiti," she wrote Department of State personnel. "This MISINFORMATION THREATens [sic] to undermine the international partnership needed to help the people of Haiti, and to damage our international engagement across the range of issues. It is imperative to get the narrative right over the long term." Chiefs of mission were instructed to track down and correct "ill-informed or distorted stories" and get them corrected. "I also ask you to report back to me through your Assistant Secretary," she directed, "This is a personal priority for me, and I will be looking for your reports."[41]

Did Clinton know what was coming? On 20–21 January, Hugo Chávez and his "Chavistas" accused the United States of attacking Haiti with a secret tectonic earthquake-making weapon. Accusing the United States of employing an "earthquake weapon," which could cause "weather anomalies … floods, droughts and hurricanes," the erratic strongman insisted the "attack" on Haiti was a U.S. military test in preparation for an earthquake attack on Iran. Citing "an alleged report from Russia's Northern Fleet," Chávez accused the U.S. government's unclassified High Frequency Active Auroral Research Program (HAARP), located in Alaska, of the attack.[42]

Chávez's accusation combined two conspiracy theories. The first originated in a 14 January report by conspiracy theorist Sorcha Faal titled "US Quake Test Goes 'Horribly Wrong,' Leaves 500,000 Dead In Haiti." The second story blamed the 2008 earthquake in Sichuan, China, on HAARP. The Russian Northern Fleet report proved to be a Faal invention. Chávez's comments were reported as news by Al Manar in Lebanon and by other media in Iran, Russia, and Pakistan.[43]

Journalist Sharon Weinberger characterized HAARP as "the Moby Dick of conspiracy theories."[44] HAARP's actual purpose was to examine "the interactions of radio waves in the ionosphere and the subsequent effects on communications, radar, and navigation systems."[45] Whatever it was, the potshots taken at JTF-H by Chávez and his cohorts were upending U.S. foreign policy throughout South America.

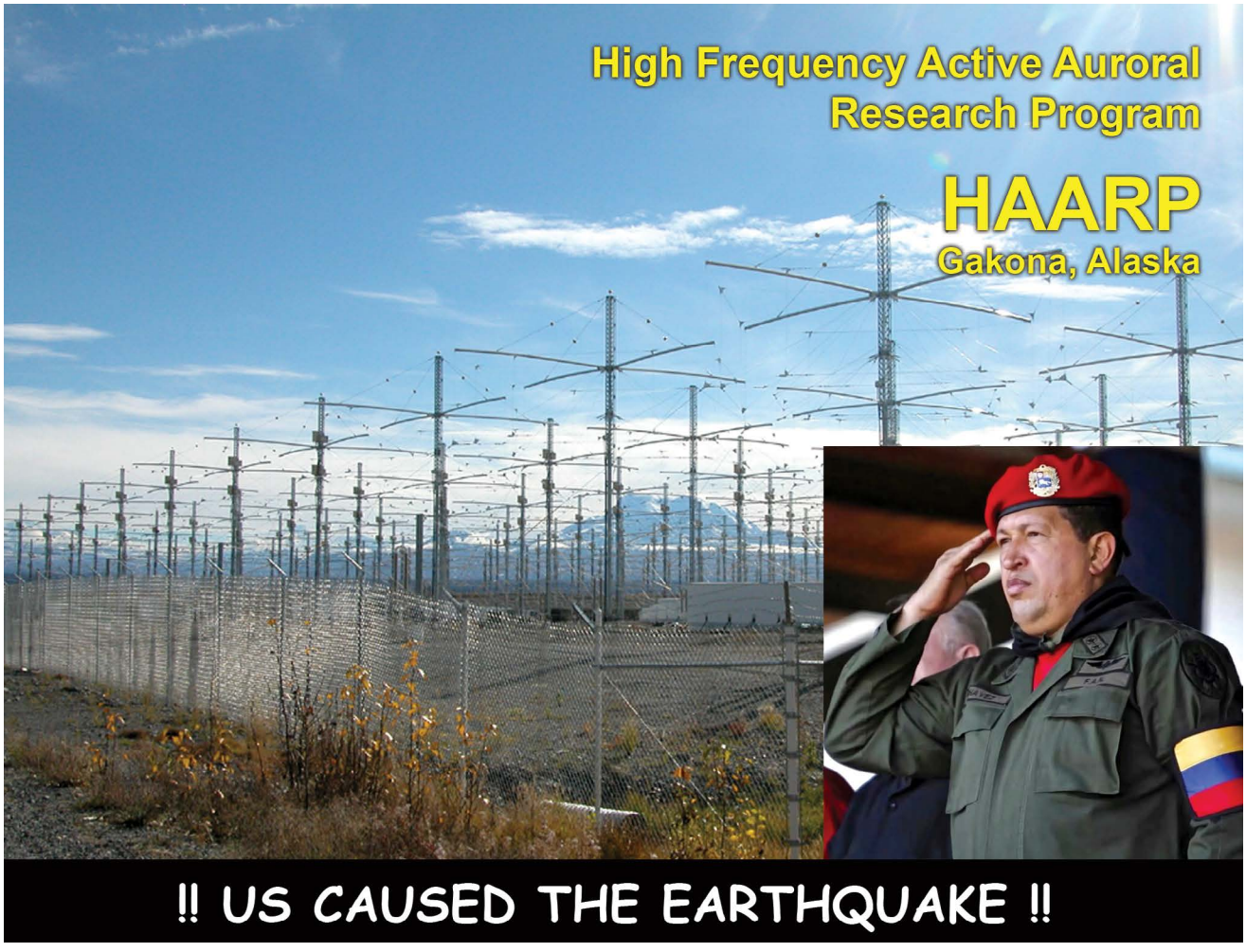
A Maturing JTF-H Responds

Buckner (StratComm) got the "narrative right." The winning strategy was theme/message consistency designed for the long haul. As U.S. troop numbers from Fort Bragg, North Carolina, surged 18–22 January, so did task force capabilities. A joint interagency information cell (JIIC) was established. This amalgamation of U.S. government agencies developed common themes, messages, and talking points. It provided the unity of effort (messages) for all U.S. agencies working in Haiti.[46]

Buckner's office got busy escorting and embedding reporters, setting up interviews, and pushing a variety of stories and analysis through assorted media. One of the newest media sources, Twitter, came into its own during OUR when Haiti's communications went down. Author Tim Leberecht believed Twitter "grew up" as a result of the quake. "Sysomos, an analytics firm in Toronto, estimated that nearly 150,000 posts containing both 'Haiti' and 'Red Cross' were sent through Twitter since the quake," he reported. The Red Cross posted a tweet that they claimed help to raise $8 million.[47]

Buckner managed a fully functional joint information center (JIC) at the U.S. embassy and a forward element at the airport. Other elements were located with the 2nd Brigade, 82 Airborne; the hospital ship USNS *Comfort*; the USS *Carl Vinson*; and the amphibious relief mission.

Guided by the JIIC, JTF-H stayed on message. The intended audiences were the Haitian people, the Haitian leadership, the American people, and the international community. The core themes included (1) a global response intended to save lives and ease suffering, (2) Haitians helping Haitians, and (3) the United States "will stand with Haiti for the long term." There were also "undesired" themes requiring rebuttal: (1) U.S. efforts too slow/not enough/



The compilation photo is from a class presentation slide showing how Hugo Chávez blamed the 2010 Haiti earthquake on the U.S. government's unclassified High Frequency Active Auroral Research Program (HAARP). (Composition photo is modified slightly due to copyright restrictions. HAARP photo by Michael Kleiman, U.S. Air Force Public Affairs. Chávez photo courtesy of the Embassy of Venezuela, Minsk)

disorganized, (2) "U.S. Keeping Inept Haitian Government Afloat," (3) U.S. military as an occupying force, and (4) the U.S. will rebuild Haiti.[48]

There was good news; although Americans were evenly divided over the Obama administration's policy and legislative initiatives, 74 percent of Americans polled believed the United States was "doing enough" for Haiti and rated the U.S. military effort as "very good" or "excellent." A private Gallup poll discovered "little differentiation" when evaluating the performance of the different service branches; all were seen as "doing an excellent or very good job." Television, internet news sites, and radio remained primary news sources, while younger Americans (one in five) used social networking sites.[49]

However, there was also bad news; JTF-H was losing the infowar in parts of Latin America, USSOUTHCOM's area of responsibility. For analysis and operational purposes, USSOUTHCOM geographically divided Latin America into four geographic areas: the Caribbean, Central America, the Andean Ridge, and the Southern Cone. By the fourth week of OUR, 57 percent of stories discussing U.S. military efforts were negative compared to 43 percent neutral/positive combined. The Andean Ridge (Venezuela, Bolivia, Colombia, Ecuador, and Peru) led the way. Chávez's Venezuela waged an anti-American campaign with sporadic support from Bolivia and Ecuador. No other Latin American nation pushed out more stories than Venezuela. The runner up, Ortega of Nicaragua, accounted for one-third of the stories emanating from Central America.[50]

If there was a saving grace, over time, media reports were declining and shifting away from the U.S. military.

A noticeable drop began around 18 January. The volume of new media items "decreased significantly while the focus of most of the items had shifted from the Military Component of HA/DR to larger geo-political issues."[51]

Transitioning from Haiti: Messaging Shifts

At the start of OUR, JTF-H's ability to tell its story was fragmented. Phase I (emergency response) was by its very nature often reactionary; media events were random, chaotic, and often outpaced the JTF's capabilities. However, as JTF-H moved to phase II (relief) operations, StratComm became more proactive.[52]

This started with the arrival of the hospital ship USNS *Comfort* on 20 January, "a promise of hope anchored a mile out in the bay." A visible symbol of U.S. commitment to Haiti, it became a focal point for reporters who pestered the JIC and Joint Visitors Bureau to go aboard.[53]

The stabilizing work of JTF-H engineers stands out. The discovery that hundreds of Haitians were afraid of sleeping in their homes—whether those buildings were structurally sound or not—demanded action. What would assure people it was safe? U.S. engineers created an assessment inspection system to evaluate the soundness of buildings, which encouraged Haitians to go back home. To help them in their work, engineers stood up an assessment training program for Haitian nationals. As their transition (redeployment) came near, JTF-H engineers focused on removing rubble and restoring the Turgeau neighborhood. One officer dubbed it "a quick win."[54]

The positive optics of the Turgeau project demonstrated the good will and hard work of JTF-H. Such media opportunities were possible in phase II:

> Friday, Haitian media and AP [Associated Press] observed engineering assessment training in Turgeau. The event was a huge success. More than 50 journalists were in attendance/from CNN, *Washington Post, Wall Street Journal*, NPR, Voice of America, and many Haitian media.[55]

While the "ideological fringe" demanded an immediate U.S. withdrawal, many NGOs, as well as elements of the U.S. and Haitian publics, insisted that the United States not leave too soon. Half a dozen U.S. officials believed leaving Haiti before the security situation was reestablished would backfire. "The risk is … that they will leave too quickly, and we will have chaos," said Andrew Natsios, USAID administrator from 2001 to 2005. "They've got their hands full in Iraq, Afghanistan-Pakistan. The U.S. military does not want to do this, in terms of anything beyond the humanitarian response."[56]

After years of combat operations, U.S. military forces found themselves in an awkward position—they were loved! Many Haitians preferred them over the GOH and wanted them to stay. For Haitians, the GOH appeared inept, uncaring, and corrupt.[57] Despite repeated StratComm attempts to convince them otherwise, people were not buying it. Imagine U.S. surprise—and embarrassment—when pro-U.S. demonstrations popped up around PaP. One rally took place 2 February along Delmas Street, where government offices, NGO headquarters, and diplomatic facilities were located. Demonstrators carrying American flags tore down Haitian flags as they marched.[58]

Elizabeth Ferris of Washington's Brookings Institution pondered such moments. "The U.S. military's role is still not clear to me," she mused. "Are there plans for it to exit in a reasonable period of time?" Her conclusion, "There's a lot of pitfalls to all this well-meaning compassion."[59]

The first significant departure of American ground forces occurred on 24 February when the 1st Squadron, 73rd Cavalry Regiment, returned to Fort Bragg. It was followed by the 1st Battalion, 325th Parachute Infantry Regiment, on 5 March. The media noticed. "US troops withdrawing en masse from Haiti," one Associated Press story warned, declaring "U.S. troops are withdrawing from this capital leaving residents fearing that their departure is a sign of dwindling international interest in the plight of the Haitian people."[60] This storyline is what JTF-H wished to avoid.

The most visible symbol of American commitment in Haiti, the USNS *Comfort*, now came into

Next page top: A young female patient receives treatment 10 February 2010 aboard the USNS *Comfort* in Port-au-Prince, Haiti. (Photo by author)
Bottom: The Military Sealift Command hospital ship USNS *Comfort* (T-AH 20) maneuvers off the coast of Haiti 20 January 2010 to conduct humanitarian and disaster relief operations as part of Operation Unified Response. (Photo by Mass Communication Specialist 3rd Class Erin Olberholtzen, U.S. Navy)

play. As of 27 February, the *Comfort* had worked itself out of a job. All patients had been discharged, and the ship sat empty. The medical capacity of the UN, NGOs, GOH, USAID, and other entities had improved to the point where seven hundred beds were available onshore.[61] However, releasing the USNS *Comfort* was tricky; the ship could not just steam away without its departure being well socialized, lest panic and feelings of abandonment ensue.

JTF-H considered three courses of action (COA) for releasing the USNS *Comfort*: COA 1—leave immediately (recommended); COA 2—leave in ten days and reduce some medical staff; and COA 3—leave in ten days and reduce medical staff and crew to peacetime cruising.

JTF-H leaders chose a hybrid COA 3: leave in ten days with a reduced medical staff at a cost of around $200,000 a day. The departure date was set for 10 March. This was deemed the reassuring and compassionate choice.[62]

The sailing of USNS *Comfort* was well publicized through press releases and local Haitian media. Ten days prior to sailing, the EC-130J "Commando Solo" aircraft, a flying radio station, broadcast the departure date mixed with public service announcements, always assuring Haitians the United States was with them for the long term.[63] To cushion the blow and test potential adverse reactions, a one-day refueling mission outside PaP was publicized. This "dress rehearsal" on 5 March worked well; PaP remained calm. Five days later, in the early morning hours of 10 March, the USNS *Comfort* departed PaP without incident for Baltimore, its home port.

Like it or not, when the USNS *Comfort* sailed, it sent a clear message of impending U.S. withdrawal. Throughout March and April, JTF-H continued to transition (redeploy), leaving trace elements and bringing in new but smaller units from U.S. Army South and the 377th Theater Sustainment Command (U.S. Army Reserve) to continue limited support. By late May, JTF-H consisted of two military police companies, the 5330th Combat Sustainment Support Battalion, and small engineer and medical detachments. On 28 May, JTF-H deactivated, handing its mission over to New Horizons, USSOUTHCOM's annual joint and combined humanitarian assistance program.[64] Operation Unified Response was at an end.

HA/DR Infowar Lessons for a Joint Task Force

There are operational lessons from Joint Task Force-Haiti and Operation Unified Response that can be applied to an HA/DR joint task force.

Phase I. HA/DR missions are most vulnerable during phase I (emergency response). At the beginning of an HA/DR operation, JTF messaging is more reactive than proactive due to time constraints and the chaotic nature of the crisis. Without assessment teams, HA/DR decision-making remains random and uncertain; emergencies require situational awareness. The uncertain situation on the ground can open up any JTF to accusations of incompetence and disorganization.

The sudden introduction of large numbers of uniformed military personnel offers opportunities for anyone to interpret their purpose. The possibility of self-inflicted wounds based on media interpretation or inappropriate troop behavior should be anticipated.

Message consistency is a prerequisite; expect criticism from friends and allies, as well as the international fringe. Criticism may include conspiracy theories, misinformation, and outright lies, all of which should be contested. In some cases, such as the criticism received from the Andean Ridge countries, time and short attention span might be the only remedy. As Leo Tolstoy said, "The two most powerful warriors are patience and time."[65]

In a phase I environment, StratComm must look for lifesaving good news story opportunities. To shape discussions, an HA/DR messaging template is necessary from the start.

Once activated, ensure the JTF-StratComm team receives clear commander's intent and priorities, a mission statement, and an end state, knowing the end state may change over time.

The majority, if not all HA/DR JTFs, will work under the lead of UN, USAID, and host-nation governments. These organizations or governments may be inadequately staffed and lack the capabilities of the JTF, and JTFs must be prepared to assist them with StratComm planning and resources. It helps to develop "lead from behind" messaging while building relationships with other HA/DR forces on the ground—even urban search-and-rescue teams.

It is important for JTF leadership to know their environment, who the key partners are, and what is

known about the culture in which the HA/DR operation is implemented.

Knowledge of U.S. historical interactions with host nations is a must. For example, a contentious history of U.S. intervention and occupation of Haiti preceded JTF-H's formation. Understand U.S. history and how U.S. messaging will influence your audiences (international, host nation, U.S. public, and government officials).

Phase II. Within phase II (relief operations), a proactive communication strategy becomes possible. A fully manned joint public affairs support element and PAO presence in-country (JIIC, JIC, Joint Visitors Bureau) will result in effective planning and analysis. Planned relief activities will provide StratComm with positive media opportunities as the JTF conducts its work of delivering aid, providing medical help, improving sanitation, building shelters, and more. From phase II to phase III, military transition and redeployment will change messaging. When redeploying, identify symbols of humanitarian commitment such as hospital ships, hospitals, reconstruction activities, or departing support units. This may require detailed media planning and socialization before departure.

Diverse interest groups such as the UN, NGOs, foreign nations, the U.S. public, host-nation citizens, and even the host-nation government may attempt to delay or stop the redeployment of U.S. forces.

Throughout all phases of an HA/DR, never forget the "vital optic." Photos/footage of U.S. military personnel engaged in helping victims capture the true essence of lifesaving American humanitarian operations.

Finally, in the words of Lt. Gen. Keen, "Always be ready … we had zero warning … had to deploy from a dead start."[66] ■

Notes

1. Buck Elton, "Haiti: Boots on the Ground Perspective," Small Wars Journal, 2009, 1, accessed 4 September 2020, https://smallwarsjournal.com/blog/journal/docs-temp/355-elton.pdf.

2. Ibid., 3.

3. "The Upside of Yankee Imperialism in Haiti," *Washington Times* (website), 25 January 2010, accessed 4 September 2020, https://www.washingtontimes.com/news/2010/jan/25/the-upside-of-yankee-imperialism-in-haiti/.

4. Joint Task Force-Haiti (JTF-H) Briefing to MINUSTAH LL, 29 March 2010, USSOUTHCOM historical collection (SCHC). In two and one-half months, JTF-H provided 4.9 million meals, 17 million pounds of bulk food, and 2.6 million bottles of water; supported distribution of emergency shelter for 525,000 people, 163,000 tarpaulins, and 23,000 tents; conducted engineering assessments of 2,043 structures and 283 acres; and removed seventy-seven blocks of rubble in Port-au-Prince. Department of Defense medical support amounted to over 19,000 patients treated, 1,200 admissions, 1,025 surgeries, 255 medical evacuations, 2,200 patient transfers, seventy-five tons of medical supplies distributed, and five search-and-rescue operations. The airport was reorganized and resumed operation: 3,334 JTF-Haiti sorties were flown (as of 5 March), 3.1 million tons of cargo was transited, and 16,000 U.S. citizens were evacuated. The damaged seaport was reopened and port capacity was doubled: 8,400 TEU (twenty-foot equivalent units) and 10.2 million ST (short tons) were off loaded; repair of the south pier was completed 26 March; and the Coast Guard installed navigation aids.

5. Estimates varied, starting at 57,000 within days of the quake, to a government of Haiti estimate of 230,000 issued later.

6. John Ryan, Russ Goehring, and Robert Hulslander, "USSOUTHCOM and Joint Task Force-Haiti … Some Challenges and Considerations in Forming a Joint Task Force," *Joint Center for Operational Analysis Journal* XII, no. 2 (Summer 2010): 1.

7. U.S. Embassy-Haiti, email message, "DISASTER DECLARATION: PORT AU PRINCE," 13 January 2010, SCHC.

8. Regrettably, Maj. Ken Bourland, Lt. Gen. Keen's aide, was killed in the quake. He had left Keen at the ambassador's residence and returned to the Hotel Montana, which collapsed.

9. Joint Publication 3-29, *Foreign Humanitarian Assistance* (Washington, DC: U.S. Government Printing Office, 17 March 2009 [obsolete]).

10. "Haiti Concept of Operations (CONOPS)," SJFHQ and JTF-HAITI OPORD 01-10, OPERATION UNIFIED RESPONSE (Final, dated 26 January 2010); The United Nations Stabilization Mission in Haiti was known in French as *Mission des Nations Unies pour la stabilisation en Haïti*, or MINUSTAH.

11. Haiti HADR [Humanitarian Assistance/Disaster Relief] Mission Update Brief, 14 January 2010, SCHC. The Joint Public Affairs Support Unit provides ready, rapidly deployable joint public affairs professionals who plan and implement a military commander's public affairs communication strategy.

12. Joint Task Force-Haiti Public Affairs, Operation Unified Response Daily SITREP [Situation Report], SCHC, 26 January 2010.

13. Lt. Gen Keen, email message to Col. Jim Marshall (Director, Public Affairs), "RE: POTUS Press Synch," 13 January 2010, SCHC.

14. "Haiti HA/DR StratComm Guidance (as of 13 Jan 2010)," Haiti HA/DR Mission Update Brief, 14 January 2010, SCHC.

15. Joseph Bryars, email message to Gen. Doug Fraser, "Vital Optics," 14 January 2010, SCHC.

16. Gordon Lubold, "Why Is It Taking So Long for Pentagon Aid To Reach Haiti?," *Christian Science Monitor* (website), 14 January 2010, accessed 8 September 2020, https://www.csmonitor.com/USA/Military/2010/0114/Why-is-it-taking-so-long-for-Pentagon-aid-to-reach-Haiti; Andrew Cawthorne and Tom Brown, "Who's Running Haiti? No One, Say the People," Reuters, 14 January 2010, accessed 8 September 2020, https://www.reuters.com/article/us-haiti-earthquake-vacuum/whos-running-haiti-no-one-say-the-people-idUSTRE60D5VB20100114.

17. Cawthorne and Brown, "Who's Running Haiti?"

18. Ryan, Goehring, and Hulslander, "Challenges and Considerations," 3.

19. "Retired General: US Aid Effort Too Slow," *USA Today*, 15 January 2010, cited in Alert-Haiti to Lt. Gen. Keen, 15 January 2010, SCHC.

20. Lalit K. Jha, "Sanjay Gupta Effect: Medical Correspondents Galore in Haiti," Business Standard, 20 January 2010, accessed 8 September 2020, https://www.business-standard.com/article/economy-policy/sanjay-gupta-effect-medical-correspondents-galore-in-haiti-110012000120_1.html.

21. JTF-H HADR SITREP, 16 January 2010, SCHC; Col. Robert Ament, email message to Lt. Gen. Keen: "Subject: Hospital," 19 January 2010; Lt. Gen. Keen, email message to Brig. Gen. Nicholas Matern (Canadian serving with 18th Airborne Corps) and staff, "RE: Hospital - What Is Our Strategy So We Can Properly Manage Expectations," 19 January 2010, SCHC.

22. Elton, "Haiti, Boots on the Ground," 3.

23. One Chinese aircraft took nine hours to unload by hand; they had not palletized their load.

24. Alert-Haiti email message to Lt. Gen. Keen, "Chaos at Port-au-Prince Airport Slows Emergency Aid Efforts," Associated Press, 15 January 2010, SCHC.

25. Alert-Haiti, email message to Lt. Gen. Ken Keen, "'Haiti Aid Flow Grows: Feuds over Reaching Victims,' Associated Press," 16 January 2010, SCHC.

26. Jerry White, "Criticism Mounts over US Response to Haiti Disaster," World Socialist Web Site, 26 January 2010, accessed 8 September 2020, http://www.wsws.org/en/articles/2010/01/hait-j26.html.

27. Joseph P. Bryars, email message to Lt. Gen. K. Keen, "Strategic Communications Support," 15 January 2010, SCHC.

28. Joseph P. Bryars, email message to JTF-H leadership, "Strategic Communications Issues," 16 January 2010, SCHC.

29. "The Upside of Yankee Imperialism."

30. Alert-Haiti, email message to Lt. Gen. Keen, "'Chavez Accuses US of 'Military Occupation' of Haiti,' AFP," 17 January 2010, SCHC.

31. "Nicaragua's Ortega Raises Specter of US Occupation in Haiti," Counter Vortex, 18 January 2010, accessed 8 September 2020, https://countervortex.org/blog/nicaraguas-ortega-raises-specter-of-us-occupation-in-haiti/.

32. Alert-Haiti, email message to Lt. Gen. Keen, "Ortega Claims that U.S. Is Using Haiti Tragedy to Install Its Troops," 16 January 2010, SCHC.

33. Army South Regional Media Analysis; U.S. Stratcomm Daily Media Analysis; Open Source Center Media Analysis & State Department Media Analysis, SCHC.

34. John Rendon, email exchanges with Lt. Gen. Keen, "Haiti," 16 January 2010, SCHC.

35. Ibid.

36. Ibid.

37. Alfred de Montesquiou and Mike Melia, "U.S. Troops Land on Lawn of Haiti Presidential Palace," Associated Press, 19 January 2010, SCHC.

38. "US Troops Fan Out across Port-au-Prince," France24, 20 January 2010, accessed 8 September 2020, https://www.france24.com/en/20100120-us-troops-fan-out-across-port-au-prince.

39. Kurt Nimmo, "US Troops Occupy the Symbol of Haitian Sovereignty," Infowars, 19 January 2010, accessed 20 January 2014, https://www.infowars.com/u-s-troops-occupy-the-symbol-of-haitian-sovereignty/.

40. Ibid.

41. Secretary of State (SECSTATE) email message to All Diplomatic and Consular Posts, "Personally Engaging on Haiti," 20 January 2010, SCHC.

42. "Hugo Chavez Mouthpiece Says U.S. Hit Haiti with 'Earthquake Weapon,'" Associated Press, 21 January 2010, SCHC; Ronald Bailey, "Chavista 'Experts' Say U.S. Military Caused Haitian Earthquake," *Reason* (website), 20 January 2010, accessed 8 September 2020, https://reason.com/2010/01/20/chavista-experts-say-us-milita/.

43. SECSTATE email message to All Diplomatic and Consular Posts, "Guidance and Talking Points on Developments in Haiti," 27 January 2010, SCHC.

44. Sharon Weinberger, "The Strange Life and Times of HAARP," *Wired* (website), April 2008, accessed 5 April 2020, https://www.wired.com/2008/04/haarp/.

45. SECSTATE email message to all Diplomatic and Consular Posts, "Guidance and Talking Points," 23 January 2010, SCHC.

46. Ryan, Goehring, and Hulslander, "Challenges and Considerations," 9.

47. Tom Leberecht, "Twitter Grows Up in Aftermath of Haiti Earthquake," CNET, 19 January 2010, accessed 8 September 2020, https://www.cnet.com/news/twitter-grows-up-in-aftermath-of-haiti-earthquake/; Buckner interview with author, 28 February 2010, SCHC. Buckner mentioned 4,500 followers on the JTF-H Facebook site.

48. USG [United States Government] Haiti JIC [Joint Information Center] Talking Points, 2 February 2010, SCHC.

49. Army South Regional Media Analysis; U.S. Stratcomm Daily Media Analysis; Open Source Center Media Analysis; and State Department Media Analysis, SCHC.

50. "Public Perception on Haiti," assessment through 10 February 2010, SCHC.

51. 765 USSOUTHCOM Public Affairs, "Operation Unified Response, Media Analysis/Summary," 27 January 2010, SCHC.

52. Lt. Gen. Keen declared JTF-H at Phase II on February 4.

53. Steve Sternberg, "Haiti's 'Floating Hospital': Tough Questions on USNS *Comfort*," *USA Today* (website), 26 January 2010, accessed 8 September 2020, https://www.nationalnursesunited.org/news/haitis-floating-hospital-tough-questions-usns-comfort.

54. Lt. Col. John Blackwell (USAF [U.S. Air Force]), interview with author, 4 March 2010.

55. Mission Update Brief, Operation Unified Response (USSOUTHCOM), 27 February 2010, SCHC.

56. Alert Haiti email message to Lt. Gen. Keen, "Warren P. Strobel, 'Will U.S. Troops Leave Haiti Too Soon?' McClatchy," 22 January 2010, SCHC.

57. USSOUTHCOM Public Affairs, "Operation Unified Response, Media Analysis/Summary," 11 February 2010, 2, SCHC.

58. Mission Update Brief, Operation Unified Response, 1 February 2010, SCHC.

59. Alert Haiti email message to Lt. Gen. Keen, "Warren P. Strobel, 'Will U.S. Troops Leave Haiti Too Soon?' McClatchy."

60. Ben Fox and Jennifer Kay, "US Troops Withdrawing En Masse from Haiti," Associated Press, 7 March 2010, accessed 8 September 2020, https://www.sandiegouniontribune.com/sdut-us-troops-withdrawing-en-masse-from-haiti-2010mar07-story.html.

61. COAs [courses of action] for USNS *Comfort* Redeployment, surgeon briefing, 24 February 2010, SCHC.

62. Ibid.

63. Commando Solo was a modified C-130J Hercules aircraft used to conduct psychological operations and civil affairs broadcast missions in the standard AM, FM, HF, TV, and military communications bands.

64. New Horizons is an annual series of joint and combined humanitarian assistance exercises that U.S. Southern Command conducts in Latin American and Caribbean nations. Since New Horizons began in the mid-1980s, U.S. troops have deployed annually for the exercise.

65. Leo Tolstoy, *Bethink Yourselves: The Two Most Powerful Warriors are Patience and Time* (Exeter, UK: Words to the Wise, 25 October 2013), cover, Kindle.

66. Lt. Gen. Keen, interview with author, 20 February 2010, SCHC.

Leadership and Military Writing

Direct, Organized, Strategic

Allyson McNitt, PhD

To write is human, to edit is divine.
—Stephen King, *On Writing: A Memoir of the Craft*

Employment as a Department of the Army civilian brought with it many assumptions and preconceptions for me, most of which were focused on the kind of authors with whom I would work, on authors' existing writing habits, and on any sensitivities authors might hold regarding the content and quality of their articles. My limited personal experience with members of the Armed Forces resulted in slightly skewed perceptions of how I was expected to engage with soldiers, how soldiers engaged with each other, the pecking order in the Armed Forces, how soldiers might perceive me, how I might perceive them, etc. I had strong credentials for my editorial position: three academic degrees in English, a few publications, and twelve years' experience teaching writing at the college level; however, I possessed little to no insight into the writing habits of the military. I foolishly assumed I could leap into editing military writing a fully formed leader-warrior who was daringly armed with the blades of sharpened verbal skills and who was galvanized by an impassioned love for

the written word. I could brandish my darkly glittering editorial broadsword, which would naturally reshape some military writing habits into the conventions of formal, academic writing that was specifically designed for publication. I could be a wizened legend of editorial genius, inspiring to a few, helpful to some, perhaps a challenge for others, but maybe with a cool hat if I eventually earned it. Such is the ego of a PhD.

> Soldiers need to be able to internalize extended definitions of leadership so that effective communication efforts extend naturally to the written domain.

In my experience, most wordsmiths are naturally attuned to internalizing key words and phrases that appear in specific locations and in specific contexts. The curiously lengthy process required to grant my permanent position as an Army civilian reminded me that I was no longer within the realm of my own familiar. The process, however, offered me enough time to look around for any important keywords or phrases posted on walls, in cases, or even on signs. As it turns out, Fort Leavenworth likes the word "leadership," and the word makes frequent appearances in many locations on the installation. In unfamiliar environments, I find comfort in contextualizing working definitions of important terms; for me, it eases the assimilation process. Thus, through context clues and a little bit of background reading, I came to understand that the concept of leadership in the military is similar enough to a civilian's understanding of the concept, but that leadership is more visibly nuanced in the military than outside of it.

Leadership assumes many forms in areas inside and outside the military, and even if those forms are difficult to perceive on occasion, they are always present. From the terse commands of a military officer to a kindergartner selected to lead a classroom in a group song, leadership is often seen but reliably difficult to define. But is there a distinction between the general idea of leadership and "military" leadership? How should military writing treat the concept of leadership? How can military writers, who are generally removed from conventional civilian academic writing standards, contribute to civilian discourse without losing their own voices? Simple definitions are often good places to begin when one seeks answers to difficult questions, but in order to arrive at a thorough and specific definition, one must be able to apply critical-thinking skills to expand the simple definition.

One simple definition of military leadership comes from a 2015 article "Army Leadership and the Communication Paradox." Christopher M. Ford notes that every exercise of leadership "involves a leader and a follower … leadership cannot occur without communication between the leader and the follower. Army and civilian leadership books use countless adjectives to describe what leaders should be and could do while giving little or no attention or thought to the communication aspects of leadership."[1] Rarely do people enlist in the military with the goal of avoiding leadership. Many of the adjectives found in these leadership books are useful for shaping a broad ideal for actions and behaviors for leaders in the military, but upon closer examination, I noticed that much of the advice and many of the descriptions in these books are inadequate as they apply to the written communication habits that I believe are necessary for building a solidly effective military leader. The U.S. military is one of the most revered fighting forces in the world and is backed by many of the world's most talented tactical and strategic military minds, so it stands to reason that the most effective military leaders must be able to conform to the conventions of both written military and civilian discourse in order to contribute effectively to any civilian or military discussions.

The difficulties with effective communication within the military are not new; in the past, inadequate military communication has been responsible for such preventable incidents as a 2014 friendly fire incident that

Previous page: Photo by Staff Sgt. Kelvin Green, U.S. Army

killed five U.S. soldiers in Afghanistan, and the Battle of Balaclava, as commemorated in Alfred, Lord Tennyson's 1854 poem "The Charge of the Light Brigade."[2] While ineffective communication often rears its hydra heads in just about any field under the sun, the very nature of the Armed Forces assumes a specific responsibility for people's lives and sense of safety; thus, skillful, effective communication is crucial to preserving this responsibility. Anyone could access Army Regulation (AR) 25-50, *Preparing and Managing Correspondence*, and note that it contains a number of different writing templates and tips for Army members to follow as a way of preparing effective communication to others, and anyone might notice that the regulation includes everything from understanding the general purpose of writing to ways to write memorandums and letters, and the correct way to include figures in specific documents. But at its core, "effective Army writing is understood by the reader in a single rapid reading and is clear, concise, and well organized."[3] For brief communication such as memos, orders, informational papers, and emails, a rapid reading is necessary and efficient, and the documents need to be free of mechanical errors and contain unambiguous word choices, with the main idea (thesis) stated clearly and early on in the document. But to a relatively untrained writer with genuine military leadership aspirations, what is an error? What is an unambiguous word choice? How are these problems avoided? How does one identify and correct these issues?

For some kinds of military communication, the simple AR 25-50 advice is enough, and many rapid readings of myriad sources for information, including PowerPoint presentations, Prezis, emails, radio, television, social media, etc., suffice for their designated tasks when the messages are simple and succinct. Errors and questionable word choices may or may not mean the difference between life and death in these instances. However, when military leaders venture into academic or professional writing for publications that rely highly on author credibility, evidence of critical thinking, research, source synthesis, specific formatting, and original thought, they need to be aware of the extra preparatory steps that are involved in revisions. Revisions are crucial to creating an effective, high-quality message or idea to be well received in the professional or academic community. How would an aspiring military leader bridge the gap between the military writing conventions he or she has been taught and the conventions more likely to appear in formal civilian discourse? How would an aspiring military leader know that there was a gap that needed a bridge? Fortunately for aspiring military leaders, there are editors! Editors like to feel needed, and they want to help leaders. Editors employed by the Department of the Army, however, are individual resources for military writers and often look forward to navigating writers through the ubiquitous field of rhetorical obstacles.

Soldiers need to be able to internalize extended definitions of leadership so that effective communication efforts extend naturally to the written domain. Since I have been on a military installation, however, I have not seen many occasions where military writers showed much evidence of an internalized definition. Many authors like to sprinkle the word "leadership" into their articles without a thorough definition laid out for context in hopes that a general audience will perhaps "get what they mean." An author's assumption that an audience will understand intent when it comes to complicated terminology both overestimates the efforts of the general public and also presumes a great deal of confidence in the precision of the writing. Even the best writers need to define and internalize key terms and concepts. Even if soldiers are not directly addressing concepts of leadership, elements of the definition need to inform all of their written communication. Army Doctrine Publication (ADP) 6-22, *Army Leadership and the Profession*, defines "leadership" as "the activity of influencing people by providing purpose, direction, and motivation to accomplish the mission and improve the organization."[4] Leadership here is an activity; it is something one does. Successfully applying this concept to convey purpose and direction and motivation in professional and academic writing (while most importantly influencing an audience) demonstrates a kind of active leadership that results from a great deal of diligence and product dedication that is not easy for the average soldier to mirror.

Much like writing itself, leadership is a process. ADP 6-22 suggests that most people

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possess leadership potential and can eventually learn to be effective leaders.[5] Leadership development, doctrine states, "begins with education, training, and experience."[6] Richard M. Swain and Albert C. Pierce frame the leadership definition as a "creative combination of purposeful and identifiable characteristics and behaviors intended to influence others; features and actions that are subject to observation, assessment, evaluation, and correction."[7] If the goal of effective military writing is to influence others, then in addition to the conventional essay-writing standards enforced by writing programs at the U.S. Army Command and General Staff College and other military institutions, the military needs to include courses in its leadership program that focus on the particulars of adapting existing essays to fit academic publication conventions. Ford maintains that "[a]ll levels of the Army officer education system should expressly acknowledge the importance of communication skills in leadership. Bundling communication among other aspects of leadership diminishes the central importance of the concept."[8] If a soldier is able to write short, effective emails and memos but is unable to communicate in a professional, academic manner, he or she sets a poor example for future military leaders and to the military's detriment. Leaders set examples for others every day by demonstrating their technical savvy, through their physical prowess, and by maintaining their calm in the face of adversity. If a leader is able to exhibit all of those fine characteristics but is unable to write effectively at the highest levels, he or she represents a flawed leadership, and that person could (for example) miss a valuable opportunity to infuse a military perspective into discussions among civilian political figures.

Why should military leaders, future or otherwise, involve themselves in academic writing, which is notorious for its perceived elitism and its long-winded commentary? Why should the military incorporate courses into its writing programs that are designed to assist military leaders (or future leaders) with expanding, editing, revising, and adapting existing essays to fit civilian academic publication conventions? Unlike most popular publications, academic publications rely primarily on scholarly evidentiary support, critical analysis, and a strong position (thesis) on the topic. Government policy analysts and policy practitioners read academic journals, and the ideas featured in these kinds of publications can inspire or shape influential people's (or even a whole government's) strategic thinking. For example, in the book *Academic Writing for Military Personnel*, Adam Chapnick and Craig Stone note that Canada's 2005 International Policy Statement "reflects many of the ideas in Andrew Cohen's *While Canada Slept: How We Lost Our Place in the World*, the Canadian Defence and Foreign Affairs Institute's *In the National Interest: Canadian Foreign Policy in an Insecure World*, and Jennifer Welsh's *At Home in the World: Canada's Global Vision for the 21st Century*."[9] Even if government policy dialogue exists on a primarily civilian level, military personnel who can contribute their ideas and perspectives on an academic level vis-à-vis academic publications are able to integrate themselves into this civilian-dominated arena and join the conversation. As Chapnick and Stone contend, "it is crucial that the military does not exclude itself from these discussions" because for better or worse, this day and age celebrates "the democratization of foreign and security policy," and the military needs to be able to have its voice heard.[10]

Inside and outside the military, academic writing should stand out from other types of writing because it specifically refers to writing a research/argumentative essay. Academic writing requires a different approach to conveying a message than the usual military writing such as staff reports, speech writing, memos, orders, or any form of creative expression. The writing standard in the Army prioritizes placing the main point at the beginning of an essay (bottom line up front [BLUF]) for quick readability and rapid message transmission, and statements announcing the presence of the BLUF convention in essays seems to apply uniformly to all military writing.[11] After all, "[a]n order that can be understood will be understood. When and if our soldiers are called upon to risk their lives in the accomplishment of their mission, there must be no mistaking exactly what we require of them."[12] The good news is that unlike some types of military writing, one can usually assume that no one's lives are immediately at stake when writing or adapting an academic essay to fit publication requirements. The bad news is that in order to construct an effective academic essay for publication, the essay needs to be significantly altered from the typical classroom essay in the areas of form, word choices, idea organization, and evidentiary support.

Attention, Please! Avoid Announcements!

I have noticed that most of the articles submitted to *Military Review* are academic, in that the majority of

them contain clear arguments with appropriate, scholarly sources supporting a central thesis. However, many of those articles contain elements of the expository essay, which is predominantly supposed to be a descriptive essay aiming to expose the full extent of a specific issue without necessarily passing judgment or taking a position on it. Many authors begin their essays with appropriate theses that are often prefaced with the words, "This article will argue that …," or "The purpose of this article is to …." While this kind of explicit approach is not technically incorrect, in civilian academic writing, announcing the purpose in this way suggests that the writer is either new to writing or returning to it after a lengthy absence; most seasoned academics will not announce the presence of their thesis in their published work.[13] Announcing the essay's purpose early on fulfills the BLUF convention taught at the U.S. Army Command and General Staff College and in other military writing programs, and some editors appreciate the approach because it provides the reader with a "road map" for navigating lengthy articles. However, this kind of announcement seems to be more suitable for an essay abstract, so researchers can decide whether to use that article when looking for sources.

There is nothing wrong with announcing the BLUF convention while the article is in draft form. Doing so might give the author a sense of clarity because the essay's purpose is stated early on, and having it written out can keep the writer on task. But because academic writing has the chance to reach a politically influential audience, it is crucial for the author to construct a more implicit thesis in order to accommodate academic publication conventions. An implicit thesis statement, according to Chapnick and Stone, "manages to convey the same intent without being quite as deliberate."[14] In most cases, the thesis can remain the same but without the announcement. In the *Guide to Effective Military Writing*, William

Pvt. Kaleb Shriver, 1st Theater Sustainment Command (TSC), writes an essay 10 March 2020 during one of the situational training exercises as part of the Blackjack Challenge hosted by the 1st TSC operational command post at Camp Arifjan, Kuwait. (Photo by Spc. Dakota Vanidestine, U.S. Army Reserve)

A. McIntosh states that "[g]ood writing saves time, money, and materiel. More important, it saves lives. It ennobles the professions, distinguishes great leaders, and advances careers."[15] McIntosh's position that writing saves lives and advances careers might seem dramatic at first. But when a soldier assumes a leadership position, and when he or she harbors a motivation to advance his or her career and wishes to inspire followers who might be less motivated, inspired, or challenged to write, that soldier needs to be the leading exemplar when writing for all occasions, including for publication, to ensure that lives are saved and careers are advanced. One of the easiest things to do to begin this process is to eliminate the thesis announcement and simply rely on the thesis itself to convey the message.

> Because it is so difficult to convince writers to revise or adjust their prescribed habits for publication, the need to incorporate courses into military leadership programs is critical to how effective people will be when they develop as leaders.

An effective thesis cannot be answered with a simple "yes" or "no" because it is not really a topic, it is not really a fact, and it is not really an opinion. I taught writing at the college level for over ten years, and every semester I spent an inordinate amount of time addressing the specifics of composing an effective thesis statement, probably to the despair of my students. It is an incredibly difficult concept to grasp for those who struggle with writing, and sometimes even for those who do not. However, it is the most important part of an article or essay, and it deserves precision and clarity if the argument is to succeed. According to the Harvard Writing Center, "A good thesis has two parts. It should tell what you plan to argue, and it should 'telegraph' how you plan to argue—that is, what particular support for your claim is going where in your essay."[16] The thesis should never be a question or a list, it should never be vague or confrontational, and it needs to contain a definable, arguable claim that is as specific as possible.[17] A writer can telegraph the way he or she plans to argue his or her position without explicitly announcing "This paper argues that …." If the target audience or the publication's editors are unable to determine what the argument is without having it spelled out, then the *writer is not doing his or her job*. Effective military leaders must continuously attend to the clear and efficient ways they write in all aspects of military writing, if only to avoid letting others take over who might have inferior standards or values when it comes to writing and ways of communication. Announcing the essay's purpose when writing for publication risks destabilizing the implied relationship between the leader (author) and his or her followers (audience), primarily because doing so presumes that the audience lacks the requisite understanding to be able to follow what should be an organized argument without a map. Insulting one's audience is generally discouraged in formal writing.

The Ins and Outs of Academic Writing

In addition to dedication and self-awareness, effective leaders are known for their motivation. It seems wrong for a leader to excel in most aspects of leadership only to fall short when writing, but it happens. In an article on the merits of leadership and motivation, Robin Wink points out that the "military operates in a leadership-centric way that is not present in civil service …. From day one, whether you are a newly commissioned officer or a young enlisted troop, you are focused on leadership. This constant emphasis includes formal training, unit ceremonies, and day-to-day activities."[18] Further, Jay A. Conger and Rabindra N. Kanungo note that exceptional leaders "communicate their own motivation to lead their followers. Through expressive modes of action, both verbal and nonverbal, the leaders communicate their convictions, self-confidence, and dedication in order to give credibility to what they advocate."[19] Many people are motivated by external forces such as money or the promise of love or sex or the social status that accompanies a new executive position at a prestigious company. In

contrast, people with exceptional leadership potential "are motivated by a deeply embedded desire to achieve for the sake of achievement."[20] If a soldier aspires to set a high bar for his or her leadership example, he or she will benefit from considering how achievement manifests itself, and how achievement reflects on the leader, especially when writing for publication. So many writers, however confident they might be with many of their military leadership skills, are rarely as clear and effective in writing as they think they are; this may be due to ineffective training, or not enough attention to written detail.

Aside from common writing problems such as run-on sentences, comma splices, verb tense shifts, faulty parallelisms, and dangling modifiers (among others), word choice, general wordiness, and specialized jargon will complicate the flow of an academic essay's argument. Military writing is supposed to be full of specialized jargon, so authors should not necessarily feel obligated to define every term they include in their work. Most of the problems I have encountered with military writers lie with undefined concepts, imprecise word choices, or lazy attempts at explanations. Most of the time, I notice that the lazy writing stems from various assumptions an author makes about his or her audience. Chapnick and Stone contend that if a writer uses words that only a limited audience can understand, the writer risks "projecting arrogance and insecurity."[21] The arrogance, the authors say, "comes from the idea that if readers don't understand the text, then they are simply not smart enough to be deserving of your time. The insecurity is reflected in the impression that you are hiding behind an obscure vocabulary to disguise the fact that you have nothing of value to say."[22] Leaders should avoid insulting their audience, so one way a writer could combat the temptation to show off any overly wordy and jargon-laden writing skills is to write simply and thoroughly so that an audience can focus on ideas and not stumble over unfamiliar terminology and egregiously large words.

In the 1970s, E. B. White (author of *Charlotte's Web*) revised and added to an existing text, *The Elements of Style*, initially written by William Strunk Jr. The advice in that book determined writing style elements that still apply to clear, concise writing today. One of the most famous examples from that book is the imperative to *omit needless words*.[23] Many of the articles submitted to *Military Review* are laden with needless words; for example, "due to the fact that," "call your attention to the fact that," "indeed," "in essence," "of course," "basically," and "that being said." Strunk and White assert that a sentence "should contain no unnecessary words, a paragraph no unnecessary sentences, for the same reason that a drawing should have no unnecessary lines and a machine no unnecessary parts."[24] Any worthy engineer would not include an unneeded part into a design, and writing itself is a specific kind of design; the author is the engineer. Writers need to understand that true writing craftsmanship relies on every word having a specific function. The phrase "the fact that" is, according to Strunk and White, "an especially debilitating expression" and "should be revised out of every sentence in which it occurs."[25] Many people prefer to "write like they talk," but final products often end up sounding lazy and elementary when writers take that approach. One simple, underrated way to omit needless words like "due to the fact that" is to employ the classic subordinating conjunction "because."

Because it is so difficult to convince writers to revise or adjust their prescribed habits for publication, the need to incorporate courses into military leadership programs is critical to how effective people will be when they develop as leaders. Writing for publication does not have to be limited to authors with graduate degrees; people who are less confident with their writing skills should feel encouraged to contribute to the academic conversation as well because they will have support. Everyone must revise their drafts if they seek publication, regardless of writing skill, but no one can do it alone. One must cultivate relationships with instructors or editors, because the more eyes on an essay means the more it will develop in the process, and the stronger it will be in the end.

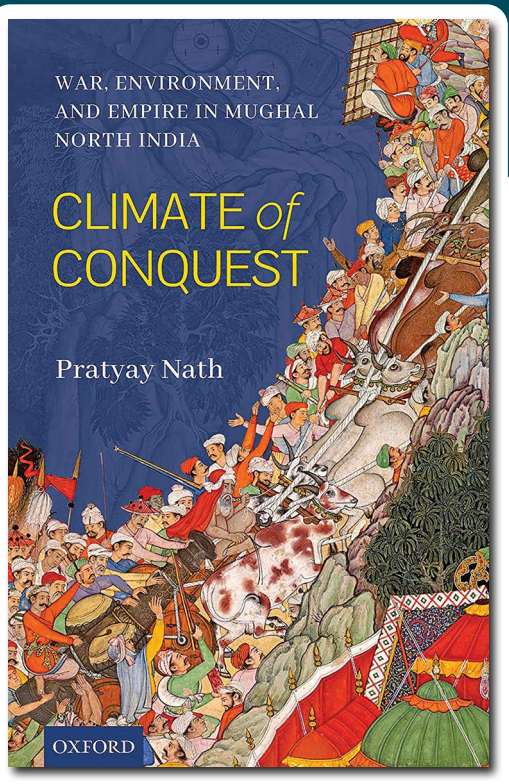
While I am still a relatively new person to the military, I feel that there is still a lot to learn about how to engage with military writing, but I think having a working understanding of leadership will help me be a better resource for aspiring military writers. There is no "right way" to write an article for publication, but there are many steps and considerations involved in dressing up an article for a publication. There are only a few considerations mentioned in this article, but so much effort and dedication go into an essay revision that there is no way to address everything at once. Adding courses to a military leadership program designed to address this material and cover all the requirements would benefit the military immensely, and the writers and leaders of the world would be better for it. ■

Notes

Epigraph. Stephen King, *On Writing: A Memoir of the Craft* (New York: Simon & Schuster, 2000), XIX.

1. Christopher M. Ford, "Army Leadership and the Communication Paradox," *Military Review* 95, no. 4 (July-August 2015): 68.
2. Robert Burns, "Miscommunication Blamed for Deadly U.S. Mistake in Afghanistan," PBS, 5 September 2014, accessed 18 February 2020, https://www.pbs.org/newshour/nation/miscommunication-blamed-deadly-u-s-mistake-afghanistan; Alfred, Lord Tennyson, "The Charge of the Light Brigade," National Center, accessed 18 February 2020, https://nationalcenter.org/ChargeoftheLightBrigade.html.
3. Army Regulation 25-50, *Preparing and Managing Correspondence* (Washington, DC: U.S. Government Publishing Office [GPO], 10 October 2020), para. 1-38(a), accessed 4 December 2020, https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN31138-AR_25-50-001-WEB-3.pdf.
4. Army Doctrine Publication 6-22, *Army Leadership and the Profession* (Washington, DC: U.S. GPO, 25 November 2019), accessed 18 February 2020, https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN20039_ADP%206-22%20C1%20FINAL%20WEB.pdf.
5. Ibid.
6. Ibid.
7. Richard M. Swain and Albert C. Pierce, *The US Armed Forces Officer: Essays on Leadership, Command, Oath, and Service Identity* (Washington, DC: National Defense University Press, 2019), 61.
8. Ford, "Army Leadership and the Communication Paradox," 72.
9. Adam Chapnick and Craig Stone, *Academic Writing for Military Personnel* (Ottawa, Ontario: University of Ottawa Press, 2009), 2, accessed 25 February 2020, https://ebookcentral.proquest.com/lib/carl-ebooks/reader.action?docID=3271761.
10. Ibid.
11. Command and General Staff School, *Writing and Speaking Skills for Army Leaders* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 2009), 1-1, accessed 24 February 2020, https://home.army.mil/wood/application/files/7115/5751/8344/ST_22-2_Leader_Communication.pdf.
12. Department of the Army Pamphlet 600-67, *Effective Writing for Army Leaders* (Washington, DC: U.S. Government Printing Office, 2 June 1986), accessed 24 February 2020, https://www.lsu.edu/hss/milsci/resources/dapam600_67.pdf.
13. Chapnick and Stone, *Academic Writing for Military Personnel*, 14.
14. Ibid.
15. William A. McIntosh, *Guide to Effective Military Writing* (Harrisburg, PA: Stackpole Books, 1986), 7.
16. "Developing a Thesis," Harvard College Writing Center, accessed 26 February 2020, https://writingcenter.fas.harvard.edu/pages/developing-thesis.
17. Ibid.
18. Robin Wink, "How the Military Gets Motivation Right," Federal News Network, 16 February 2012, accessed 10 September 2020, https://federalnewsnetwork.com/all-news/2012/02/how-the-military-gets-motivation-right/.
19. Jay A. Conger and Rabindra N. Kanungo, "Toward a Behavioral Theory of Charismatic Leadership in Organizational Settings," *Academy of Management Review* 12, no. 4 (1987): 643.
20. Daniel Goleman, "What Makes a Leader?," in *On Emotional Intelligence* (Brighton, MA: Harvard Business Review Press, 2015), 14.
21. Chapnick and Stone, *Academic Writing for Military Personnel*, 2.
22. Ibid.
23. William Strunk and E. B. White, *The Elements of Style* (New York: Longman, 2000), 23.
24. Ibid.
25. Ibid.

REVIEW ESSAY



Climate of Conquest

War, Environment, and Empire in Mughal North India

Pratyay Nath, Oxford University Press, Oxford, United Kingdom, 2019, 368 pages

Robert D. Spessert, JD

Residing on a continent bordered by the Atlantic and Pacific Oceans, most Americans with an interest in military history outside the United States gravitate to historical information from either Europe or east Asia. Pratyay Nath, a professor of history at Ashoka University in Sonipat, in India's National Capital Region, offers a unique alternative to east Asian or European histories. In his book *Climate of Conquest: War, Environment, and Empire in Mughal North India,* Nath examines how the Turkic Muslims invaded and built an empire in North India in late sixteenth through the mid-seventeenth centuries.

Family dynamics generated the first Mughal invasion of Northern India. The young Muslim Turkic Prince Zahir ud-din Muhammad Babur fell victim to fraternal rivalry. He lost his inherited title and his possession of family lands in the Oxus River (now called the Amu Darya River) plains, which is located between Afghanistan and Tajikistan. In the year 1519, he marched southeast out of Kabul, seeking to assuage his ambition, and set his sights on the fabled riches of Hindustan. By 1526, the prince defeated the Muslim Lodi Sultanate in battles at Delhi and Agra. Assuming control over these two cities and their commerce permitted him to expand his power. Upon his death in 1530, his eldest son, Nasir ud-din Muhammad Humayun, inherited the throne and initiated military advances both east and west. Initial successes turned into successive defeats, resulting in the loss of Agra and Delhi by 1540. During a fifteen-year interlude, Humayun defeated his half-brother, established his power base in Kabul, and seized Qandahar. Then, in 1555, Humayun rode out from Kabul, seized Lahore,

returned from exile, entered Northern India, retook Delhi, and died soon afterward.

Nath focuses his book on how Humayun's son, Jalal ud-din Muhammad Akbar, along with his subordinates, expanded the Mughal empire from its initial base in the Indus Valley and Punjab Basin, which was a bridgehead into North India. The author divides his book into two parts. The first part he labels "Fighting Wars: Campaigns, Environment, and Empire." Here, in two chapters, he addresses intentional and opportunistic military campaigns and the impact of the environment on operations. The second part is titled "Producing Wars: Logistics, Frontier, and Ideology." The three chapters in this part span the spectrum of acquiring and moving resources, delineating the extent of imperial power, and believing in the concept of a divine mandate to rule. The latter created an obligation to perform and extend justice, which legitimized expansion and the violence to achieve it. The reader with military experience or who is versed in military history can decipher the rationale behind the author's division of the book. Nath's first part describes theater-level operations. The second elaborates on the operations' logistical support, plus the political and cultural mindset of the ruling elite.

The phrase "campaign, conquer, consolidate, and repeat" summarizes Nath's pages devoted to Akbar's methodology in part 1, wherein Akbar expands his base and achieves his strategic end state of a Mughal empire across North India. Those first three verbs outline Akbar's primary approach. In addition, those verbs permit categorizing lessons.

Campaign. Kabul is located on the primary route between Central and South Asia. While trade flowed through Kabul, most of those riches originated in Hindustan—the Persian term for North India. The conquest and control of the Punjab created a safe base and a defense in depth, if necessary, for expansion. Delhi was taken by Babur and was then seized again by Humayun. It sat on trade routes out of India to Lahore, Kabul, and Central Asia. Additionally, it sat at the nexus of trade routes west to Ajmer and to the ports on the Arabian Sea, south to Agra and the interior, east along the Ganges River valley to the river port Calcutta, and to the seaport Chittagong in the Bay of Bengal, which was then a Portuguese settlement.

Akbar refrained from a main effort focused on immediate expansion outwards from Delhi until he secured his base and could reap the rewards of the fertile Punjab plains. However, he permitted subordinate commanders to be opportunistic. As a reward, he assigned each commander a *jagir*, a subordinate fiefdom of unconquered or unsubjugated land. This incentivized his lieutenants to conduct ways and employ means to bring those areas under control.

Babur and Humayun's military forces, plus Akbar's early offensives, consisted primarily of cavalry supported by infantry and artillery. The Mughal ancestors came from the central Eurasian steppes and valued horses and horsemanship. Babur benefited from a military advisor from the Ottoman Empire who recommended the fusion of direct- and indirect-fire weapons—in the form of mounted archers, matchlock infantry, and field artillery—with traditional cavalry tactics. A wagon laager protected the direct-fire weapons; foot and mounted archers fell behind them. The Ottomans picked up this tactic in their conflicts in eastern Europe; the Hussite forces in Bohemia had used it against the armies of the Holy Roman Empire and the Kingdom of Hungary.

While the Europeans typically employed the laager in their rear formations, the Ottomans and Mughals emplaced it at the front to engage the enemy's center. Chains secured the wagons to each other and impeded enemy cavalry charges. This laager provided cover for the slow-loading matchlocks. Heavy cavalry behind the direct-fire infantry protected against enemy advances or exploited routes. Light cavalry of mounted archers comprised the flanks and "skirmish line." This light cavalry harassed the opposing flanks and rear to entice the enemy to break formation—either to advance or withdraw. Once the line broke, the heavy cavalry would then deliver the decisive blow.

In Hindustan, the Mughals encountered war elephants carrying archers and matchlock men. At the First Battle of Panipat in 1526, Babur's wagon laager with its firearms and artillery repulsed the elephant charge to his center, a key factor in his victory, which resulted in control over Delhi and Agra. In contrast, thirty years later at the Second Battle of Panipat, the Hindu army with at least three times the horse cavalry dispatched their elephants against the Mughal flanks. Pushed out of position, the Mughal light cavalry initiated an enveloping maneuver. Its mounted archers targeted the elephant's legs and the soldiers atop, while the heavy cavalry circled and attacked the enemy's

rear. A ravine in front of the wagon laager prohibited an enemy horse and elephant charge against the Mughal center. Victory arose when the Hindu forces retreated after seeing their general fall when an arrow hit him in the eye. The enemy's employment of elephants so impressed Babur's thirteen-year-old grandson Akbar, that when Akbar eventually expanded into the Ganges River valley in 1567, he used elephants in conjunction with horse cavalry; he even initiated the battle on the back of an elephant.

Conquer. The Mughals infrequently fought large-pitched battles in Akbar's conquest of North India. Forts permitted control of communication lines. Commanders preferred to acquire forts quickly and intact without expending time and effort to breach walls, clear and secure, and then rebuild. Accordingly, Akbar employed a variety of ways to conquer a fort. These approaches included the following:

Negotiate. Mughal commanders leveraged the diplomatic and economic instruments of power. They attempted to co-opt the local area and garrison commander with rewards for surrender. These rewards involved positions of rank, title, and payment to enter into the empire's service. Concurrently, the offer's recipient also received a covert warning of the adverse consequences of nonacceptance. A significant delay in response often resulted in separate negotiations to advise subordinate leaders, merchants, and elders of the benefits of capitulation. These benefits attracted many people, who pressed the commander to consider surrender. Alternatively, if someone was still reluctant to surrender, the promise of benefits incentivized people to assassinate the commander. Early diplomatic and military successes influenced other powers to voluntarily enter negotiations designed to shift alliances and recognize Mughal sovereignty.

Defeat forces in the field. Mughal siege operations commenced with a circumvallation of the fort. This involved building two walls—one to surround the citadel and protect its forces from direct fire from the walls, and another to protect its rear from enemy reinforcements that might attack. Units sallied out of the defensive walls to repulse encountered matchlock infantry in defensive positions and Mughal cavalry.

Blockade. The circumvallation interdicted food supplies. Food shortages combined with diplomatic pressure and the offer of imperial service sufficed in the early years of expansion to cause the surrender of three forts.

Lay siege. If diplomatic pressure and the blockade failed, the Mughals initiated building siege batteries. These well-defended positions, often built higher than the surrounding terrain, held artillery pieces and contained siege equipment. While the Mughals exercised a doctrine that combined arms, their enemies were not technologically inferior. In addition to archers, most forts the Mughals encountered had matchlock firearms and artillery. Consequently, rather than a medieval rush across terrain and scale of ramparts, the Mughals used mines and *sabats*. Mining consisted of tunneling underground from the siege camp to the ramparts. From that location, the attackers created a large chamber, filled it with combustibles and gunpowder, and set it alight. When successful, the explosion would collapse walls, create breaches, and permit the attackers to storm the fort. The sabat was a covered and concealed approach trench for soldiers and artillery. It resulted from "sapping," which involves digging trenches, reinforcing trench walls, and covering the top with planks.

The Chittorgarh citadel, one of the hill forts of Rajasthan, commanded the trade routes to Gujarat with its west coast seaports and also the wealthy interior kingdom of Malwa. When its defenders successfully repaired a breach in the walls as a consequence of mining in 1568, the Mughals commenced sapping. Nath quotes contemporaneous records that indicate the width of the trench was as wide as ten men abreast, and it permitted artillery to engage and break the walls; this resulted in the Mughal victory.

Consolidate. Barbur seized Delhi and Agra, assigned a governor general, and then returned to Kabul. The defeated Lodi sultanate and local Hindus interpreted Barbur's return to Kabul as a sign he lacked dedication to stay. Humayun's later reconquest of those cities, and early demise afterward,

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set the stage for his son. After succeeding his father, Akbar realized that while he controlled those cities, his writ of power over the new domain extended only as far as his cavalry could patrol. Furthermore, recently defeated enemy forces had fled north. The reality of these realizations jeopardized his tenuous hold on forts and cities in the Punjab and created a risk to his rear guard. Consequently, rather than marching east to reconquer lost realms, Akbar determined his first line of effort was to embark on a military campaign with the objective of consolidating his base. Only after securing his base did he commence further expansion across North India. The Mughal concept of assigning commanders a jagir delegated authority, responsibility, and rewards. It created fiefdoms where the lord had a personal interest in consolidating power, ensuring security, removing opponents, inspiring loyalty, and creating conditions for the economy to flourish prior to expansion. Additionally, through co-opting former enemy commanders, local leaders, and the merchant class, the victorious Mughals leveraged the personal, familial, and economic interests of new allies to hasten the pace of consolidation.

Repeat. Nath divides Mughal expansion into six separate areas and reveals how the Mughals modified tactics to react to their environment.[1] As Akbar's forces moved eastward along the Ganges River valley, the terrain changed substantially. Northward they encountered the forests and mountains of Assam, and southward into the Bengal delta they discovered numerous rivers, rivulets, and other bodies of water. The infrequent but large force-on-force operations resulted in a reduction in the size of cavalry and an increase in the size of infantry. The changes in terrain caused the adoption of riverine and amphibious operations, the purchase or construction of war boats, plus the creation of forts situated where water lines of communication intersected. Campaigns to the north out of Kabul, the Mughal's northernmost base, into Balkh and Badakhshan required infantry to perform the duties of engineers, which included making, clearing, and improving roads and passes.

In part 2's chapters, Nath examines the material and immaterial aspects of making war. The longest portion of part 2 is chapter 3, which emphasizes the operational and logistical support required to conduct campaigns. Nath's first example is Akbar's campaign against his younger half-brother Mirza. The sibling had attacked Mughal domains and politically threatened the emperor's authority in North India. The author elaborates that the route taken to retaliate required fording rivers, erecting bridges, and buying and building boats. These details set the stage to differentiate the types of noncombatant labor required to engage in warfare.

Combat forces at minimum needed food, fodder, equipment, and water. This all required procurement, production, and transport. Siege warfare required experienced engineers to plan and supervise, and also the labor of thousands with diverse skills to dig, brace walls, set charges, cover trenches, and build siege equipment. Nath cites primary sources that the siege at Chittorgarh involved over five thousand carpenters, miners, sappers, and stonemasons. There were one hundred to two hundred laborers lost each day building the sabats. Emperor Akbar directed the siege and dispersed cash to incentivize this work force. A siege of a Rajput citadel in 1569 involved five hundred porters to drag fifteen cannons to the top of a hill to employ against the fortress. In addition to providing pomp and luxury, the emperor's army headquarters psychologically projected power. Akbar's vizier wrote in a history that the process to set up, take down, and transport all the equipment, furniture, rugs, tents, and other material to the next location involved over 1800 laborers. While these laborers erected the imperial camp, another full camp set with its laborers marched forward to the next day's site to prepare. The expansion into Bengal and Assam involved riverine operations, which created a need for boat builders, boatmen, and crew. The empire centralized the acquisition and training of horses and elephants, plus the procurement of raw materials and the production of arms and armor.

Chapter 4 addresses the imperial frontiers, and chapter 5 focuses on Mughal ideology. Rather than establishing a physical boundary to delineate an area of sovereign control, the Mughal empire projected power from its Punjab heartland, which was reinforced by a series of forts along trade routes. These forts represented zones of power that controlled agricultural surpluses, grazing lands, and lines of communication; additionally, they benefited from loyal local elites. The writ of imperial control dissipated the farther away from those nodes and the closer it got to rival power projected from other entities that served the interests of subordinate fiefdoms, conquered lands, or competing kingdoms. The Mughal dynasty adhered to the idea of "universal sovereignty."

They adopted this concept from their Mongol and Turkic ancestors who interacted with Chinese dynasties whose emperors perceived they held a "mandate from heaven." Universal sovereignty also reflected similar perceptions held by neighboring powers. The Mughal concept of kingship required he strive for "justice." The Mughals interpreted this mandate to include using diplomatic and military power to "guide people to pledge allegiance to a single person"; namely, the emperor. Therefore, the Mughals perceived that a "justice-loving prince" would have the responsibility to avoid becoming content with a hold over only his current dominions. Rather, a leader incurred a moral imperative to expand the empire to fulfill the mandate.

Climate of Conquest presumes that the reader is familiar with the Mughal empire and its major characters. Accordingly, the book omits background and biographical information necessary to set the stage, provide context, and enable perspective. Unfamiliar names of persons, places, and events compelled me to research to acquire background. Nath sacrifices "the story" to submit evidence to support his thesis. A less-informed reader would appreciate the book if provided with the following information: On his paternal side, Babur is a fifth-generation descendant of Tamerlane, or Timur, the Turco-Mongol conqueror who founded the Timurid empire. On his maternal side, he is a royal descendant of Genghis Khan.[2] Babur's son Humayun's name translates to "lucky" or "conqueror." Information from other sources about Humayun's defeat by foreign armies, plots by his brothers, his refuge in Persia, and his death after his general secured victory reveal he was inaptly named. The mausoleum erected by his wife inspired the building of the Taj Mahal.[3]

The book appears disjointed. The reader receives only partial components of a campaign or battle relevant to a specific topic and encounters the other components in later pages when they relate to other topics. Readers new to the Mughal empire might benefit from a chronological organization subdivided by themes. The book lacks one large overview map that shows the extent of the Mughal empire with its origins in Kabul, its base in Delhi, its trade routes, and its frontier to Dacca and Mumbai. The only map that provides a grand perspective is the first map, which only displays the arid zones of Afro-Eurasia. The remaining maps predominantly depict an area 250 miles east to west, and 500 miles north to south. For comparison, a map that depicts Kabul to Dacca would extend approximately 1,200 miles east to west and 850 miles north to south.

The reader familiar with the founding and expansion of the Mughal empire, and who is interested in its specific military history, will find *Climate of Conquest* a useful read. It will expand a reader's current base of knowledge. For those new to this topic, my recommendation is to first read chapter 5 of Douglas Streusand's book *Islamic Gunpowder Empires: Ottomans, Safavids, and Mughals*.[4] It provides an excellent background for *Climate of Conquest*, and it chronicles each of the emperors, devoting more pages to Akbar. Armed with this background, the reader who desires to learn about the impact of the North Indian environment on Mughal military campaigns will enjoy Pratyay Nath's *Climate of Conquest*. ■

Notes

1. Nath specifically analyzes (1) the Bengal Delta between the Ganga and Delta Rivers; (2) the Brahmaputra Basin, the river that divides modern-day Bangladesh—rivers, rivulets, water bodies, plus forests in the south, and forests and mountains of Assam in the north; (3) the Lower Indus Valley, south of the Punjab, a valley with mountains to the west and the Sind Desert to the east; (4) the Himalayan foothills; (5) Qandahar, the frontier between the Mughal and the Safvid empires; and (6) Balkh and Badakhshan—north of Kabul, the Mughal's northernmost base.

2. Robert L. Canfield, *Turko-Persia in Historical Perspective* (New York: Cambridge University Press, 1991).

3. Stanley Lane-Poole, *Medieval India under Mohammedan Rule (712–1764)* (New York: G. P. Putnam's Sons, 1903), 230–37.

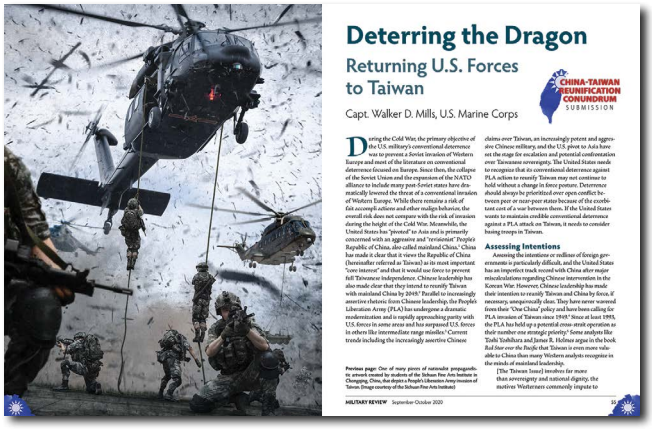
4. Douglas E. Streusand, *Islamic Gunpowder Empires: Ottomans, Safavids, and Mughals* (Boulder, CO: Westview Press, 2011), 184–258.

LETTER TO THE EDITOR

Response to Capt. Walker D. Mills, "Deterring the Dragon: Returning U.S. Forces to Taiwan"

Military Review, September-October 2020

1st Lt. Daniel Hogestyn, U.S. Army


Deterring the Dragon

Returning U.S. Forces to Taiwan

CHINA-TAIWAN REUNIFICATION CONUNDRUM SUBMISSION

Capt. Walker D. Mills, U.S. Marine Corps

To view this article, visit https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/September-October-2020/Mills-Deterring-Dragon/.

The September-October edition of *Military Review* hosted a multifaceted discussion on the prospects of a conflict over the reunification of Taiwan with the People's Republic of China (PRC). This included a policy proposal to return U.S. ground forces to Taiwan in order to deter aggression from the mainland. In "Deterring the Dragon," the author argues that "the United States needs to consider basing ground forces in Taiwan if it is committed to defending Taiwanese sovereignty."[1] This is a bold suggestion, but one that certainly merits discussion given the current strategic environment in the Indo-Pacific. This policy prescription focused on how deploying heavy U.S. ground forces could balance the growing gap in capability between PRC and Taiwanese forces, and therefore shore up deterrence across the strait. However, the proposal failed to consider any reaction by the Chinese government or the willingness of the Taiwanese to make such a significant change to the status quo.

This article prompted a response from Chinese state-run media, which cited Capt. Mills and claimed "a potential US military deployment in Taiwan may trigger a PLA reunification-by-force operation."[2] While Chinese media is known for bellicose rhetoric, this is not a new threat. In 2017, a Chinese diplomat stated, "The day that a U.S. Navy vessel arrives in Kaohsiung [a major Taiwanese port] is the day that our People's Liberation Army unites Taiwan with military force."[3] This aggressive response to the notion of U.S. military presence in Taiwan even extends to the Marine Corps security at the American Institute in Taiwan (a de facto U.S.

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embassy), which has only recently been acknowledged due to Chinese sensitivity to uniformed American military personnel on the island.[4]

In addition to the potential for a military response from the PRC, there is little appetite for a major change in the status quo in Taiwan. While attitudes on the island are hardening against the PRC, a strong majority of Taiwanese citizens still favor the status quo over an immediate move to de jure independence.[5] A move to fortify Taiwan with U.S. forces would undoubtedly suggest that the U.S. is reneging on the agreements made in the Three Joint Communiques, and that commitment to the One China Policy is only lip service.

The PRC certainly understands the deterrent effect of even a limited U.S. military presence in Taiwan. This is why they protest any proposal to return even a token force to the island, knowing that it could act as a tripwire to ensure a full U.S. response to a Chinese attack. Also, such a force could open the door for a larger rotational or permanent U.S. presence, one that could deter China by denial and prevent it from being able to achieve its military objectives. Deterring U.S. intervention would be paramount to any forced reunification. An effective U.S. tripwire force would eliminate this possibility. Injecting heavy U.S. forces right on China's doorstep, even in the pursuit of deterrence, would severely exacerbate the security dilemma and risk major escalation.

The growing concern over cross-strait relations and broader competition between the United States and China has driven extensive debate in foreign policy circles. Deterring Chinese aggression and reassuring our Taiwanese partners are important roles for the U.S. military in the Indo-Pacific. Any dramatic change to force posture in the region must take into account the adversary's reaction and the willingness of the host nation to incur the risks involved. The United States cannot afford to manufacture a potentially disastrous crisis or conflict in the pursuit of regional stability. ■

Notes

1. Walker D. Mills, "Deterring the Dragon: Returning U.S. Forces to Taiwan," *Military Review* 100, no. 5 (2020): 65.

2. Liu Xuanzun, "Returning US Forces to Taiwan Will 'Trigger Reunification-by-Force Operation,'" *Global Times* (website), 25 September 2020, accessed 24 November 2020, https://www.globaltimes.cn/content/1202011.shtml.

3. Staff, "A Warning to Taiwan-Independence Forces." *Global Times* (website), 10 December 2017, accessed 24 November 2020, https://www.globaltimes.cn/content/1079620.shtml.

4. Staff, "Marines to Guard New US Compound in Taiwan," Asia Times, 4 April 2019, accessed 24 November 2020, https://asiatimes.com/2019/04/marines-to-guard-new-us-compound-in-taiwan/.

5. Russel Hsiao, "Poll: People in Taiwan Feel China Is Unfriendly, Prefer Independence, and Favor Slower Pace of Cross-Strait Exchanges," *The National Interest* (website), 12 April 2020, accessed 24 November 2020, https://nationalinterest.org/blog/buzz/poll-people-taiwan-feel-china-unfriendly-prefer-independence-and-favor-slower-pace-cross.

Does Russia Need "Universal" Values?

Nikolai Patrushev

The system of traditional Russian values, which formed over centuries, serves as the spiritual and moral foundation of our society. This system was at the basis of the Soviet people's victory in the Great Patriotic War of 1941–1945, which was of global historical importance. This very foundation allows us to protect and strengthen sovereignty and to build the future regardless of all the difficulties and contradictions of historical development … The values of our multiethnic and multireligious society should be protected from the aggressive promotion of values of the neoliberal trend which in many respects contradict the very essence of our perception of the world and are being actively imposed by our geopolitical opponents in the fight for influence

on the development of civilization and their dominance in the world … We usually refer to values that are not inherent in our Russian society and that are dominant in foreign culture as "Western values." … It must be noted that some European values, for instance, an eight-hour working day, equality between women and men, or women's electoral rights appeared solely thanks to the events that took place in Russia in 1917 … In the social sphere, neoliberalism imposes individualism, egoism, the cult of pleasure, unrestrained consumption, and absolutizes the freedom of any self-expression … It is no longer about replacing some values with others. We should talk about the emergence of a new ideological system that ultimately aims to destroy any traditional religious and spiritual-moral values as the fundamental basis for the cultural and political sovereignty of countries and nations … New Western values have turned into the imposition of an alien worldview on the planet. The ideologues of the West put whole countries and nations before a choice—either you accept "universal values" or your values will be wrong and immoral … Thus, any attempts to standardize Russian or other values under the officially accepted "universal" ones are a manifestation of sociocultural aggression aimed at destroying traditional value systems in a particular state. The impact of these norms on the international security system has been equally devastating. Replacing international norms with the law of the strong, with fire and sword, imposing "freedom and democracy" where they cannot exist in such a Western sense, by definition, due to historical, religious, ethnological, and other reasons, has already led to the tragedies of Iraq, Syria, and Libya. A separate shameful page of history for all NATO countries was and will always remain the barbaric bombing of Yugoslavia.

An offensive is being conducted on "all fronts" of this "hybrid" war. The direction of the main blow was chosen to blur the traditions of various peoples that have developed over the centuries, their language, faith, and historical memory of generations. Such norms and values cannot be accepted by the multiethnic Russian nation under any circumstances. Against this background, the question of what Russia offers the world in return is very important. In contrast to the West, Russia, in fact, offers a new civilizational choice, the content of which includes equality, justice, noninterference in internal affairs, and the absence of a mentoring tone and any preconditions for mutually beneficial cooperation.

Russia proposes that national sovereignty, including cultural and spiritual and moral sovereignty, be elevated to the status of the greatest value and the basis for the subsequent construction of human civilization. There is no doubt that the number of followers of such a choice in the world will grow, creating more and more favorable conditions for the development and prosperity of different countries and nations. ■

Originally published as "Нужны ли России 'универсальные' ценности?" [Does Russia need "universal" values?], *Rossiyskaya Gazeta* (website), 18 June 2020, https://rg.ru/2020/06/17/nuzhny-li-rossii-universalnye-cennosti.html.

For commentary and more detail, see "The Kremlin's Critique of Western Values," Foreign Military Studies Office, *OE Watch*, https://community.apan.org/wg/tradoc-g2/fmso/m/oe-watch-past-issues/346376.

Previous page: Secretary of the Security Council Nikolai Patrushev meets with President Vladimir Putin and other permanent members of the Russian Security Council 25 November 2019 in Novo-Ogaryovo, Moscow Region, Russia. Patrushev, secretary since 2008, was a former director of the Russian Federal Security Service and is one of Putin's most trusted advisors. (Photo courtesy of the Office of the President of Russia)

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