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The US Army War College
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PARAMETERS



Vol. 52 No. 4 Winter 2022–23

Contemporary Strategy & Landpower

In Focus

Present Danger: Nuclear Plants in War

Henry D. Sokolski

Putin Chooses between a Series of Bad Options

Jeffrey D. McCausland

Indo-Pacific

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Strategy

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and Amy B. Adler

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SRAD Director's Corner

Preserving Taiwan as Strategic Imperative

George Shatzer

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From the Acting Editor in Chief

W

elcome to the Winter 2022–23 issue of *Parameters*. This issue consists of two *In Focus* commentaries concerning nuclear power plants and Russia’s invasion of Ukraine, three forums, and the SRAD Director’s Corner.

As Dr. Echevarria’s temporary replacement as he enjoys his much-deserved sabbatical, at my first meeting to understand my new duties I found that because of a paper shortage, we have had to reduce the weight of the paper in our print edition, and deal with months delay in distribution. I have recently been told we will also have to reduce the number of printed copies because of rising costs. For those aspiring authors out there seeking to produce an article for this journal, I would encourage analysis of the American economy and industrial base. What has happened so the shutdown of one baby formula factory causes a national crisis, and our military assistance to Ukraine has caused significant strains in our own ammunition stocks? Those of us in the military have learned that “just in time” logistics often is not; it appears we have let economic efficiency override effectiveness. So, I encourage future submissions looking at such issues.

In our first *In Focus* essay in this issue, “Present Danger: Nuclear Power Plants in War,” Henry D. Sokolski argues that following Russia’s seizure of Ukraine’s nuclear plant at Zaporizhzhya, the United States must adjust its military planning and policies to cope with hostile military forces’ targeting, seizing, and garrisoning of armed forces at large operating nuclear plants. Additionally, US leadership must clarify the policies regarding possible US targeting of such plants. In our second *In Focus* essay, “Putin Chooses between a Series of Bad Options,” Jeffrey D. McCausland analyzes President Vladimir Putin’s decision to escalate the war in Ukraine. Building on this analysis, he offers insights into how Putin might further escalate the war using conventional and unconventional instruments of power, including food, energy, and nuclear weapons. He then presents strategies for the West and the world to prevent or oppose possible future escalations. There are two fine podcasts available with these authors.

The issue’s first forum, *Indo-Pacific*, includes two articles exploring an area of important strategic concern for the United States. In “Indian Perspectives: Insights for the Indo-American Partnership,” Tyrell O. Mayfield posits an understanding of the theories and ideas of Kautilya, a leading but little-studied Indian philosopher, could provide the United States with insight into Indian perspectives on strategic partnerships and silent war. In “Security Force Assistance Brigades and US Indo-Pacific Command Multi-domain Competition,” John T. Pelham IV analyzes recent US Army operational experience in security

force assistance and security cooperation in the region and identifies capability gaps and opportunities for competition.

Our second forum, *Strategy*, features two articles proposing new ways to think about strategy and its implications. In “Planning for Positive Strategic Shock in the Department of Defense,” Benjamin W. Buchholz argues that a concept of positive strategic shock would benefit the US Department of Defense’s planning processes and makes recommendations based on three methods of thinking. In “Cognitive Performance Enhancement for Multi-domain Operations,” Daniel J. Herlihy explores the increasing demands on soldier cognition and compares the Army’s current approach to its adversaries.

The third forum, *Leadership*, consists of two essays providing important insights for leadership at all levels. In “Leader Perspectives on Managing Suicide-related Events in Garrison,” Thomas H. Nassif, George A. Mesias, and Amy B. Adler provide a thematic analysis of interviews with leaders, chaplains, and behavioral health providers who responded to garrison suicide-related events and explore leader decision making. In “Why Do Senior Officers Sometimes Fail in Character? The Leaky Character Reservoir,” Everett S. P. Spain, Katie E. Matthew, and Andrew L. Hagemaster claim senior officers may fail in character because their rate of character development throughout their careers typically decreases as environmental stressors rise. They conceptualize character as an open system with gains and leaks over time and integrate existing scholarship on personality and ethical development to create the Leaky Character Reservoir framework.

Finally, in the fourth installment of the SRAD Director’s Corner, Colonel George Shatzer focuses on the relationship between Taiwan and China. He reviews *The Trouble with Taiwan: History, the United States and a Rising China* by Kerry Brown and Kalley Wu Tzu-hui and *Taiwan Straits Standoff: 70 Years of PRC–Taiwan Cross–Strait Tensions* by Bruce A. Elleman. Shatzer shows how these books might help readers better understand the contentious and violent history of cross-strait relations between Taiwan and China so they can deal with the problem today and in the future. The books also provide insights for strategists attempting to plan for security in the region.

To close, I would like to provide some more guidance for future contributors. Perusing submissions has reinforced my opinion that the most overused and misused term in the security studies lexicon is the word “asymmetric.” There are two kinds of warfare: asymmetric and stupid. All belligerents seek an edge, and no one does that better than the United States. I have seen the word *asymmetric* used when a better term would have been *nonmilitary*, or *non-kinetic*, or *irregular*. So for those of you who want to write for this journal, be prepared to carefully define that word if you use it. ~CCC

Present Danger: Nuclear Plants in War

Henry D. Sokolski
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ABSTRACT: After Russia's unprecedented seizure of Ukraine's nuclear plant at Zaporizhzhya, the United States needs to adjust its military planning and policies to cope with hostile military forces' targeting, seizure, and garrisoning of armed forces at large operating nuclear plants and clarify its policies regarding possible US targeting of such plants. This article is the first to analyze these concerns. It compares Russia's assaults with previous strikes against research reactors and nonoperating nuclear plants in the Middle East and clarifies what new military measures and policies will be needed to cope with military operations against large, operating nuclear plants. US Army and Pentagon officials, as well as military and civilian staff, will discover ways to mitigate and reduce future military harm to civilians in war zones and understand the operational implications of military assaults on and seizures of civilian nuclear facilities.

Keywords: Zaporizhzhya, nuclear reactors, *Law of War Manual*, *Civilian Harm Mitigation and Response Action Plan*, radiation

Zaporizhzhya's nuclear plant, as of this writing, has been placed on cold shutdown. The plant and its military vulnerabilities, however, have generated some of the world's most sensational headlines.¹ Earlier this summer, online reports featured photographs of the plant's damaged transformer, a system critical to ensuring a steady supply of electricity to the plant's all-important reactor coolant and safety systems. Throughout August and September, news organizations detailed how the plant's external main power lines—built to keep electricity flowing to its reactors—had been cut. Some days, some of the plant's six reactors were operating. Other days, none were. Repeatedly, the viability of the plant's emergency diesel fuel electrical generators was “Topic A.”

Each of these stories raised the specter of a military-induced Fukushima: strikes against the plant or the power lines feeding into it that could cut off the electricity needed to run the reactors' coolant pumps and safety equipment followed by nuclear fuel failures and a massive radiological release over Ukraine and its neighbors. Add to this firsthand accounts of Russian torture, the murder of “disloyal” Ukrainian

1. Wikipedia, s.v. “Crisis at the Zaporizhzhia Nuclear Power Plant,” last modified September 14, 2022, https://en.m.wikipedia.org/wiki/Crisis_at_the_Zaporizhzhia_Nuclear_Power_Plant.

reactor staff, and an emergency International Atomic Energy Agency visit, and you have everything needed for a Netflix docudrama.

What you would not have, however, and what is still lacking, is a Pentagon assessment of what all this means militarily.

Close friends have offered hints. Japanese Prime Minister Fumio Kishida called for stationing security forces at each of Japan's nuclear plants, and his administration also suggested the possibility of deploying dedicated missile defense systems (as Belarus has done at its nuclear plant since 2019).² Seoul crafted military exercises this year with US forces that included explosives detonating at one or more of South Korea's civilian reactor sites.³ Ukrainian President Volodymyr Zelensky accused Russia of turning Zaporizhzhya into a prepositioned, slow-burning, radiation-dispersing "nuclear weapon."⁴ Meanwhile, Tobias M. Ellwood, the British House of Commons Select Committee on Defense chairman, insisted that if Russia intentionally struck Zaporizhzhya and spread harmful radioactivity to Poland or Romania, it would trigger NATO's Article 5.⁵ Moldova, Romania, and Ukraine did more than talk. All three countries prepared to distribute iodine pills to their citizens (to reduce the thyroid cancers radiation might induce if Zaporizhzhya leaked radiation).⁶

The following map shows what might happen as a result of a nuclear accident at the Zaporizhzhya nuclear power plant. It shows the spread of simulated contamination levels after a hypothetical core meltdown at Zaporizhzhya 1.

2. Eric Johnston, "Japan to Discuss Creating New Police Unit to Guard Nuclear Plants," *Japan Times* (website), March 14, 2022, <https://www.japantimes.co.jp/news/2022/03/14/national/nuclear-plant-police-unit/>; and "TOR-M2 Air Defense Missile Systems to Protect Belarus Nuclear Power Plant," *Army Recognition* (website), December 8, 2018, https://www.armyrecognition.com/december_2018_global_defense_security_army_news_industry/tor-m2_air_defense_missile_systems_to_protect_belarus_nuclear_power_plant.html.

3. Sang-ho Song, "Upcoming S. Korea-U.S. Training Involves Drills on Repelling Attacks, Staging Counterattacks," *Yonhap News Agency* (website), August 1, 2022, <https://en.yna.co.kr/view/AEN20220801004000325>.

4. Rebecca Falconer, "Zelensky Says Russian Forces Using Zaporizhzhia Plant as 'Nuclear Weapon,'" *Axios* (website), September 4, 2022, <https://www.axios.com/2022/09/05/zelensky-russia-zaporizhzhia-plant-nuclear-weapon>.

5. Article 5 requires NATO members come to the defense of any other member that suffers a military attack. See Tobias M. Ellwood (@Tobias_Ellwood), "Let's make it clear: ANY deliberate damage causing potential radiation leak to a Ukrainian nuclear reactor would be a breach of NATO's Article 5. @thetimes," Twitter, August 19, 2022, 1:55 a.m., https://twitter.com/Tobias_Ellwood/status/1560505699179925509?s=20&t=FYfhPvuxW0pHm8lwXfe99w.

6. Josh Lederman, "Radiation Tablets Are Handed out near Ukrainian Nuclear Plants as Fears of a Leak Mount," *NBC News* (website), August 26, 2022, <https://www.nbcnews.com/news/world/russia-ukraine-war-zaporizhzhia-nuclear-plant-radiation-fears-iodine-rcna45041>; Ben Turner, "Ukraine War: Moldova Ships in One Million Iodine Pills amid Fears of Nuclear Disaster," *Euronews* (website), August 16, 2022, <https://www.euronews.com/2022/08/15/moldova-ships-in-radiation-pills-as-fighting-rages-near-zaporizhzhia-nuclear-power-plant-i>; and Helen Collis, "Romania to Issue Iodine Tablets as Russian War Continues in Neighboring Ukraine," *Politico* (website), April 3, 2022, <https://www.politico.eu/article/romania-to-issue-iodine-tablets-as-russian-aggression-continues-in-bordering-ukraine/>.



Figure 1. Simulation of contamination spread after a hypothetical core meltdown at Zaporizhzhya 1, using weather information from the third week of March 2021, and simulated contamination levels after a hypothetical core meltdown at Zaporizhzhya 1, using weather information from the fourth week of March 2021
(Map by Pete McPhail)

What has the Pentagon made of this? So far, not much. The Department of Defense’s spokesperson merely observed the danger and “irresponsibility” of Russian military assaults on the Zaporizhzhya plant.⁷ But that is it. One might have expected him to reference assessments the Department might have made following any of the more than 13 military assaults Iran, Iraq, Israel, the United Kingdom, or the United States mounted against reactors in Iran, Iraq, Israel, and Syria. Perhaps no such assessments were undertaken by the Department. If there were, it would help clarify how the Zaporizhzhya attacks differ from those made in the Middle East and what those differences portend.

The short answer to the latter question is plenty.

First, none of the Middle Eastern attacks were directed against operating powered reactors.⁸ Not so with Zaporizhzhya. Before the war, the plant produced more nuclear power than any other European plant. With Russia’s assault on Zaporizhzhya, the drama of a possible massive radiological release is real; with the previous strikes in the Middle East, it was not.

Second, unlike the attacks on Zaporizhzhya, none of the raids against Middle Eastern reactors were mounted with long-range precision drones or missiles. All of them were executed either with attack bombers or inaccurate Scuds. The Middle Eastern strikes, moreover, were aimed to destroy the entire nuclear plant, not particular subsystems. Again, not so with Zaporizhzhya. At different times and separately, the Zaporizhzhya plant’s on-site transformer was hit, its four inbound power transmission lines felled, and its spent fuel storage area struck. Each of these separate strikes ratcheted up fears similar to what one might experience climbing a nuclear escalatory ladder (think: Herman Kahn, version 2.0). In contrast, past Middle Eastern reactor attacks were binary—either total hits or relatively harmless misses.

Third, none of the attacked plants in the Middle East were ever seized and operated by the attacking party. Not so with Zaporizhzhya. The Russians not only seized Zaporizhzhya and assumed its operation, but they also used it as a missile and artillery launch site and allowed (or inflicted) damage to the structure to manipulate how much electricity Ukrainians might get. Russia also threatened to redirect the plant’s electrical production toward Russia and

7. Paul D. Shinkman, “Pentagon Blasts Russian Provocations at Ukrainian Nuclear Plant as ‘Height of Irresponsibility,’” *U.S. News and World Report* (website), August 19, 2022, <https://www.usnews.com/news/national-news/articles/2022-08-19/pentagon-blasts-russian-provocations-at-ukrainian-nuclear-plant-as-height-of-irresponsibility>.

8. Saddam did fire two errant Scuds at Israel’s military small production reactor at Dimona, and the United States bombed Iraq’s research reactor at Osirak in 1991. Neither unit was a power plant. See Jonathan Ferziger, “Iraq Lobs Two Scuds at Israel,” *United Press International* (website), February 25, 1991, <https://www.upi.com/Archives/1991/02/25/Iraq-lobb-two-Scuds-at-Israel/6123667458000/>.

Russian-held territory to the east and south. Come winter, Russia may literally be able to freeze out local Ukrainian opposition.

Fourth, none of the Middle Eastern plants were near major urban areas. Before the war, Zaporizhzhya and the surrounding area had nearly 1.7 million residents.⁹ Many hundreds of thousands still live there. Given the risk of radiological release, Zelensky asked them to evacuate.¹⁰ The movement of so many residents at once, however, could easily complicate local military operations for the Ukrainians and the Russians. More importantly, the radioactivity the plant might release could go in several directions. If the winds were to blow west (which they most often do), then Russia would suffer; east, Ukraine and Romania (a NATO member); north, Poland and possibly other NATO member states; and south, Türkiye (another NATO member). A North Korean summertime attack on South Korean reactors would release more radioactivity over Japan than South Korea. In the winter, the reverse would occur. None of these considerations were factors in previous Middle East raids.

Finally, and related, none of the targeted Middle Eastern reactors were located in or adjacent to states the United States was treaty-bound to defend. Washington has no treaty security guarantees for any state in the Middle East—not even Israel. It does, however, have them for NATO in Europe, Japan, and South Korea. Most NATO members operate large reactors. So do Japan and South Korea. Taiwan also operates nuclear power plants. Chinese, Russian, and North Korean authorities (as well as former officials) have suggested they might strike these facilities. Seoul, Tokyo, Moldova, Romania, and Taipei are all now considering defensive measures.

What, then, if anything, should the Pentagon do? Three things come to mind.

Assess the military, deterrence, and security alliance implications of waging war where nuclear plants operate, including in Europe, the Middle East, and Asia. All of these theaters host American military bases. If reactors in the region are hit, how vulnerable might US troops be to possible radiation releases? What active or passive defense measures would be useful for them to take? What should US troops do if a state whose security the United States guarantees calls for assistance after one of its reactors has been hit or if its citizens are irradiated after a strike is made against a neighbor's nuclear plant? What assistance, if any, should the Pentagon be prepared to offer to replace emergency electricity that might be lost after such attacks? In either war or

9. "Population of Zaporizhzhia Oblast," Google Search, <https://www.google.com/search?q=population%20of%20zaporizhzhia%20oblast>.

10. Max Hinde, Conor Humphries, and Alex Richardson, "Ukraine Calls for Evacuation of Zaporizhzhia Nuclear Plant Town," Reuters (website), September 7, 2022, <https://www.reuters.com/world/europe/ukraine-calls-evacuation-zaporizhzhia-nuclear-plant-town-2022-09-07/>.

peacetime, should the Pentagon offer air and missile defenses, intelligence, or first responder assistance to help protect friendly nations' nuclear plants? What forms might this assistance take? What counteroffensive actions might be considered proportionate to strikes made against allied nuclear plants?

The Pentagon's replies may differ for different countries. Its general conclusions, however, should be dialed into any future *Nuclear Posture Review* and be a part of the Pentagon's defense guidance. Bureaucratically, accomplishing this may be difficult. Currently, there is no office responsible for conducting such analysis. The regional commands may feel uncomfortable assuming this task unless told to do so. The Pentagon's Office of Nuclear Deterrence Policy in Open Supervised Defense Protocol, the Office of the Assistant Secretary of Acquisition (Nuclear, Chemical, and Biological), and the Office of the Assistant Secretary of Defense for Strategy are all plausible places to tangle with these matters; yet, so far, none has taken charge. Another possible contributor would be the secretary of the Army, whom the secretary of defense just made the lead proponent for a newly minted *Civilian Harm Mitigation and Response Action Plan*.¹¹ Congress could instruct any of these organizations or individuals to take the lead in producing the needed nuclear plant analysis. Congress should make this assignment quickly and ensure the analysis is updated routinely.

Separately, the Pentagon should take a more active role in reviewing US nuclear export license applications with an eye to how vulnerable such plants might be to military assaults. The Pentagon already serves as the lead in identifying the location of potential future war zones. The Pentagon also manages a military reactor program and says it wants to deploy these reactors overseas.¹² As such, it is already on the hook to clarify how safe these plants might be and where they would be safest to deploy.¹³ Armed with this information, the Pentagon should be tapped for any assessment of the vulnerabilities of reactors private US firms may want to export (and, coincidentally, that American military forces may be asked to defend). This requirement is hardly a new ask. It is already required by the Nuclear Nonproliferation Act of 1978, which

11. US Department of Defense, *Civilian Harm Mitigation and Response Action Plan (CHMR-AP)*, August 25, 2022, <https://media.defense.gov/2022/Aug/25/2003064740/-1/-1/1/CIVILIAN-HARM-MITIGATION-AND-RESPONSE-ACTION-PLAN.PDF>.

12. Patrick Tucker, "Defense Department Sets Out to Build Miniature Nuclear Reactor, Again," *Defense One* (website), April 15, 2022, <https://www.defenseone.com/technology/2022/04/defense-department-sets-out-build-miniature-nuclear-reactor-again/365766/>.

13. Henry D. Sokolski and Bryan Clark, "'Military Micro-Reactors: Waging Yesterday's Wars while Losing the Future's,'" *Defense News*, Nonproliferation Policy Education Center (website), June 15, 2021, <https://npolicy.org/military-micro-reactors-waging-yesterdays-wars-while-losing-the-futures-defense-news/>.

expects the Department of Defense to comment on the national security implications of US civilian nuclear exports.¹⁴

The Defense Department should also clarify and strengthen current guidance on targeting nuclear plants in war. All the world's nations except India, Iran, Israel, Pakistan, Türkiye, and the United States have ratified the 1977 Protocol I to the Geneva Convention. Chapter III of the protocol strongly discourages targeting nuclear electrical generating plants.¹⁵ Russia withdrew from the protocol in 2019. Washington signed it in 1977, indicating an intention to ratify it—which it never did. In the 1980s, the Reagan administration opposed ratification because of concerns about what constituted liberation movements under the protocol.¹⁶ Some may also now believe the United States should do nothing to restrict its freedom of action to strike nuclear electricity-generating plants. Even the protocol allows for targeting such plants in extremely rare cases. Military justifications for such strikes are few and far between: military forces will hardly want to operate in, or liberate, regions near a plant if it has irradiated the region after being hit.

Washington wants to condemn Moscow for its strikes against the plant at Zaporizhzhya. What makes this awkward is the Pentagon's 2016 *Law of War Manual*, which ultimately allows US military commanders to target nuclear power plants if they think doing so is "important."¹⁷ Given the outsized political, diplomatic, and military downsides of producing a major radiological release, it would be helpful if the Pentagon could make the presumption against attacking nuclear plants at least as clear as the protocol makes it. One might want to clarify further that nuclear electricity-generating stations should include related nuclear facilities, such as reprocessing plants, spent fuel storage sites, etc.

Another issue worth resolving is what US policy should be regarding attacks against large research reactors (something the *Law of War Manual* does not mention). This clarification could be accomplished by asking the Pentagon to wire brush its *Law of War Manual*. It would also make sense for Congress to elevate any military decision to target such plants to the commander in chief. Currently, this action is required for the release of nuclear

14. "Nuclear Non-Proliferation Act of 1978," 22 USC § 3201 (1978), <https://www.govinfo.gov/content/pkg/STATUTE-92/pdf/STATUTE-92-Pg120.pdf>. The Department of Defense may also comment on intangible nuclear technology transfers (known as Part 810 transfers), including those to China.

15. "Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of Intentional Armed Conflicts (Protocol I), June 8, 1977," International Committee of the Red Cross (website), n.d., <https://ihl-databases.icrc.org/ihl/INTRO/470>.

16. Theodor Meron, "The Time Has Come for the United States to Ratify Geneva Protocol I," *American Journal of International Law* 88, no. 4 (October 1994), 678–86, <https://www.jstor.org/stable/2204135>.

17. Department of Defense, *Department of Defense Law of War Manual*, June 2015, updated December 2016, <https://dod.defense.gov/Portals/1/Documents/pubs/DoD%20Law%20of%20War%20Manual%20-%20June%202015%20Updated%20Dec%202016.pdf?ver=2016-12-13-172036-190>.

weapons for use. It would also make sense for any targeting of nuclear plants in war zones. After what has unfolded at Zaporizhzhya, civilian nuclear plants must be viewed as prepositioned nuclear weapons that, if hit, could potentially disperse strategically disruptive amounts of radiation over thousands of square miles—making the decision to attack them more than a theater or tactical matter.

Henry D. Sokolski

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Putin Chooses between a Series of Bad Options

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ABSTRACT: Now that Vladimir Putin has chosen a path of escalation in his unnecessary war of aggression against Ukraine, it is imperative Western policymakers know the consequences and how he might escalate further. This article examines recent events on the battlefield; the implications of the announced annexation of territory, mobilization of forces, and threats to employ “all means” to defend Russian territory; the domestic ramifications and Russian thinking on “hybrid warfare”; and the possible weaponization of food and energy as Putin determines future escalatory steps. It will assist American and European leaders in determining policies to deal with the ongoing crisis at this moment and prepare for an uncertain future.

Keywords: Russia-Ukraine war, Putin, escalation, hybrid warfare, nuclear weapons

Vladimir Putin had a very bad September.¹ The Ukrainian counteroffensive in the northeast of the country has been a staggering success, and it continues. Kyiv liberated more territory in two weeks than Russia seized in the previous five months.² Remarks by Chinese President Xi Jinping and Indian Prime Minister Narendra Modi during their meetings with Putin in Uzbekistan were clearly unsupportive of Russia’s aggression.³

The strategy Putin had for this war of aggression is now in tatters. It was based on two false assumptions. First, he assumed his army would quickly defeat the Ukrainians, topple Volodymyr Zelensky’s administration, and occupy a sizable portion of the country. He grossly underestimated the Ukrainians’ ability to resist and overestimated his own forces. The vaunted Russian Army has suffered from poor morale, abysmal leadership, and an inability to provide the necessary logistical support for Putin’s invading force. Second, Putin believed the West would not be able to mount a unified response. He thought the West’s reaction would be similar to that of 2014 when he annexed Crimea and fomented a quasi-civil war using proxy forces in southeastern Ukraine. But Washington and its NATO allies have

1. Phil McCausland, “What Now for Putin? After Russian Retreat, the Kremlin Has Few Good Options in Ukraine,” *NBC News* (website), September 16, 2022, <https://www.nbcnews.com/news/world/russia-retreats-ukraine-what-will-putin-do-military-kremlin-rcna47514>.

2. Steve Hendrix, Serhii Korolchuk, and Robyn Dixon, “Amid Ukraine’s Startling Gains, Liberated Villages Describe Russian Troops Dropping Rifles and Fleeing,” *Washington Post* (website), September 11, 2022, <https://www.washingtonpost.com/world/2022/09/11/kharkiv-liberated-retreat-izyum-russia/>.

3. Mukhammadsharif Mamatkulov, “India’s Modi Assails Putin over Ukraine War,” *Reuters* (website), September 16, 2022, <https://www.reuters.com/world/china/putin-xi-speak-summit-uzbekistan-2022-09-16/>.

shown surprising unity in their support for Kyiv, and with the addition of Finland and Sweden the alliance may be stronger now than it was at the onset of this conflict.

Putin had two options in the aftermath of his most recent military and diplomatic reversals. He could have cranked up his propaganda machine and declared his “special military operation” a remarkable success.⁴ He could have argued Russia had “denazified” large portions of Ukraine, reduced the threat Kyiv posed, and sent a clear message to the West. He could have accompanied these arguments with the announcement of a cease-fire and a call for negotiations. These actions might have paused the war and offered him a chance to use the upcoming winter to reorganize his forces. His second option was escalation. With a speech to the Russian people on September 21, 2022, he chose the latter.⁵ It is critical to consider what this means and how he might escalate further.

Putin escalated the war in three ways. First, he announced a partial mobilization. The Kremlin claimed this mobilization would consist of 300,000 reservists or those with previous military experience.⁶ As the first Russian armed forces mobilization since World War II, it underscores the Russian Army’s desperate need for manpower—especially now: the Pentagon estimates the Kremlin has suffered around 80,000 casualties since this war began.⁷ This desperate gamble is, in part, a response to right-wing hardliners in the Russian media who have been openly critical after a string of recent defeats.⁸ But Putin risks greater social unrest and opposition to the war at home with the decision to escalate. Unrest and opposition are now occurring in many cities across Russia.⁹ A reported minimum of 1,300 people have been arrested following demonstrations, and thousands of young Russian men have fled the country.¹⁰ Up to this point, most Russians have been apathetic about the war, as Putin

4. Bloomberg News, “Transcript: Vladimir Putin’s Televised Address on Ukraine,” Bloomberg (website), February 24, 2022, <https://www.bloomberg.com/news/articles/2022-02-24/full-transcript-vladimir-putin-s-televised-address-to-russia-on-ukraine-feb-24>.

5. Evan Gershkovich, Thomas Grove, and Alan Cullison, “Putin Orders Draft of Reservists for Ukraine War, Threatens Nuclear Response,” *Wall Street Journal* (website), September 21, 2022, <https://www.wsj.com/articles/putin-orders-draft-of-reservists-for-war-in-ukraine-threatens-nuclear-response-11663742871>.

6. TASS, Russian News Agency, “Partial Mobilization Applies to Reservists with Military Experience, Specialty,” TASS, Russian News Agency (website), September 21, 2022, <https://tass.com/defense/1511049>.

7. Nancy A. Youssef and Evan Gershkovich, “As Many as 80,000 Russian Troops Hurt or Killed in Ukraine, Pentagon Says,” *Wall Street Journal* (website), August 8, 2022, <https://www.wsj.com/articles/as-many-as-80-000-russian-troops-hurt-or-killed-in-ukraine-pentagon-says-11659989514>.

8. Associated Press, “Vladimir Putin Vows to Send More Invaders. The West Should Arm Ukraine Faster,” *Economist* (website), September 21, 2022, <https://www.economist.com/leaders/2022/09/21/vladimir-putin-vows-to-send-more-invaders-the-west-should-arm-ukraine-faster>; and Mary Ilyushina, “Faced with War Losses, Russian Propagandists Retreat to Anger and Patriotism,” *Washington Post* (website), September 12, 2022, <https://www.washingtonpost.com/world/2022/09/12/russia-losses-propaganda-react-ukraine/>.

9. Evan Gershkovich, “Russians Seek to Mount Resistance to Putin as Mobilization Gears Up,” *Wall Street Journal* (website), September 24, 2022, <https://www.wsj.com/articles/russians-seek-to-mount-resistance-to-putin-as-mobilization-gears-up-11664054571>.

10. Gershkovich, Grove, and Cullison, “Putin Orders Draft.”

sought to insulate the population from its ill effects: while the Ukrainian counteroffensive was gaining momentum, Putin was dedicating a Ferris wheel in Moscow and urging the Russian people to enjoy themselves.¹¹

The mobilization will test the loyalty of those born after the demise of the Soviet Union and those less fond of the Russian strongman. It will have little significant immediate effect on the battlefield, could backfire, and will likely fail. It will take weeks, if not months, to identify, organize, train (or retrain), equip, and deploy these new troops.¹² With the impending arrival of winter, these new forces are unlikely to appear in significant numbers until spring. There have also been reports that the Russian Army stripped troops from its training base as the military situation deteriorated, and this will further slow the training and deployment of new troops. Russia has lost thousands of tanks, armored vehicles, trucks, and aircraft.¹³ Consequently, it may be difficult to equip new units with modern weaponry.

Even from the onset, the Kremlin may intend for this “partial mobilization” to far exceed the stated goal of 300,000 and has also included many Russian men who have no prior military experience. The mobilization is also disproportionately aimed at minority groups, rural areas, and territories in the Far East rather than large cities such as Moscow and St. Petersburg. This disparity has already resulted in unrest in these areas.¹⁴ Several experts have now suggested more Russians have fled the country since the mobilization announcement than have fought in Ukraine, and some of Putin’s strongest supporters have been less than enthusiastic. Chechen leader Ramzan Kadyrov has said recruitment will not be extended to Chechnya since it has already exceeded its targets for recruitment.¹⁵

The mobilization announcement included increased penalties for Russian soldiers who surrender or desert. It also involuntarily extends the contracts of soldiers currently serving in Ukraine.¹⁶ There were widespread reports of Russian soldiers fleeing the advance of Ukrainian forces around Kharkiv and

11. Amit Chaturvedi, ed., “Vladimir Putin Opens New Ferris Wheel as Russian Forces Receive Stunning Setback in Ukraine,” NDTV (website), September 12, 2022, <https://www.ndtv.com/world-news/russia-ukraine-war-vladimir-putin-opens-new-ferris-wheel-as-russian-forces-receive-stunning-setback-in-ukraine-3337891>.

12. Lawrence Freedman, “All the Tsar’s Men: Why Mobilization Can’t Save Putin’s War,” *Foreign Affairs* (website), September 23, 2022, <https://www.foreignaffairs.com/ukraine/all-tsars-men>.

13. David Axe, “The Russian Army Is Losing a Battalion Every Day as Ukrainian Counterattacks Accelerate,” *Forbes* (website), <https://www.forbes.com/sites/davidaxe/2022/09/11/the-russian-army-is-losing-a-battalion-every-day-as-ukrainian-counterattacks-accelerate/>.

14. Anton Troianovski, “Russia’s Draft Is Drawing Criticism from Far-Flung Regions and Even Pro-War Hawks,” *New York Times* (website), September 24, 2022, <https://www.nytimes.com/2022/09/24/world/europe/russias-draft-is-drawing-criticism-from-far-flung-regions-and-even-pro-war-hawks.html>.

15. Associated Press, “Chechnya Exempts Itself from Russia’s Draft,” *Moscow Times* (website), September 23, 2022, <https://www.themoscowtimes.com/2022/09/23/chechnya-exempts-itself-from-russias-draft-a78874>.

16. Youssef and Gershkovich, “80,000 Russian Troops Hurt.”

abandoning massive amounts of equipment.¹⁷ Some soldiers even stripped off their uniforms and attempted to escape in civilian clothes.¹⁸ Consequently, it is hard to believe Russia can succeed—with troops with already sagging morale and poor leadership, training, and equipment—by forcing more young Russians to fight in a war they do not support.

Second, Putin described this conflict as primarily between Russia and the West. He falsely claimed Western leaders threatened the very existence of the “Motherland.” Consequently, Putin warned he would “use all the means at [Russia’s] disposal to protect Russia and [its] people,” adding “[t]his is not a bluff.”¹⁹ This obvious threat to employ nuclear weapons comes at an ironic moment: the 60th anniversary of the Cuban missile crisis, the last time the United States was involved in a crisis that threatened global nuclear catastrophe.

Putin’s decision to escalate is a blatant attempt to intimidate NATO, Ukraine, and Washington. But it also represents Putin’s effort to reshape the narrative. In this case, he appeals to Russian nationalism. Previously, he falsely described Russia’s very existence as imperiled by outside forces and called upon the nation to respond as their ancestors did against the Napoleonic invasion of 1812 or the Germans’ attack in World War II.

Third, he supported the annexation of four partially occupied Ukrainian provinces via sham referendums.²⁰ In their aftermath, Putin signed an annexation decree and delivered a fiery speech assailing the United States for “satanism.”²¹ He further argued the West was an “enemy” of Russia that sought to destroy the nation.²² The forcible seizure of these territories is the largest land grab in Europe since World War II. It makes a mockery of international law, and few nations, if any, are likely to accept Russian sovereignty over these provinces. Furthermore, it makes the possibility of negotiations even more

17. Alberto Nardelli, Jennifer Jacobs, and Samy Adghirni, “Ukraine Seizes Dozens of Russian Tanks Left by Fleeing Forces,” Bloomberg (website), September 21, 2022, <https://www.bloomberg.com/news/articles/2022-09-21/ukraine-seizes-dozens-of-russian-tanks-left-by-fleeing-forces>.

18. Sophia Ankel, “They Were Afraid of Being Caught: Russian Soldiers Escaped in Civilian Clothes,” *Business Insider* (website), September 12, 2022, <https://www.businessinsider.com/russia-troops-drop-guns-flee-ukraine-counteroffensive-reports-2022-9>.

19. Guy Faulconbridge, “Putin Escalates Ukraine War, Issues Nuclear Threat to West,” Reuters (website), September 21, 2022, <https://www.reuters.com/world/europe/putin-signs-decree-mobilisation-says-west-wants-destroy-russia-2022-09-21/>.

20. Anton Troianovski, “Russia Signals Annexation of Parts of Ukraine, Raising Stakes in Fighting,” *New York Times* (website), September 20, 2022, <https://www.nytimes.com/2022/09/20/world/europe/russia-annex-ukraine-referendum.html>.

21. Associated Press, “Russia-Ukraine War: Putin Frames Illegal Annexation as Part of Existential Battle with West,” *New York Times*, September 30, 2022, <https://www.nytimes.com/live/2022/09/30/world/russia-ukraine-war-news>.

22. “[Signing of Agreements on the Admission of the DPR, LPR, Zaporozhye and Kherson Regions to Russia],” Kremlin (website), September 30, 2022, <http://kremlin.ru/events/president/news/69465>.

remote as Putin described this move as “irreversible.”²³ In the same speech, he called on the Zelensky administration to accept the permanent transfer of these territories, accept a cease-fire, and enter into talks. In response, the Kyiv government insisted negotiations will be impossible as long as Putin remains in power.²⁴

Putin’s speech also will heighten his attempt at nuclear extortion. Moscow can now claim these areas are Russian territory and use any attacks against them as a rationale to threaten the use of nuclear weapons in its defense. Still, it remains to be seen if Putin is willing to do so. Only a day after Putin’s speech, Ukrainian forces captured the strategic city of Lyman in the Donbas region and part of the territory that Moscow now claims is Russian territory.²⁵ It is reported many Russian soldiers fled the city in disorder while thousands may have been captured. This major setback for Putin could be followed in the coming weeks by further setbacks, including the possible loss of Kherson in southern Ukraine.

Since Putin has chosen a path of escalation, what might he do in the future? He has further escalatory options. He can threaten nuclear catastrophe with missile and artillery strikes to disable or damage a Ukrainian nuclear power plant and create a Chernobyl-like disaster. Recently, a missile struck less than 1,000 feet from the South Ukraine Nuclear Power Plant.²⁶ External power to the Zaporizhzhya Nuclear Power Plant—the largest in Europe—has been shut off several times, forcing the staff to use emergency power to cool the reactors. The head of the International Atomic Energy Agency has described the Zaporizhzhya situation as “untenable” and “playing with fire.”²⁷ This is a classic example of “hybrid warfare,” the fusion of conventional and unconventional instruments of power and tools of subversion. Moscow has employed hybrid warfare in the past—with the invasion of Crimea in 2014, interference in Western elections or the Brexit vote, the assassination of Putin’s opponents, and the dissemination of misinformation. Putin can threaten nuclear facilities at times of his choosing, which provides him the intimidating effect of nuclear

23. Lawrence Freedman, “Putin’s Annexation and Lyman’s Encirclement,” *Comment is Freed* (blog), October 1, 2022, https://samf.substack.com/p/putins-annexation-and-lymans-encirclement?utm_source=twitter&tsd=pf.

24. Mykhailo Podolyak (@Podolyak_M), “Negotiations are possible, but with the new president of Russia,” Twitter (website), October 1, 2022, 7:00 a.m., <https://twitter.com/ConanOBrien/status/590940792967016448>.

25. Thomas Gibbons-Neff, Andrew E. Kramer, Anton Troianovski, and Catherine Porter, “Ukraine Forces Retake Lyman, a Strategic City, as Russians Retreat,” *New York Times* (website), October 1, 2022, <https://www.nytimes.com/2022/10/01/world/europe/lyman-ukraine-russia.html>.

26. Dan Ladden-Hall, “Russian Missile Strikes within 1,000 Feet of Ukrainian Nuclear Reactors,” *Daily Beast* (website), September 19, 2022, <https://www.thedailybeast.com/russian-missile-strikes-within-1000-feet-of-ukrainian-nuclear-reactors>.

27. Joanne Liou, “Situation at Zaporizhzhya Nuclear Power Plant ‘Untenable,’ Protection Zone Needed, IAEA’s Grossi Tells Board,” International Atomic Energy Agency (website), September 12, 2022, <https://www.iaea.org/newscenter/news/situation-at-zaporizhzhya-nuclear-power-plant-untenable-protection-zone-needed-iaeas-grossi-tells-board>.

weapons without potential international blowback. Such threats are actually criminal, as they endanger the staff and innocent civilians in Ukraine and beyond. Finally, they also divert media attention away from reports on war crimes, Russian failures on the battlefield, and other setbacks.

Putin could also further employ his energy weapon. He has already ended the export of natural gas to Europe and could seek to do more damage.²⁸ The recent attacks on the Nord Stream pipeline are likely an example.²⁹ European and NATO leaders have described them as “sabotage,” but so far there has been no formal allegation that Moscow perpetrated them.³⁰ Still, these attacks are consistent with the Russian hybrid warfare thinking previously mentioned. Such attacks would require the Russian Navy to possess sophisticated capabilities such as divers or undersea drones. The attacks occurred in international waters and, consequently, could not be construed as attacks on a NATO member’s territory that might elicit an Article 5 response.

The attacks are also clouded in plausible deniability. As a result, the Kremlin has described any accusation against Russia as “stupid and absurd” and blamed the United States.³¹ The attacks are also an implicit threat against the new Baltic Pipeline connecting Poland and Norway, which opened at the same time the attacks occurred.³² Finally, the attacks clearly underscore the ongoing uncertainty around European energy supplies as winter approaches. Putin obviously hopes skyrocketing energy costs coupled with the arrival of winter energy demands will result in social unrest in Europe. Social unrest might force European leaders to reduce their support for Ukraine and put pressure on Kyiv to accept negotiations on Putin’s terms.

Putin’s expanded attacks on the Ukrainian civilian energy infrastructure and the closure of nuclear power plants already belong to this effort. His attacks have reduced the availability of energy to Ukraine and will likely result in more Ukrainian refugees as winter arrives. Putin’s action renews pressure on NATO

28. Sam Meredith, “Russia Has Cut Off Gas Supplies to Europe Indefinitely. Here’s What You Need to Know,” *CNBC* (website), September 6, 2022, <https://www.cnbc.com/2022/09/06/energy-crisis-why-has-russia-cut-off-gas-supplies-to-europe.html>.

29. Jen Kirby, “The Nord Stream Pipeline Sabotage, Explained,” *Vox* (website), September 28, 2022, <https://www.vox.com/world/2022/9/28/23376356/nord-stream-pipeline-russia-explosions-sabotage>.

30. Merlyn Thompson and Elsa Maishman, “Nord Stream Leaks: Sabotage to Blame, Says EU,” *BBC News* (website), September 28, 2022, <https://www.bbc.com/news/world-europe-63057966>.

31. Thompson and Maishman, “Sabotage to Blame”; and Reuters Staff, “Putin Says ‘Anglo-Saxon’ Powers Blew up Nord Stream Pipelines,” *Reuters* (website), September 30, 2022, <https://www.reuters.com/article/ukraine-crisis-putin-nordstream-idAFS8N2Z80FZ>.

32. Anna Włodarczak-Semczuk and Kirsten Donovan, “Gas Starts Flowing to Poland through New Baltic Pipe Pipeline,” *Reuters* (website), October 1, 2022, <https://www.reuters.com/markets/europe/gas-starts-flowing-poland-through-new-baltic-pipe-pipeline-2022-10-01/>.

countries, discourages them from maintaining their existing nuclear facilities, and forces them to consider sharing limited supplies with Kyiv.

Moscow could use the “food weapon” and once again halt the export of Ukrainian grain from its Black Sea ports. In July 2022, an agreement signed by Russia, Türkiye, Ukraine, and the United Nations allowed for the export of millions of tons of Ukrainian and Russian grain and fertilizer.³³ Ukraine and Russia provide roughly 30 percent of the world’s grain, and the failure to deliver these commodities to global markets may well result in famine in many parts of the world.³⁴ Some have claimed Russia is waging a campaign of “theft and destruction” of Ukrainian agriculture reminiscent of the famines caused by Joseph Stalin in the 1930s.³⁵

Finally, Putin could escalate militarily through further force mobilizations, strikes on NATO locations important to the flow of military assistance to Ukraine, or expanded cyberattacks. The use of nuclear weapons, as Putin threatened, could also be an option. Graham T. Allison, author of the celebrated book on the Cuban missile crisis *Essence of Decision: Explaining the Cuban Missile Crisis* (Little, Brown, 1971), observed that the possibility of Russian nuclear use clearly increases if Russia perceives a growing existential threat to itself or its rule. Allison recounted that in 1962 President John F. Kennedy believed the possible use of nuclear weapons became a “more plausible scenario if a leader is forced to choose between catastrophic humiliation and a roll of the dice that might yield success.”³⁶ Should Putin decide to use nuclear weapons, the system used would likely be a tactical nuclear weapon, of which Russia is believed to have 2,000. Tactical nuclear weapons are designed with a nuclear yield below 100 kilotons and delivered by short-range aircraft, artillery, or missiles.³⁷

While the West cannot ignore the possibility of expanded military threats, the probability of Putin using nuclear weapons appears low at this moment

33. Associated Press, “Ukraine, Russia Agree to Export Grain, Ending a Standoff That Threatened Food Supply,” NPR (website), July 22, 2022, <https://www.npr.org/2022/07/22/1112880942/ukraine-grain-exports-deal>.

34. Heinz Strubenhoff, “The War in Ukraine Triggered a Global Food Shortage,” Brookings (website), June 14, 2022, <https://www.brookings.edu/blog/future-development/2022/06/14/the-war-in-ukraine-triggered-a-global-food-shortage/>.

35. Lyudmyla Pavlyuk, “Kennan Cable No. 79: Russia Is Looting Ukraine’s Breadbasket . . . Again,” *Kennan Cable* 79 (September 2022), <https://www.wilsoncenter.org/publication/kennan-cable-no-79-russia-looting-ukraines-breadbasketagain>.

36. David E. Sanger, Anton Troianovski, and Julian E. Barnes, “In Washington, Putin’s Nuclear Threats Stir Growing Alarm,” *New York Times*, October 1, 2022, <https://www.nytimes.com/2022/10/01/world/europe/washington-putin-nuclear-threats.html>.

37. “Reports & Multimedia/Explainer: What Are Tactical Nuclear Weapons?,” Union of Concerned Scientists (website), June 1, 2022, <https://www.ucsusa.org/resources/tactical-nuclear-weapons>.

for several reasons.³⁸ First, Russian military doctrine calls for the use of such weapons primarily to create conditions on the battlefield that can then be rapidly exploited by conventional forces. But Moscow no longer has readily available forces to exploit opportunities any such employment might offer. Russia has failed to demonstrate the ability to conduct large-scale offensive operations effectively for the past seven months in a nonnuclear environment. It is hard to imagine how reinforcing Russian forces, in their state of degradation, with poorly trained conscripts could possibly allow for successful operations in a nuclear environment demanding a much more sophisticated level of training, equipment, and command and control.

Second, Putin would become even more of an international pariah. The tepid support he now receives from China, India, and other countries in the Global South would likely evaporate.³⁹ Third, he would have to consider the response by the West. This could include the imposition of a no-fly zone over Ukraine, expanded military assistance, and even the direct involvement of Western ground forces. Washington has already sent private warnings about the grave consequences to follow should Moscow cross the nuclear threshold.⁴⁰ Fourth, the employment of such weapons in eastern Ukraine would result in a radiation pattern that would threaten areas occupied by Putin's forces or existing Russian territory.

Putin's threats of escalation have not had the immediate effect he hoped for, and Western countries have announced their continued support for Ukraine.⁴¹ But there is no denying the world faces extreme danger at the moment. It is critical the West adopt policies to deter or respond to potential future escalation by Moscow. These policies must include several important considerations. Washington and its European allies' greatest strength against Russian aggression has been their unity of policy and effort in response to that aggression. Unity must continue, but it may grow more complicated in the aftermath of recent elections in Italy and Sweden, which seem likely to result in the far right's return to power.⁴² It may also become increasingly difficult

38. Mason Clark, Katherine Lawlor, and Kateryna Stepanenko, "SPECIAL REPORT: ASSESSING PUTIN'S IMPLICIT NUCLEAR THREATS AFTER ANNEXATION," Institute for the Study of War (website), September 30, 2022, <https://www.understandingwar.org/backgrounders/special-report-assessing-putin%E2%80%99s-implicit-nuclear-threats-after-annexation>.

39. Happymon Jacob, "Russia Is Losing India: How Putin's Ukraine Gambit Doomed a Long Partnership," *Foreign Affairs* (website), September 22, 2022, <https://www.foreignaffairs.com/india/russia-losing-india>.

40. Paul Sonne and John Hudson, "U.S. Has Sent Private Warnings to Russia against Using a Nuclear Weapon," *Washington Post* (website), September 22, 2022, <https://www.washingtonpost.com/national-security/2022/09/22/russia-nuclear-threat-us-options/>.

41. Anton Troianovski and Valerie Hopkins, "Putin Raises Stakes in the War, with Direct Challenge to the West," *New York Times* (website), September 21, 2022, <https://www.nytimes.com/2022/09/21/world/europe/putin-ukraine-russia-nuclear.html>.

42. Ruth Ben-Ghiat, "The Return of Fascism in Italy," *Atlantic* (website), September 23, 2022, <https://www.theatlantic.com/international/archive/2022/09/giorgia-meloni-italy-election-fascism-mussolini/671515/>.

to find alliance agreement on future policy with Hungarian Prime Minister Viktor Orbán or Turkish President Recep Erdoğan as the war continues.

Military support for Ukraine must continue and expand. As the war has continued, NATO has created a sophisticated coordinating effort designed to meet changing requirements and avoid the duplication of efforts to ensure the delivery of equipment from donor nations to Kyiv.⁴³ The level of military assistance to Ukraine has been enormous. As of the end of September, the Biden-Harris administration has provided nearly \$17 billion in weapons, ammunition, and equipment.⁴⁴ Washington will need to increase its industrial capacity dramatically to produce artillery rounds, rockets, anti-tank weapons, and air defense needed to support Ukraine, refurbish wartime stocks, and prepare for future conflicts.⁴⁵

There is also a growing need to expand logistical and training assistance to Ukraine, which should include contractor support in the future. These efforts must be forward deployed to repair and maintain sophisticated military equipment for its rapid return to the battlefield. The West will also need to continue its economic and financial assistance to Ukraine to buttress its economy and deal with even larger requirements for humanitarian assistance to Ukraine and NATO frontline states.

Ukraine can attribute its success in its recent counteroffensive to the acquisition of more sophisticated military hardware, such as the High Mobility Artillery Rocket System, and to the integration of real-time intelligence from Washington and NATO, the latter of which has dramatically improved targeting, with devastating effects.⁴⁶ Washington and NATO must maintain and improve the provision of real-time intelligence, as it is essential to Ukraine's future military success on the battlefield.

Finally, the West's diplomatic and information efforts should be expanded. Putin's recent escalation of the war was roundly condemned by the vast majority of nations at the recent UN General Assembly meeting in New

43. Vivienne Machi, "Inside the Multinational Logistics Cell Coordinating Military Aid for Ukraine," *Defense News* (website), July 21, 2022, <https://www.defensenews.com/global/europe/2022/07/21/inside-the-multinational-logistics-cell-coordinating-military-aid-for-ukraine/>.

44. Department of Defense (DoD), "Fact Sheet on U.S. Security Assistance to Ukraine," September 28, 2022, <https://media.defense.gov/2022/Sep/28/2003087045/-1/-1/1/UKRAINE-FACT-SHEET-SEP-28.PDF>.

45. Caitlin M. Kenney, "Army Wants to Double or Triple Some Arms Production as Ukraine War Continues," *Defense One* (website), September 15, 2022, <https://www.defenseone.com/policy/2022/09/army-wants-double-or-triple-some-arms-production-ukraine-war-continues/377225/>.

46. C. Todd Lopez, "U.S.-Provided HIMARS Effective in Ukraine," DoD (website), July 15, 2022, <https://www.defense.gov/News/News-Stories/Article/Article/3095394/us-provided-himars-effective-in-ukraine/>; and Julian E. Barnes and Helene Cooper, "Ukrainian Officials Drew on U.S. Intelligence to Plan Counteroffensive," *New York Times* (website), September 10, 2022, <https://www.nytimes.com/2022/09/10/us/politics/ukraine-military-intelligence.html>.

York.⁴⁷ Evidence of war crimes should be vigorously pursued and the results of the investigations widely disseminated. Washington and its allies must seek to further isolate Moscow diplomatically and convince countries in the Global South to participate in economic sanctions.

The information tool of so-called soft power is also crucially important. Every effort should be made to use the Internet and traditional means, such as Radio Free Europe/Radio Liberty, to inform the people of Russia and Belarus of the lies Moscow continues to propagate about the conflict, war crimes, sham referendums, the flight of Russian youths, etc.

Fred C. Iklé observed in his book *Every War Must End* (Columbia University Press, 1971) that wars end when one side changes its objectives—by choice or by force. Putin’s objectives have changed multiple times. He initially sought to capture Kyiv and topple the Zelensky administration. He then pursued the capture of Odesa and the occupation of Ukraine’s Black Sea coastline. Putin has now settled on an attempt to annex the Donbas in southeastern Ukraine and portions of the coast.⁴⁸ All his efforts have failed, and his September 21, 2022, speech is a clear admission of failure. His continued description of his aggression as a “special military operation” is absurd in the aftermath of more than half a year of war and the deaths of thousands of young Russian soldiers.

Still, Putin believes the overlapping goals of the United States, NATO, and Ukraine are not necessarily coincident. Kyiv cannot accomplish its goal of driving Russian forces from its territory—including Crimea—if its Western allies are willing to accept a negotiated settlement that allows a return to the status quo ante. Consequently, Putin still believes he can win, so to speak, and his success will be defined by the shattering of the long-term unity of the West. He is convinced, at this moment, at least, that his willpower is superior to Western determination to resist.

Time will tell whether he is correct.

47. “At UN General Assembly, Leaders Condemn Russia’s War in Ukraine,” *Al Jazeera* (website), September 21, 2022, <https://www.aljazeera.com/news/2022/9/21/at-un-general-assembly-leaders-condemns-russias-war-in-ukraine>.

48. Paul Kirby, “Why Has Russia Invaded Ukraine and What Does Putin Want?,” *BBC News* (website), May 9, 2022, <https://www.bbc.com/news/world-europe-56720589>.

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Troianovski, Anton, and Valerie Hopkins. “Putin Raises Stakes in the War, With Direct Challenge to the West.” *New York Times* (website), September 21, 2022. <https://www.nytimes.com/2022/09/21/world/europe/putin-ukraine-russia-nuclear.html>.

Troianovski, Anton. “Russia’s Draft Is Drawing Criticism from Far-Flung Regions and Even Pro-War Hawks.” *New York Times* (website), September 24, 2022. <https://www.nytimes.com/2022/09/24/world/europe/russias-draft-is-drawing-criticism-from-far-flung-regions-and-even-pro-war-hawks.html>.

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Indian Perspectives: Insights for the Indo-American Partnership

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ABSTRACT: To buttress stability in the Indo-Pacific, the United States must understand how India sees the region and the world. The theories and ideas of Kautilya, a leading but little-studied Indian philosopher, provide significant insight into Indian perspectives on strategic partnerships and silent war. India has lived out Kautilyan perspectives in its recent foreign policy; therefore, a US understanding of the Indian perspective could advance the national security interests of both countries, clarify recent Indian security responses around the world, and provide a basis for the mutually beneficial pursuit of a free and open Indo-Pacific.

Keywords: Indo-Pacific, Kautilya, Quad, US-India partnership, realism

China's rapid and aggressive expansion has led India to increase its security cooperation efforts with Australia, Japan, and the United States, a grouping of likeminded states known as the Quad.¹ One sign of the Quad's growing influence was the first in-person meeting of its four leaders in September 2021; they met again in May 2022.² The Quad is a powerful diplomatic tool for addressing shared concerns in the Indo-Pacific, and the same grouping of states also has a history of combined military exercises. The United States recognized the importance of the Quad in the *2017 US National Security Strategy*, and the *2021 Interim National*

1. Stephen F. Burgess and Janet Beilstein, "Multilateral Defense Cooperation in the Indo-Asia-Pacific Region: Tentative Steps toward a Regional NATO?," *Contemporary Security Policy* 39, no. 2 (2018): 273; Oliver Stuenkel, "India's National Interests and Diplomatic Activism: Towards Global Leadership?," LSE IDEAS, IDEAS Report (London: London School of Economics and Political Science, May 2012), 36, http://eprints.lse.ac.uk/43446/1/India_India%27s%20national%20interests%20and%20diplomatic%20activism%28lsero%29.pdf; and Mark Beeson and Troy Lee-Brown, "The Future of Asian Regionalism: Not What It Used to Be?," *Asia & the Pacific Policy Studies* 4, no. 2 (2017): 198.

2. "Media Center: Joint Statement from Quad Leaders," Ministry of External Affairs/Government of India (website), September 24, 2021, https://www.mea.gov.in/bilateral-documents.htm?dtl/34318/Joint_Statement_from_Quad_Leaders; "Briefing Room: Joint Statement from Quad Leaders," White House (website), September 24, 2021, <https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/24/joint-statement-from-quad-leaders/>; "Media Center: Quad Joint Leaders' Statement," Ministry of External Affairs/Government of India (website), May 24, 2022, https://www.mea.gov.in/bilateral-documents.htm?dtl/35357/Quad_Joint_Leaders_Statement; and "Briefing Room: Quad Joint Leaders' Statement," White House (website), May 24, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/24/quad-joint-leaders-statement/>.

Security Strategic Guidance further reinforces the importance of strengthening the US-Indian relationship.³

Stability in the Indo-Pacific will define American security interests for the foreseeable future. An understanding of how India's national interests and regional perspectives inform its foreign policy points to the confluence of Indo-American national security interests. This alignment offers unique opportunities for both countries and sets the stage in favor of Indo-American interests for decades to come. If the United States is to secure a free and open Indo-Pacific, it must gain the complete partnership of India. To do so, US leadership must understand how India sees itself, the region, and its place in the world. A review of India's strategic partnership agreements with Afghanistan, its Maritime Security Strategy, and the revitalization of the Quad can draw out contemporary examples of Indian decision making and improve the United States' understanding of Indian foreign policy.⁴

The writings of Kautilya, a leading Indian philosopher, best explain India's pursuit of its national security interests. This Indian statesman and political adviser emerged around 300 BCE and provided a realist outlook on geopolitics through the *Artha-shastra*, his foundational work.⁵ The treatise outlined a classical vision of political wisdom and guided the creation of the Mauryan Empire. Importantly, Kautilyan theory provides a culturally and historically informed construct for assessing Indian behavior. Kautilyan logic continues to influence Indian strategic thought and is manifest in India's national security interests and assessment of regional and international relations.

3. Donald J. Trump, *National Security Strategy of the United States of America: December 2017* (Washington, DC: White House, 2017), 46, <https://trumpwhitehouse.archives.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>; and Joseph R. Biden Jr., *Interim National Security Strategic Guidance: March 2021* (Washington, DC: White House, 2021), 10, <https://www.whitehouse.gov/wp-content/uploads/2021/03/NSC-1v2.pdf>.

4. Integrated Headquarters, Ministry of Defence (Navy), *Ensuring Secure Seas: Indian Maritime Security Strategy – 2015*, October 2015, <https://www.indiannavy.nic.in/content/indian-maritime-security-strategy-2015>.

5. Kautilya, *The Arthashastra*, trans. L. N. Rangarajan (Haryana: Penguin Random House India, 1992); Roger Boesche, *The First Great Political Realist: Kautilya and His Arthashastra* (Lanham, MD: Lexington Books, 2002), 8; and Roger Boesche, "Kautilya's Arthashastra on War and Diplomacy in Ancient India," *Journal of Military History* 67, no. 1 (2003): 16.

Indian Interests and Perspectives

While India is not often recognized as a great power, there is a compelling argument that it has arrived, and India certainly sees itself as a foundational world civilization and a great power.⁶ In sheer mass, India is a cornerstone of Asia, with 1.3 billion people, the world's sixth-largest economy with a gross domestic product of \$2.66 trillion, and the world's second-largest army.⁷ Additionally, India is home to great schools of thought and an enduring cultural legacy. A key player in South Asia, India possesses clear extra-regional economic and security interests and the resources and will to pursue them.⁸

Evaluating Indian national security interests is not as straightforward as it is for Western powers. Unlike the United States, the United Kingdom, or France, India has not published a national security strategy. India's regional approach and foreign policy, however, reflect its decision to act like a great power in pursuing national security interests and reveal the nature of these interests.⁹ The country's economic expansion and military aid to Afghanistan, paired with a convergence of strategic interests with the United States, point to interests and influence that extend beyond the region.¹⁰ India is recognized within the international system as a force to be considered.¹¹

Through Indian Eyes: National Security Interests

Although India has long presented itself as a nonaligned state, its emergence as a great power has driven it toward a more active role in the international system. Prime Minister Narendra Modi's shift in Indian foreign policy reveals three core national interests. The first is a desire to sustain the international system, which helped give rise to Indian power and influence and allows India to address internal economic and societal development

6. Trump, *National Security Strategy*, 46; and Manjeet S. Pardesi, "Is India a Great Power? Understanding Great Power Status in Contemporary International Relations," *Asian Security* 11, no. 1 (2015): 1, 23.

7. "GDP-India," World Bank: Data (website), n.d., accessed October 22, 2021, <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=IN>; "India: Military and Security," Central Intelligence Agency World Factbook (website), updated September 1, 2022, accessed January 7, 2022, <https://www.cia.gov/the-world-factbook/countries/india/#military-and-security>.

8. Pardesi, "Is India a Great Power?," 1, 23.

9. Rory Medcalf, "Imagining an Indian National Security Strategy: The Sum of Its Parts," *Australian Journal of International Affairs* 71, no. 5 (2017): 517.

10. Vinay Kaura, "Grading India's Neighborhood Diplomacy," *Diplomat* (website), January 1, 2018, <https://thediplomat.com/2017/12/grading-indias-neighborhood-diplomacy/>.

11. Pardesi, "Is India a Great Power?" 1, 23; and Trump, *National Security Strategy*, 46.

through cultivating foreign investment, implementing infrastructure projects, and securing the energy resources necessary for growth.¹²

A second national interest is to deter Pakistan without escalating armed conflict between these two nuclear states beyond the conventional threshold.¹³ This objective requires India to manage its relationships with Pakistan and China, two actors whose fates are increasingly linked. A decline in US-Pakistani relations, coupled with China's One Belt One Road and China-Pakistan Economic Corridor initiatives, have deepened Sino-Pakistani relations.

A third national interest is maintaining Indian hegemony in its traditional sphere of influence. Chinese encroachment into the Indian Ocean region is a complex issue marred by a history of mutual mistrust.¹⁴ China's outreach to Sri Lanka, Bangladesh, and Myanmar improves Chinese access to ports in the Indian Ocean and positions it to compete in India's traditional sphere of influence. India perceives China's attempts to expand its foothold in Southeast Asia as slow encirclement by an adversary and therefore approaches the situation as a zero-sum game of influence and access, which will either be won by China or by India.¹⁵

The Indian Neighborhood: Kautilya's Mandala Assessment

India seeks to maintain hegemony in its traditional sphere of influence. Kautilya described this area as emanating from the Indian subcontinent west to Persia, north to Bactria (modern-day Afghanistan), and east to Bengal.¹⁶ Today this region is roughly composed of the eight member states of the South Asian Association for Regional Cooperation: Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka.¹⁷ India dominates this area, possessing over 80 percent of the association's landmass, population, and gross domestic product.¹⁸

Assessing India's regional neighborhood through the lens of Kautilya's Mandala theory can help the United States understand Indian actions and intentions. Kautilya's tool for assessing geopolitics assumed bordering

12. Medcalf, "Indian National Security Strategy," 520.

13. Medcalf, "Indian National Security Strategy," 520.

14. Medcalf, "Indian National Security Strategy," 520.

15. Kaura, "Grading India's Neighborhood"; and Stephen Burgess, "The U.S. Pivot to Asia and Renewal of the U.S.-India Strategic Partnership," *Comparative Strategy* 34, no. 4 (2015): 369.

16. Kautilya, *Arthashastra*, xiv, 28, 507.

17. Breffni O'Rourke, "South Asia: Afghanistan Joins World's Largest Regional Grouping," Radio Free Europe/Radio Liberty (website), April 3, 2007, <https://www.rferl.org/a/1075660.html>.

18. Pinak Ranjan Chakravarty, "India's Foreign Policy in the Neighbourhood," *Indian Foreign Affairs Journal* 9, no. 2 (2014): 144.

kingdoms were inherently hostile and those nations immediately beyond, or opposite a neighboring state, were potential allies.¹⁹ Although Kautilya used this model to describe smaller, warring kingdoms and not modern nation-states, the model offers insight into the current Indian perspective.²⁰

Applying the Mandala theory clarifies Indian relationships in South Asia through a country's position relative to India. The model places Pakistan and India at odds as bordering states and makes Afghanistan a potential Indian ally. As other states within India's traditional sphere of influence, Nepal, Bangladesh, Myanmar, and Sri Lanka are seen as potential adversaries that may also be threatened by a shared enemy and bordering state—China.²¹ At the strategic level, the Mandala theory adds China as a potential adversary and Iran as a potential ally.²² China has reaffirmed its patron-client relationship with Pakistan and advanced port projects across the Indian Ocean region with Pakistan, Sri Lanka, Bangladesh, and Djibouti. Thus, Mandala theory reflects the current state of relations within the traditional Indian sphere of influence and at the strategic level.

Attributes of Indian Statecraft

Viewed through the Mandala theory, two attributes of India's statecraft emerge as vectors for understanding its approach to national security—strategic partnership and silent war. Strategic partnership agreements (SPAs) are policy positions consistent with Kautilyan thought regarding a preference for alignment over alliances.²³ Kautilya's concept of silent war encourages nations to weaken and harass adversaries through means below the threshold of overt hostilities.²⁴ India uses strategic partnerships to exert influence through foreign policy with friendly states and uses silent war, which emphasizes competition over conflict, to pursue its interests vis-à-vis Pakistan and China.

Strategic Partnerships: Kautilyan Alignment

Strategic partnership agreements began as a Soviet approach to bilateral relations during the Cold War. The Soviets pursued bilateral agreements to establish patron-client relationships, avoid the constraints of multistate

19. Kautilya, *Arthashastra*, xiv, 506–7; and Boesche, “Kautilya's *Arthashastra*,” 18.

20. Kautilya, *Arthashastra*, xiv, 507; and Boesche, “Kautilya's *Arthashastra*,” 18.

21. Raju G. C. Thomas, *Indian Security Policy* (Princeton, NJ: Princeton University Press, 1986), 16; and Kautilya, *Arthashastra*, 521–22.

22. Thomas, *Indian Security Policy*, 16.

23. Kautilya, *Arthashastra*, 103, 511, 544, 566, 571, 576; and Boesche, “Kautilya's *Arthashastra*,” 17, 21.

24. Kautilya, *Arthashastra*, 513, 533; and Boesche, “Kautilya's *Arthashastra*,” 22, 23.

alliances, and operate outside the construct of the international system.²⁵ India's preference for these behaviors is evident in its historical policy of nonalignment and is supported by Kautilyan thought on joint undertakings, which describes the importance of cooperation with other states for access to resources, trade routes, and military basing.²⁶ India sees strategic partnerships from a Kautilyan perspective: it avoids entangling alliances while providing a means to pursue its national interests through "access to markets, finance, technology, arms, intelligence, and other commodities that it does not possess."²⁷ India has increased the use of SPAs, signing at least 28 agreements since 1998 with countries as varied as the United States, China, and Afghanistan.²⁸ Raju G. C. Thomas identifies these maneuvers as alignment strategies and argues they have served India as well as or better than alliances that could compel India to act militarily.²⁹

India's agreements with Afghanistan demonstrate New Delhi's preference for alignment over alliance in its statecraft. India signed the original Treaty of Friendship with Afghanistan in 1950, one year after the conclusion of the Indo-Pakistani War of 1947 and three years after partition. The agreement accorded each state the right to establish embassies and conduct diplomatic activities, manage trade, emphasize cultural exchanges, and assist each other in industrial and agricultural development.³⁰ The agreement displayed India's Kautilyan grasp of influence and focused on applying diplomatic, informational, and economic instruments of power. Notably, the agreement lacked any mention of military cooperation: it was a policy of alignment, not an alliance. The 1950 Treaty of Friendship was interrupted by Afghanistan's 1978 Saur Revolution and subsequent civil war. In Kautilyan fashion, when the nonbinding agreement no longer suited India's interests, New Delhi abandoned it.

Over 60 years later, the two nations signed the Strategic Partnership between the Republic of India and the Islamic Republic of Afghanistan in October 2011.³¹ This agreement referenced the democratic nature of the two states, a desire to see the entire region prosper, and a shared adherence to international law and the United Nations (UN) Charter.

25. Ian Hall, "Multialignment and Indian Foreign Policy under Narendra Modi," *Round Table* 105, no. 3 (2016): 277.

26. Kautilya, *Arthashastra*, 582–85.

27. Hall, "Multialignment," 282.

28. Hall, "Multialignment," 277–78.

29. Thomas, *Indian Security Policy*, 16–17.

30. "Media Center: Treaty of Friendship between the Government of India and the Royal Government of Afghanistan," Ministry of External Affairs/Government of India (website), January 4, 1950, <https://mea.gov.in/bilateral-documents.htm?dtl/6584/Treaty+of+Friendship>.

31. "Media Center: Text of Agreement on Strategic Partnership Between the Republic of India and the Islamic Republic of Afghanistan," Ministry of External Affairs/Government of India (website), October 4, 2011, <https://mea.gov.in/bilateral-documents.htm?dtl/5383/>.

Diplomatically, it required Afghanistan to support India's pursuit of a permanent seat on the UN Security Council. The SPA also outlined a robust agenda of social, cultural, academic, and intellectual exchanges to bolster historical and cultural links between the two states.³² Trade and economic cooperation focused on regional interaction with other countries, envisioning Afghanistan "as a trade, transportation and energy hub connecting Central and South Asia."³³ Additionally, it allowed India to "assist, as mutually determined, in the training, equipping and capacity building programmes for Afghan National Security Forces."³⁴ In a foreign policy shift, this SPA changed India's long-held stance of noninvolvement in the Afghan conflict.

The Indo-Afghan SPA embraced all three of India's national security interests: sustaining the international system, deterring Pakistan, and containing Chinese expansion. The SPA expanded India's regional influence by connecting it to a democratizing Afghanistan and secured one more vote in India's pursuit of a permanent seat on the United Nations Security Council (UNSC), a position India believes commensurate with its role in the international system. Furthermore, it indicated India's policy of alignment is not limited to benign approaches, as demonstrated by the introduction of lethal aid. India's outreach to Afghanistan, coupled with its Chabahar Port initiative in Iran, showed a determination to open Central Asian markets to India's economy and ensure its energy security, directly supporting India's national security objectives of deterring Pakistan and countering Chinese expansionism by maintaining its regional hegemony. It also demonstrates India's conceptual alignment with Afghanistan and its posturing to thwart its nuclear armed neighbors, Pakistan and China, by seeking first-mover economic and security advantages.

Kautilyan Silent War

Kautilya was a classical realist, given his assertion that states must seek or suffer conquest.³⁵ India sees itself in realist terms relative to Pakistan and China while acknowledging the modern constraints placed on nation-state behavior. Following the founding of the United Nations, state sovereignty became closely guarded and wars of aggression became unlawful.³⁶ India's ability to counter Pakistan and China is complicated by the

32. Ministry of External Affairs, "Text of Agreement."

33. Ministry of External Affairs, "Text of Agreement."

34. Ministry of External Affairs, "Text of Agreement."

35. Boesche, *First Great Political Realist*, 78.

36. *United Nations Charter*, United Nations (website), n.d., accessed January 5, 2022, <https://www.un.org/en/about-us/un-charter>; and 3314 (XXIX). Definition of Aggression, Resolutions Adopted on the Reports of the Sixth Committee, United Nations (1974), 143, [https://undocs.org/en/A/RES/3314\(XXIX\)](https://undocs.org/en/A/RES/3314(XXIX)).

stabilizing effects of nuclear weapons, which drive states to avoid conflict. Although Kautilya did not have to consider the constraints of an international system and nuclear weapons, the *Artha-shastra* provides applicable guidance. Kautilya believed kings would face two types of rivals: weak ones to be exterminated (conquered) and strong ones requiring a long-term approach of steady harassment and weakening.³⁷ Facing nuclear-armed and belligerent neighbors, which India views as strong states, Kautilyan thought steers India away from direct confrontation and toward a strategy of harassment and weakening through the application of soft and nonmilitary instruments of power.

Pakistan remains a nuclear-armed garrison state which oscillates in and out of pseudo-democratic status and runs the gamut of state behavior from supporting terrorism to nuclear brinksmanship.³⁸ Kautilyan success in a modern context is the avoidance of large-scale conventional conflict with Pakistan and the denial of Afghanistan as strategic depth to the Pakistani military. India's persistent diplomatic, economic, and cultural support for the government of Afghanistan demonstrated a foreign policy informed by Kautilyan logic, specifically the support of "the [vulnerable] enemy-in-the-rear of a strong king."³⁹ India saw opportunity in Afghanistan and became the fifth-largest direct donor of economic support, pledging over \$3 billion.⁴⁰ India also gradually increased support for the Afghan National Defense and Security Forces.

The impact of Afghanistan's deepening relationship with India on the Pakistani psyche should not be underestimated, nor should India's aggressive response to Pakistani-sponsored terrorist attacks on Indian military targets launched into Pakistan.⁴¹ Afghanistan's refusal to accept Pakistani military aid provided India an opportunity to support a Mandalan ally while harassing a Mandalan foe. Within months of signing the SPA, India outlined a program to train over 25,000 Afghan officers and soldiers.⁴² By 2014,

37. Kautilya, *Arthashastra*, xiv, 514–15, 520, 530; and Boesche, "Kautilya's *Arthashastra*," 20–21.

38. Thomas Bruneau et al., "Civil-Military Relations in Muslim Countries. The Cases of Egypt, Pakistan, and Turkey," *Journal of Defense Resources Management* 4, no. 2 (2013): 5–36, https://calhoun.nps.edu/bitstream/handle/10945/37500/01_bruneau_mayfield_mccaskey_weece_matei.pdf.

39. Kautilya, *Arthashastra*, 523.

40. Alyssa Ayres, "How India Can Help in Afghanistan," Council on Foreign Relations Asia *Unbound* (blog), April 14, 2017, <https://www.cfr.org/blog/how-india-can-help-afghanistan>; and "Media Center: Q.NO.282. Indian Aid to Afghanistan," Ministry of External Affairs/Government of India, February 25, 2015, <http://www.mea.gov.in/lok-sabha.htm?dtl/24811/qno282+indian+aid+to+afghanistan>; and "Media Center: Q.NO.506. Indian Investments in Afghanistan," Ministry of External Affairs/Government of India, February 4, 2022, <https://www.mea.gov.in/lok-sabha.htm?dtl/34803/question+no506+indian+investments+in+afghanistan>.

41. "Special Report: Hissing Cousins – Why India and Pakistan Hate Each Other," *Economist* (website), July 22, 2017, <https://www.economist.com/special-report/2017/07/24/why-india-and-pakistan-hate-each-other>.

42. Nitin Gokhale, "India Boosts Afghan Military Role," *Diplomat* (website), December 7, 2017, <http://thediplomat.com/2011/12/india-boosts-afghan-military-role/>.

the program evolved beyond commissioning and initial-entry programs to the training of Afghan commandos.⁴³ Indian support expanded to nonlethal aid with the delivery of three light utility helicopters in 2015.⁴⁴ A significant shift in Indian policy came in 2016 with the delivery of four Mi-35 attack helicopters to the Afghan Air Force, India's first foray into lethal aid.⁴⁵ India's delivery of lethal aid, widely considered by Afghans a positive development was quietly acknowledged by the US-led Resolute Support Mission in Kabul. Both actions carry the hallmarks of Kautilya's concept of silent war, competing with adversaries indirectly through actions that harass and weaken their position militarily.⁴⁶

From an Indian perspective, a stable and Indian-friendly Afghanistan would have required Pakistan to rethink its concept of strategic depth and its continued indifference to, if not overt support for, violent-extremist organizations within its borders. Despite the Taliban's return to power following the US withdrawal, the Afghan-Pakistani relationship remains uncertain. Without an American-led military structure in Afghanistan for violent-extremist organizations to oppose, Pakistan may be forced either to address its policy of supporting these proxies or to allow itself to be threatened by them. Either outcome suits India's interests.

Opportunity in the Indo-Pacific

While Afghanistan provided India an opportunity to harass and weaken Pakistan, China presents a larger and more capable problem. Relative to China, India is at a military and economic disadvantage—the “weak king,” in Kautilyan parlance—which limits its means to manage Chinese encroachment.⁴⁷ Historically, India has firmly maintained its status as a nonaligned state, partly to avoid provoking China militarily. This concept is central to India's foreign policy as New Delhi seeks to delay conflict with China and build capability, congruent with Kautilyan thought on a state's fluctuating power over time.⁴⁸ India's efforts to harass and weaken Pakistan were land centric. Future strategic competition with China will take

43. Sanjeev Miglani, “India Begins Training Afghan Commandos as Ties Deepen Ahead of 2014,” Reuters (website), December 20, 2013, <https://www.reuters.com/article/india-afghanistan/india-begins-training-afghan-commandos-as-ties-deepen-ahead-of-2014-idINDEE9BJ05E20131220>.

44. “Media Statement by Prime Minister during the Visit of President of Islamic Republic of Afghanistan to India (April 28, 2015),” Ministry of External Affairs/Government of India (website), April 28, 2015, <http://mea.gov.in/Speeches-Statements.htm?dtl/25136>.

45. Franz-Stefan Gady, “India Delivers 4th Combat Helicopter to Afghanistan,” *Diplomat* (website), December 1, 2016, <https://thediplomat.com/2016/12/india-delivers-4th-combat-helicopter-to-afghanistan/>.

46. Kautilya, *Arthashastra*, 505, 513, 533, 630.

47. Burgess, “U.S. Pivot to Asia,” 369–70; and Kautilya, *Arthashastra*, 622–23.

48. Kautilya, *Arthashastra*, 507–9; and Burgess, “U.S. Pivot to Asia,” 372.

place where India's economic, energy, and national security must be ensured and where the geography and international law enable competition: at sea.⁴⁹

As India's power grows, its idealistic approach of nonalignment has yielded to expanding national security interests. Since independence, India has modified its foreign policy, moving through periods of nonalignment, strategic autonomy, "multi-alignment," and now into an approach known as "neo-Curzonian" foreign policy.⁵⁰ This new Indian policy represents increased cooperation with Australia, Japan, and the United States.⁵¹ India's clear-eyed emphasis on revitalizing its economy while deepening its regional security ties reflects this new reality.⁵² Current US policy for the Indo-Pacific aligns with Indian interests, a point made clear in Secretary of State Antony Blinken's December 2021 speech on a free and open Indo-Pacific and reinforced in his May 2022 speech on the United States' approach to the People's Republic of China.⁵³ The convergence of American and Indian national security interests in containing Chinese encroachment and complementary long-term regional policies creates the opportunity to secure Indian partnership.

The Quad: Kautilyan Alignment and Silent War

Persuading India into a full security partnership with the United States will not be easy, and may not be necessary. India's use of bilateral SPAs is consistent with Kautilyan foreign policy concepts and congruent with the alignment of like-minded states. Therefore, it is unsurprising the Quad rests at the center of India's foreign policy under Modi.

Born in response to the 2004 Indian Ocean tsunami, the Quad rose and foundered as it drifted toward a security-focused organization.⁵⁴ Revitalized in 2017, the Quad focused on a clear nonsecurity mandate: diplomatic, information, and economic alignment. Subrahmanyam Jaishankar, India's minister for external affairs, hailed the Quad's revitalization as a major diplomatic accomplishment of Modi's administration, adding,

49. Navy, *Indian Maritime Security Strategy*, 5.

50. Hall, "Multialignment," 271, 273, 275, 282; and C. Raja Mohan, "The Return of the Raj," *American Interest Online* 5, no. 5 (2010), <https://www.the-american-interest.com/2010/05/01/the-return-of-the-raj/>.

51. Medcalf, "Indian National Security Strategy," 517–18.

52. C. Raja Mohan and Parag Khanna, "Getting India Right: Mutual Interests and Democratic Affinity," Hoover Institution (website), February 1, 2006, <https://www.hoover.org/research/getting-india-right>.

53. Trump, *National Security Strategy*, 46; Antony J. Blinken, "Speech: A Free and Open Indo-Pacific," US Department of State (website), December 14, 2021, <https://www.state.gov/a-free-and-open-indo-pacific/>; and Antony J. Blinken, "Speech: The Administration's Approach to the People's Republic of China," US Department of State (website), May 26, 2022, <https://www.state.gov/the-administrations-approach-to-the-peoples-republic-of-china/>.

54. Associated Press, "What's the 4-Nation Quad, and Where Did It Come From?" *Economic Times* (website), May 24, 2022, <https://economictimes.indiatimes.com/news/defence/whats-the-4-nation-quad-and-where-did-it-come-from/articleshow/91772674.cms>.

“it is also a statement of [India’s] growing interests beyond the Indian Ocean.”⁵⁵ Jaishankar describes India as “overcoming the hesitations of history” and the Quad as developing relationships that align with India’s national interests and vision “of shaping the region and the world.”⁵⁶

The Quad leaders did not meet in person until September 2021. When they reconvened in May 2022, they delivered a true development: the Indo-Pacific Partnership for Maritime Domain Awareness.⁵⁷ This partnership enables Quad members to share information and deliver real-time maritime data to existing information-sharing centers in India, Singapore, the Solomon Islands, and Vanuatu.⁵⁸ Maritime Domain Awareness, is a dual-use capability that allows nations to access shared data to combat illegal fishing, piracy, and dark shipping. Additionally, it allows the Quad to monitor the hallmarks of Chinese encroachment—incursions into economic exclusion zones and the persistent violation of maritime boundaries. The Indo-Pacific Partnership for Maritime Domain Awareness deftly addressed economic and sovereignty issues without naming China as an adversary or labeling the Quad as a security organization.

The Quad and the Indo-Pacific Partnership for Maritime Domain Awareness demonstrate the Kautilyan influence of alignment and silent warfare on Indian foreign policy. The Indian Maritime Security Strategy identifies Maritime Domain Awareness as a task that supports responding to nontraditional threats at sea, ensuring freedom of navigation, upholding the United Nations Convention on the Law of the Sea, deterring adversaries, and managing conflict.⁵⁹ India’s strategy points directly to the United Nations Convention on the Law of the Sea, leveraging the international system and courts that would subsequently rule in favor of the Philippines and against Chinese claims in the South China Sea.⁶⁰ India draws strength and authority from the international system. India’s Maritime Security Strategy and the contemporary foreign policy focus on the Quad demonstrate support

55. Subrahmanyam Jaishankar, “Opinion: Quad Validates PM’s India-First Approach, Writes S Jaishankar” *Hindustan Times* (website), May 25, 2022, <https://www.hindustantimes.com/opinion/quad-validates-pm-s-india-first-approach-101653498815738.html>.

56. Jaishankar, “PM’s India-First Approach.”

57. “Media Center: Joint Statement from Quad Leaders”; “Briefing Room: Joint Statement from Quad Leaders”; “Media Center: Quad Joint Leaders’ Statement”; and “Briefing Room: Quad Joint Leaders’ Statement.”

58. “Media Center: Quad Joint Leaders’ Statement”; “Briefing Room: Quad Joint Leaders’ Statement”; and “Briefing Room FACT SHEET: Quad Leaders’ Tokyo Summit 2022,” May 23, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/23/fact-sheet-quad-leaders-tokyo-summit-2022/>.

59. Navy, *Indian Maritime Security Strategy*, 6–7, 50, 64.

60. In the Matter of the South China Sea Arbitration, Permanent Court of Arbitration, case no. 2013-19 (Permanent Court of Arbitration, Hague 2016), <https://docs.pca-cpa.org/2016/07/PH-CN-20160712-Award.pdf>.

for Indian national interests of sustaining the international system and maintaining regional hegemony.

Mandalan Motives

Approaching India requires deft regional realism and careful international diplomacy. India's desire for strategic autonomy, paired with its assessment of the region and national security objectives, has resulted in some alignments that give the United States pause. Specifically, US leadership questions India's economic alignment with Iran, its dependency on Russia for defense-related articles, its participation in BRICS (Brazil, Russia, India, China, and South Africa), and its problematic voting record in the UN.

The US-Iranian relationship impacts India's ability to advance its national security objectives, specifically the maintenance of the regional hegemony and management of Chinese encroachment. The withdrawal of the United States from the Joint Comprehensive Plan of Action resulted in the collapse of Indian oil imports—Iran's second largest market—and a boon for China, which became the near-exclusive export destination for Iranian oil.⁶¹ The collapse of the Joint Comprehensive Plan of Action also highlighted the Chinese-Iranian Comprehensive Strategic Partnership Agreement signed in 2016, which called for Chinese-Iranian cooperation on issues ranging from defense and security to energy, ports, and other infrastructure projects.⁶² These outcomes did not advance American interests and jeopardized Indian economic and national security interests while bolstering Chinese influence and access in Iran.

Indian dependence on Russian defense articles is another point of potential contention. From 2018 to 2021, India was the world's largest importer of defense items, and from 2012 to 2016, over 68 percent of India's defense imports came from Russia.⁶³ The 2022 Russian invasion of Ukraine has highlighted India's dependency, which runs counter to India's pursuit of strategic autonomy. Similarly, India would see dependence on the

61. Nidhi Verma and Julia Payne, "Indian, European Refiners Get Ready to Buy Iranian Oil," Reuters (website), May 19, 2021, <https://www.reuters.com/world/india/indian-refiners-set-curb-spot-buying-make-room-iranian-oil-2021-05-19/>.

62. Hassan Rouhani, "Full Text of Joint Statement on Comprehensive Strategic Partnership between I.R. Iran, P.R. China," January 23, 2016, <https://www.president.ir/EN/91435>; and Reuters Staff, "Iran and China Sign 25-Year Cooperation Agreement," Reuters (website), March 27, 2021, <https://www.reuters.com/article/us-iran-china/iran-and-china-sign-25-year-cooperation-agreement-idUSKBN2BJ0AD>.

63. "TIV of Arms Imports to the Top 50 Largest Importers, 2018-2021," Stockholm International Peace Research Institute (SIPRI) (website), accessed July 10, 2022, <https://armstrade.sipri.org/armstrade/page/toplist.php>; and Kate Blanchfield, Pieter D. Wezeman, and Siemon T. Wezeman, "The State of Major Arms Transfers in 8 Graphics," *SIPRI WritePeace* (blog), February 22, 2017, <https://www.sipri.org/commentary/blog/2017/state-major-arms-transfers-8-graphics>.

United States, whose weapons sales come with many more restrictions and caveats, as equally disadvantageous.

India's membership in BRICS, a grouping of five major emerging economies, indicates some economic alignment with China and Russia. More importantly, from an Indian perspective, membership bolsters India's international status, provides economic access to the global south, and balances its increasing connectedness to the West—all three of which serve to advance India's desire for strategic autonomy.⁶⁴ In the United Nations, India abstained on 2022 votes condemning Russian aggression in Ukraine and its removal from the Human Rights Commission.⁶⁵ These abstentions must be considered in the context of India's desire to obtain a permanent seat on the United Nations Security Council, a foreign policy objective only achievable through a reformation of the UNSC, with China and Russia's consent. By not voting with the West on Ukraine, India avoided antagonizing China and protected access to logistical support for its inventory of Russian military equipment.

Conclusion

Kautilyan logic drives India to avoid alliances and seek alignment with countries that can advance its interests. Through an understanding of India's perspective and Kautilya's influence on Indian foreign policy and strategy, the United States can take several actions to gain Indian partnership and address US national security interests of managing a rising China.

The United States must take a more deliberate approach to its diplomatic relationship with India than with other Asian actors. A permanent seat on the UNSC is high on India's priority list, and the United States has supported this objective. Revisiting this issue formally in the UN would bolster India's stature on the global stage. Importantly, it would send a clear message to China and Pakistan regarding democratic values in the furtherance of the international system. Additionally, it would provide India equal footing with China on the UNSC, a position that could bolster US efforts to steer China toward peaceful growth. Sustaining the rules-based

64. Michael Kugelman, "India Plays BRICS to Its Interests," *Foreign Policy* (website), June 23, 2022, <https://foreignpolicy.com/2022/06/23/brics-summit-india-russia-china-quad/>.

65. "UN News: Russia Blocks Security Council Action on Ukraine," United Nations (website), February 26, 2022, <https://news.un.org/en/story/2022/02/1112802>; and "UN News: UN General Assembly Votes to Suspend Russia from the Human Rights Council," United Nations (website), April 7, 2022, <https://news.un.org/en/story/2022/04/1115782>.

international system is a clear area of Kautilyan alignment for India and the United States and would further balance the influence of China and Russia.

The United States must resist the urge to militarize the Quad lest it lose the Indo-Pacific's most powerful diplomatic tool of the twenty-first century. The Quad states' diplomatic, informational, and economic instruments of national power are aligned. Every deliverable the Quad produces advances the sustainment of the international system and pushes back on Chinese encroachment—two of India's identified vital national interests in complete alignment with those of the United States. The United States must recognize that while India did not vote in support of the US position in the United Nations, India's abstentions were made to manage the timing and conditions for what the Indians believe is the coming Sino-Indian conflict. Finally, the United States should continue to encourage Indian defense relationships with like-minded states and support Indian decisions to move away from Russian equipment, even if these actions do not result in American sales.

Policies of nonalignment and strategic independence saw India through multiple conflicts with Pakistan and China, but today these adversaries are effectively aligned nuclear powers, and their management requires a different approach.⁶⁶ The operationalization of India's foreign policy through the Quad demonstrates India's recognition of the changing environment.⁶⁷

The United States must break its reactive approach to South Asian policy and proactively pursue opportunities in the region.⁶⁸ Securing India's partnership is a logical next step for the United States in pursuing a free and open Indo-Pacific. A strong and US-aligned India will bolster the rules-based international order, encourage Pakistani compliance with international norms, and steer China toward a path of peaceful prosperity by changing the calculus of confrontation.

66. Thomas, *Indian Security Policy*, 21.

67. Gurmeet Kanwal, "Next Steps in the U.S.-India Strategic Partnership: Defense Cooperation Must Be Taken to a Higher Trajectory," Center for Strategic and International Studies (website), October 8, 2015, <https://www.csis.org/analysis/next-steps-us-india-strategic-partnership-defense-cooperation-must-be-taken-higher>.

68. Burgess and Beilstein, "Multilateral Defense Cooperation," 4.

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Security Force Assistance Brigades and US Indo-Pacific Command Multi-domain Competition

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ABSTRACT: Security force assistance brigades can enable multi-domain convergence in competition in the US Indo-Pacific Command. Rather than focusing on conventional Joint force capabilities, this article analyzes recent US Army operational experience in security force assistance and security cooperation in US Indo-Pacific Command and identifies capability gaps and opportunities for competition. Finally, military leadership and policymakers will find recommendations on how US Army security force assistance and security cooperation can shape environments and deter conflict in the US Indo-Pacific Command area of responsibility.

Keywords: SFAB, multi-domain, competition, deterrence, USINDOPACOM

The US Indo-Pacific website states, “USINDOPACOM is committed to enhancing stability in the Asia-Pacific region by promoting security cooperation, encouraging peaceful development, responding to contingencies, deterring aggression, and, when necessary, fighting to win. This approach is based on partnership, presence, and military readiness.”¹ In 2021, in the *Interim United States National Security Strategic Guidance*, President Joe Biden elevated the People’s Republic of China as the primary military threat to the United States.² Consequently, the US military renewed its emphasis on competition within the US Indo-Pacific Command (USINDOPACOM) area of responsibility (AOR). As US strategic focus moves away from US Central Command following the conclusion of the Iraq and Afghanistan wars, the US Army must reassess its roles and look beyond its combat capabilities to aid in the success of the Joint force mission, specifically the operating environment of Indo-Pacific Command, to retain its relevance in the shifting strategic environment.

Security force assistance brigades (SFABs) can play a crucial role due to doctrinal, organizational, and extensive specialized training capabilities

1. “About United States Indo-Pacific Command,” PACOM, n.d., accessed October 23, 2022, <https://www.pacom.mil/About-USINDOPACOM/>.

2. Joseph R. Biden Jr., *Interim National Security Strategic Guidance, March 2021* (Washington, DC: White House, 2021): 8.

in partner integration. Since the Indo-Pacific's strategic and operational environments lie primarily in the air and maritime domains, security force assistance brigades could play a vital role in enabling convergence and synchronizing cross-domain effects by cognition and effort beyond physical mass within multi-domain competition. Integrating brigades with partnered foreign security forces will allow the US Army to leverage partner multi-domain capabilities in complementary ways to US Joint and interagency capabilities and achieve a relative advantage in regional competition.

This article considers roles security force assistance brigades can fill to enable combined multi-domain convergence in competition below the threshold of armed conflict. It examines current military problems in the Indo-Pacific, discusses how the brigades can address these problems, and provides recommendations for how to enable multi-domain competition.

The Indo-Pacific Problem

The central military problem in the Indo-Pacific Command is determining how the Joint force can maintain freedom of action and impose its will against peer adversaries in all domains to deter conflict while reestablishing a position of strategic advantage. The most effective and efficient way to do so is by retaining existing positions of advantage. While the air and maritime domains remain the main areas of focus in the Indo-Pacific, naval theorist Julian S. Corbett's emphasis on the interdependence of the land and maritime domains suggests that retaining a Landpower advantage remains vital.³

The second military problem to avoid is losing the first battle of the next conflict.⁴ If North Korea attacked either Japan or South Korea, the Joint force would need to secure a swift initial victory to maintain its Landpower advantage. Chief of Staff of the Army General James C. McConville defines *Landpower advantage* as sustaining the fight, expanding the battlespace, striking in-depth across domains, gaining and maintaining decision dominance, creating overmatch, and prevailing in large-scale ground conflict.⁵ Given the Army's considerable executive agent responsibilities in sustaining

3. Julian S. Corbett, *Some Principles of Maritime Strategy* (Harrisburg, PA: Stackpole Books, 1999). First published in 1918 by Longmans, Green.

4. Headquarters Department of the Army (HQDA), *Army Multi-Domain Transformation: Ready to Win in Competition and Conflict*, Chief of Staff Paper #1 (Washington, DC: HQDA, 2021), 5.

5. HQDA, *Multi-Domain Transformation*, 6.

the Joint force, integrating partner sustainment capabilities toward the goal of convergence is beneficial and critical to success.

In *Asia-Pacific: A Strategic Assessment*, David Lai warns of the danger of overplaying the “U.S. card” in pursuing an over-militarized strategy to influence territorial interests in the Indo-Pacific region, and Lai underscores the peril of provoking China into reckless actions that risk moving from competition into open conflict.⁶ To mitigate this risk and achieve bilateral solutions, Lai recommends a strategic approach that reinforces the diplomatic and economic elements of national power coupled with a smaller military footprint.⁷ Large, conventional forward-postured US forces could have a provocative rather than coercive or deterrent strategic effect. Embedded adviser forces partnered with East Asian security forces can enable similar combined multi-domain convergence and keep efforts in the competition sphere instead of conflict.

A RAND Corporation study on security force assistance brigades in Afghanistan conducted by Leslie Adrienne Payne and Jan Osburg illustrates potential capability gaps in the Indo-Pacific and highlights issues that could result from employing conventional Joint forces trained and organized for “highly-kinetic” operations in advise and assist roles.⁸ The employment of large, conventional forces in adviser roles violates economy of force by compelling a unit to execute a mission for which it is not equipped, organized, or trained while underutilizing its capabilities. Instead, Payne and Osburg recommend using specifically trained conventional advisers to assist forces in enabling partner contribution. They note US operations in Afghanistan caused a marked increase in “morale and enthusiasm” among partnered forces operating with dedicated adviser forces rather than conventional advisers.⁹

Payne and Osburg also underscore the importance of influencing two to three countries at once by employing dispersed military organizations more efficiently than conventional Joint forces.¹⁰ The ability to influence multiple actors across a large, noncontiguous area of responsibility like the Indo-Pacific is necessary for maximizing Army support to the air and maritime domains. Also, Payne and Osburg suggest that, while it is sensible to align adviser forces regionally for continuity of partner relationships, conventional Joint

6. David Lai, *Asia-Pacific: A Strategic Assessment* (Carlisle, PA: US Army War College Press, 2013), iv, <https://press.armywarcollege.edu/monographs/527/>.

7. Lai, *Asia-Pacific*, v.

8. Leslie Adrienne Payne and Jan Osburg, *Leveraging Observations of Security Force Assistance in Afghanistan for Global Operations* (Santa Monica, CA: RAND Corporation, 2013), 12.

9. Payne and Osburg, *Security Force Assistance*, 12.

10. Payne and Osburg, *Security Force Assistance*, 14.

forces are ill-suited for perpetual regional alignment due to global demand for their aid and their limited multi-domain capabilities.¹¹

Applicability to the Indo-Pacific Problem

The idea of the US Army reexamining roles in anticipation of a strategic and operational shift from counterinsurgency operations originating in US Central Command to competing with the People's Republic of China, Russia, and other global powers in the Indo-Pacific region is not a recent development. As early as 2006, the US Army strategic planning guidance outlined the need to prepare for a post-global war on terrorism strategic and operational environment shift: "We must immediately begin the process of re-examining and challenging our most basic institutional assumptions, organizational structures, paradigms, policies, and procedures to better serve our Nation. The end result of this examination will be a more relevant and ready force—a campaign quality Army with a Joint and Expeditionary Mindset."¹² To maintain the Army's competitive advantage in the Indo-Pacific, leadership must recognize the importance of enduring partner integration.¹³ Security force assistance brigades represent a tailored, specifically trained unit large enough to manifest the full range of partner capability. At the same time, they are small enough to avoid strategically provocative connotations associated with larger forward-postured conventional forces, making the brigades ideal for the Army's shift to the Indo-Pacific and supporting partners to compete below the threshold of armed conflict.

Given that "joint interdependence is potentially the Joint Team's greatest asset," the *Army Strategic Planning Guidance 2006–2023* suggests the best opportunity to support the Joint force in the Indo-Pacific lies in "reassuring friends, allies, and coalition partners" to dissuade and deter adversaries.¹⁴ In preserving a rules-based international order favorable to the United States and its allies, the Army possesses the unique ability to build cohesive and enduring teams among allies and partners. Integrating partner capabilities to "sense, understand, decide, and act faster than an adversary in any situation" requires Army adviser forces to enable the execution of "simultaneous and sequential operations distributed throughout a non-linear battlespace and conducted in close coordination with interagency and multinational partners," synchronizing effects across all domains.¹⁵ Executing such a mission requires an understanding of the multi-domain operational concept

11. Payne and Osburg, *Security Force Assistance*, 34.

12. HQDA, *The Army Strategic Planning Guidance 2006–2023* (Washington, DC: HQDA, 2006), 4.

13. HQDA, *Military Competition*, fig. E2, viii.

14. HQDA, "Army Strategic Planning Guidance," 4.

15. HQDA, "Army Strategic Planning Guidance," 5.

and an ability to apply this understanding to complex, complicated, and “wicked” problem sets without final solutions.¹⁶

Maintaining “favorable regional alliances” in the USINDOPACOM area of operations hinges upon two critical regions: Northeast Asia and the East Asian littoral.¹⁷ The fact that US strategic ends do not always directly align with our partners’ and allies’ goals often complicates efforts to compete with and deter adversaries. Deterrence can be achieved through synchronizing partnered efforts in competition by shaping environments with Army special operations forces (SOFs) and security force assistance brigades.¹⁸ Since 2013, conventional forces have played a significant role in competition with non-allied great powers via brigade combat teams regionally aligned force deterrent rotations to the Republic of Korea. Integrating special operations forces and security force assistance brigades into the permanent United Nations and Republic of Korea/US Coalition command-and-control structures in doctrinal liaison roles would provide significant opportunities to achieve unity of effort across all domains and establish the potential of the United States’ East Asian littoral partners. It would also allow the embedded brigades to shape the information space through interoperability and strategic and operational messaging.¹⁹ Given most allies and partners in the East Asian littorals possess a relative local advantage in the land domain, the brigades could be the link in amplifying local advantage into a theater advantage.

While direct competition is distinct from conflict, it still risks using armed force—mainly through proxies to gain or maintain advantage. Adversaries in the Indo-Pacific, (such as the Democratic People’s Republic of Korea), already use proxies, shell corporations, and Islamic extremist organizations in the Philippines. Since Army special operations forces and security force assistance brigades are task-organized to win through partners, not by closing with the enemy personally and directly, this focus makes them appropriate and necessary to assist regional partners in neutralizing direct adversary competition.

Indirect competition occurs when national interests are not directly involved but actors pursue different aims within a similar environment.²⁰ Maintaining relative advantage in indirect competition may involve averting escalation to direct competition or conflict more than the pursuit or denial

16. Jeff Conklin, “Wicked Problems and Social Complexity,” in *Dialogue Mapping: Building Shared Understanding of Wicked Problems* (West Sussex, UK: John Wiley & Sons, Ltd., 2006).

17. HQDA, “Army Strategic Planning Guidance,” 14.

18. Lawrence Freedman, *Deterrence* (Malden, MA: Polity Press, 2004).

19. Everett Carl Dolman, *Pure Strategy: Power and Principle in the Space and Information Age* (New York: Frank Cass, 2005).

20. HQDA, *Military Competition*, vi.

of an objective. Employing brigades in emerging sub-theaters (like Vietnam, Thailand, Laos, and Cambodia) could preempt Russian and Chinese attempts to reassert influence over Southeast Asia. Brigades could leverage historical animosity toward China and build enduring relationships with regional security forces. By fostering and integrating partner capabilities across all domains with US Joint capabilities, brigades have the potential to “preserve and expand friendly (US, allies, and partners) advantages while limiting or eroding adversary options, imposing costs, and increasing adversary doubts. They can establish deterrence and set the conditions for military success when deterrence fails.”²¹

To succeed in multi-domain competition in the Indo-Pacific, allies and partners must be kept free from adversary coercion.²² The Indo-Pacific Command should ensure the means employed are neither coercive nor escalatory.²³ To that end, the brigades can signal a willingness for interoperability with Pacific allies and partners without the potentially provocative act of increasing conventional ground-maneuver forces, naval forces, and theater missile defense forces. Even if the Indo-Pacific Command decided against that course of action, the brigades’ mere presence counters adversary narratives that the United States is withdrawing from its role as a global leader and creating a strategic power vacuum. Additionally, they can, and should, be used to support foreign information warfare capabilities to confront Russian and Chinese malign-information operations in the region.

Populous nations such as Indonesia, the Philippines, Thailand, and Vietnam maintain strong land component security forces, creating an opportunity to embed US adviser forces and achieve greater synergy in the land, cyber, information, and space domains. Although allied and partner capabilities in the space and cyber domains lack the sophistication of US capabilities, there are opportunities for the United States to foster partnered integration in the space and cyber domains for competitive advantage in ways that benefit partners without compromising US morals and ethics. Nations like Indonesia, the Philippines, and Vietnam are strategically located within the layers of China’s anti-access and area-denial (A2AD) network. Furthermore, these nations have legal, political, strategic, and operational caveats different from those of the United States, enabling the US military to leverage these differences to advance US strategic interests where the interests of our allies and partners do not align with the People’s Republic of China. By partnering with the US military, nations in the Indo-Pacific would

21. HQDA, *Military Competition*, 2.

22. HQDA, *Military Competition*, ii.

23. Christopher P. Twomey, *The Military Lens: Doctrinal Difference and Deterrence Failure in Sino-American Relations* (Ithaca, NY: Cornell University Press, 2010), 151, 123.

have opportunities for defense and security alliances; access to US resources, military technology, and materiel; and the possibility of greater financial, information, and economic cooperation.

Integration in these domains could create a relative advantage in preventing the first potential battle of the next war (if it were to happen in the cyber domain). While competition in the Indo-Pacific aims to avoid escalating crisis into conflict, limiting a conflict's scale and returning to competition as rapidly as possible represents USINDOPACOM's second concern. To facilitate a return to competition from conflict, McConville asserts the Army must maintain contact in all domains, hold adversary interests at risk, impose costs on malign actions, enhance assurance, persist inside threat systems (such as anti-access and area denial), and facilitate the transition to competition.²⁴ The embedded adviser forces of the security force assistance brigades could serve as the connectors for maintaining contact across domains while holding adversary interests at risk and imposing costs on malign actions through partner interoperability.

The presence of adviser forces enhances the strategic position of East Asian partners and enables continuous operations within adversary A2AD zones. By bridging the range of operations throughout escalation to conflict, embedded security force assistance brigades could present a unique opportunity to facilitate the transition back to competition, as the bulk of security cooperation and assistance operations remain in the competition space, regardless. Moreover, enduring SFAB presence could create friendly forward positions within Indo-Pacific threat A2AD networks. The brigades distributed organization across echelons could mitigate the risk of isolation within Chinese or Russian Indo-Pacific A2AD networks by creating a smaller target than conventional forces.²⁵

Despite their small size, the ongoing presence of security force assistance brigades would support deterrence by providing a constant reminder the United States could respond quickly to escalatory actions. The 2006–23 Army strategic planning guidance suggests successful competition in the Indo-Pacific relies upon “detering aggression and countering coercion against the U.S., its forces, allies and friends in critical areas of the world by developing and maintaining the capability to swiftly defeat attacks with only modest reinforcements.”²⁶ Through enduring integration of security force assistance brigades with partnered foreign-land component security

24. HQDA, *Military Competition*, 10.

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

26. HQDA, “*Army Strategic Planning Guidance*,” 14.

forces in the East Asian littorals, the United States reduces the potential for more extensive force commitments should competition transition to conflict. Effectively “dissuading adversaries from developing threatening forces or ambitions, shaping the future military competition in ways that are advantageous to the U.S. and complicating the planning and operations of adversaries” would preempt more coercive forms of deterrence.²⁷

Consequently, enduring SFAB integration with East Asian partnered land components creates a deterrent in being with a lower risk of conflict escalation across domains than other joint formations. Before partnered forces can effectively dissuade adversaries as part of Joint and multinational competition efforts, US forces must reassure partners “by demonstrating U.S. steadiness of purpose, national resolve and military capability to defend and advance common interests, and by strengthening and expanding alliances and security relationships.”²⁸ The brigades’ presence in the Indo-Pacific provides assurance at a low risk and materiel cost compared to other joint capabilities.

If the first military problem presented by competition is how the Joint forces prevent escalation from competition to conflict, then successful security force assistance and security cooperation are critical. Countering adversary competition actions in the USINDOPACOM area of operation, US Army forces “as an element of the Joint force, conduct Multi-Domain Operations to prevail in competition; when necessary, Army forces penetrate and dis-integrate enemy anti-access and area denial systems and exploit the resultant freedom of maneuver to achieve strategic objectives (win), and force a return to competition on favorable terms.”²⁹ Crucial tenets of multi-domain competition include having forward-postured expeditionary forces, massing cross-domain fires, maximizing human potential, and layering options. Army special operations forces and security force assistance brigades possess organic doctrine, organization, training, and equipment to execute security force assistance and security cooperation across each tenet.³⁰

Building partner capacity is critical to succeeding in multi-domain competition; therefore, the security force assistance brigade should play a significant role. The brigades meet critical requirements for success in multi-domain competition, including “[p]reparing the operational environment by building partner capacity and interoperability and setting the theater through such activities as establishing basing and access rights,

27. HQDA, *Army Strategic Planning Guidance*, 14.

28. HQDA, *Army Strategic Planning Guidance*, 14.

29. TRADOC, *Multi-Domain Operations 2028*, vii.

30. HQDA, *Military Competition*, iv.

prepositioning equipment and supplies, conducting preparatory intelligence activities, and mapping EMS and computer networks.” Likewise, they help with, “[b]uilding partners’ and allies’ capacities and capabilities to defeat increasingly sophisticated Chinese and Russian-sponsored unconventional and information warfare,” further emphasizing the criticality of combined, partnered, and allied contributions to competition. Consequently, dedicated adviser forces are critical to enabling partner capabilities in facilitating successful multi-domain convergence.

Additionally, employing security force assistance brigades could effectively mitigate the military risks posed by China and Russia in the Indo-Pacific region. The Army multi-domain operating concept highlights that, while Chinese and Russian military systems in the Indo-Pacific are robust, they depend on a predictable, pattern-bound enemy. Beyond simply alternating US Joint force posture, embedding adviser units with East Asian partnered security forces generates more options and increases the width and depth of the battlefield across domains for potential threat actors. Combined (that is, multinational) rather than US-only force posture alternation enables strategic and operational deception efforts across domains.³¹

As China and Russia have developed “space, cyber, information, and electronic warfare (EW) capabilities that can halt American power projection before it begins,” the need to augment partnered land capabilities in achieving convergence will only increase. Partnered security forces in the USINDOPACOM area of operations represent forward-postured allied capabilities within Chinese and Russian A2AD zones. Brigades can leverage partners already present in theater (like Vietnam, Singapore, and Taiwan) to compete in the land, air, and maritime domains other US forces cannot enter without escalating to conflict. In the multi-domain operating concept, security force assistance brigades competing through partners provide “overmatch through speed and range at the point of need.”³²

McConville explains how the Army’s contribution to multi-domain competition rests on three lines of effort—engaging and training, equipping and enabling, and advising and assisting to “[e]xpand the [l]andpower [n]etwork.”³³ The security force assistance brigade is currently the only Army formation doctrinally trained and equipped to execute each line of effort simultaneously for itself and a partnered force. While McConville’s white paper specifies competing in the land domain, the contribution of East Asian littoral land component security forces to air, littoral, cyber,

31. TRADOC, *Multi-Domain Operations 2028*, 29.

32. HQDA, *Multi-Domain Transformation*, 1.

33. HQDA, *Multi-Domain Transformation*, 2.

space, and information operations suggests an expanded role in achieving convergence through partners.

Security force assistance brigades could play a vital role in countering Russia and China's attempts to "outflank" US partnerships and alliances using the space, cyber, and information domains to fracture alliances below the threshold of armed conflict.³⁴ While some scholars question the efficacy of Westphalian alliance systems, the presence of brigades in the theater with partnered forces represents a clear assurance of the United States' commitment to partner defense. The brigades' presence also disrupts Russian and Chinese coercion attempts by physically emplacing forces within the competition space, which forces adversaries to account for them in their decision calculus.³⁵ Beyond enabling partnered contributions in the land domain, brigades could assist partners in deterring attempts to fracture allied command-and-control architecture in the cyber, space, and information domains in a foreign internal defense capacity.³⁶

Embedding security force assistance brigades with East Asian partners raises the stakes of *fait accompli* attacks while extending operational reach. Brigades can advise foreign security force fires while simultaneously integrating US joint fires in-depth across domains. Their integration into allied command-and-control architecture in East Asia flattens organizational hierarchies while reducing friction. Although not organically organized to prevail in large-scale ground combat, SFAB-partnered interoperability in competition dramatically reduces the risk of large-scale ground combat in the first place.

Security force assistance brigades in allied and partnered nations will provide many of the same capabilities as conventional forces and reduce the burden on host nations. Brigades possess the same communication systems as conventional Army forces, in addition to others found only in the special operations community. They possess the ability to clear joint fires at the brigade and battalion levels and within the fires battalion and joint fires observers in the infantry battalion and cavalry squadron. They are also capable of executing the operations process like conventional brigades and battalions. The smaller scale of the brigade staffs, however, requires careful allocation of resources and efforts to balance advise, assist, support, liaison (with), and

34. HQDA, *Multi-Domain Transformation*, 3.

35. Brett Ashley Leeds, "Do Alliances Deter Aggression? The Influence of Military Alliances on the Initiation of Militarized Interstate Disputes," *American Journal of Political Science* 47, no. 3 (July 2003): 427ff.

36. HQDA, *Multi-Domain Transformation*, 3.

enable (AASLE) operations to coordinate with conventional operations, depending on the mission and operating environment.

One of the chief areas where a brigade's smaller scale could and should be employed is in synchronization efforts with allies and partners in the cyber domain. The US Army cyberspace operations concept describes how China and Russia attempt to "capitalize on emerging technologies to establish and maintain a cultural and social advantage; leveraging these new capabilities for command and control, recruiting, coordinating logistics, raising funds, and propagandizing their message" in the Indo-Pacific.³⁷ A foundational dimension of the Joint and Army cyber approach in countering Chinese and Russian competition in cyberspace relies upon "strategic engagement, which involves keeping friends at home, gaining allies abroad, and generating support or empathy for the mission."³⁸ Understanding that the maintenance of competitive advantage in cyberspace relies on coordinating all combined-force capabilities, since the cyber domain pervades all others, the need to synchronize allied and partnered cyber efforts in Indo-Pacific competition will only increase.

While the current SFAB organization does not contain dedicated cyber forces, signal capabilities within headquarters adviser teams and the SFAB signal company are capable of augmenting US Cyber Command cyber combat mission teams. The Army cyberspace operations concept defines the *cyber domain* as a "global domain within the information environment consisting of the interdependent network of information technology infrastructures, including the Internet, telecommunications networks, computer systems, and embedded processors and controllers."³⁹ The brigades have recognized the cyber domain's influence on the information domain. Consequently, they have sought to contribute to convergence through operational messaging and dedicated support to partner information operations to counter malign Chinese and Russian information campaigns.

The SFAB's robust organic signal capabilities create opportunities to link less secure or sophisticated allied and partnered networks to the Department of Defense networks at a lower cost and risk than directly linking foreign networks. The same logic theoretically applies to the space domain. Although most East Asian littoral allies and partners possess limited space capabilities, a brigade's ability to provide a secure coupling between foreign and US networks allows partners to benefit from the full range

37. TRADOC, *The U.S. Army Concept Capability Plan for Cyberspace Operations*, 2016-2028 TRADOC Pamphlet 525-7-8 (Fort Eustis, VA: TRADOC, 2010), i.

38. TRADOC, *Cyberspace Operations*, i.

39. TRADOC, *Cyberspace Operations*, 68.

of US space capabilities, including navigation and intelligence, surveillance, and reconnaissance.

Given the unprecedented speed with which adversaries can seize positions of advantage in cyberspace, having security force assistance brigades on-site and operating with partnered cyber forces would create an improved, competitive deterrent complex.⁴⁰ A brigade's role as an adviser on foreign military sales could aid East Asian littoral partners with the constantly evolving hardware and software necessary to compete in the cyber, information, and space domains.⁴¹ Given that an increasing amount of cyber equipment acquisition comes from foreign vendors, the ability of brigades to influence investment in software and hardware for partners and the Joint force is potentially considerable.⁴²

Adversaries employ “sponsorship, training, education, skills, motivation, or tools” competing via proxies in the space, cyber, and information domains. Therefore, embedded adviser forces with East Asian partners executing such lines of effort could preempt Chinese and Russian attempts to gain relative advantage in the cyber domain within the Indo-Pacific.⁴³ The Joint force currently possesses limited forces in the Indo-Pacific theater to liaise with or train foreign security forces in cyber, space, and information operations.⁴⁴ Additional training or organizational changes would be necessary for brigades to provide training, education, and skills to East Asian partnered cyber forces. The presence of regionally aligned brigade forces in the Indo-Pacific creates an opportunity to bridge time delays in deploying combat cyber support teams to the theater. It also supports the Army cyberspace operating requirement that “the Army’s battle command system must be able to exchange relevant operational information with Joint, interagency, intergovernmental multinational partners, nongovernmental organizations and contractors.”⁴⁵ Furthermore, embedding brigade advisers enables the subsequent cyberspace operating requirement of integrating “coalition partner(s) and other specified networks during garrison and deployed operations, including the capability to integrate into the networks of coalition partners with different intelligence-sharing relationships in order to enable effective Joint and/or multinational operations and ensure freedom of action.”⁴⁶

40. TRADOC, *Cyberspace Operations*, 10.

41. TRADOC, *Cyberspace Operations*, 11.

42. TRADOC, *Cyberspace Operations*, 12.

43. TRADOC, *Cyberspace Operations*, 13.

44. TRADOC, *Cyberspace Operations*, 39.

45. TRADOC, *Cyberspace Operations*, 48.

46. TRADOC, *Cyberspace Operations*, 48.

Realistically, supplemental training on cyber operations would be necessary for most existing brigade advisers.

Conclusion

Security force assistance brigades represent the connective tissue or hub necessary to enable unified action and unity of effort across the multinational command-and-control architecture in the Indo-Pacific Command. A first step the Army can take to make full use of a brigade's capabilities would be to embed SFAB advisers beyond the tactical level. Building on this step, the Army, in conjunction with the Indo-Pacific Command and grand strategic command authorities, must seek opportunities to integrate security force assistance brigades with regional allies and partners whom the United States does not historically possess enduring peacetime security agreements (such as Vietnam, Thailand, Indonesia, and Malaysia).

In addition, the Army must seek opportunities to employ brigades in lieu of conventional ground-combat formations, where appropriate, to enable cooperation, retain relative advantage in competition, and maintain competition below the threshold of armed conflict. The presence of embedded SFAB advisers with East Asian allied and partnered multi-domain components links partnered capabilities to the US Indo-Pacific Command Joint multi-domain convergence effort. Furthermore, the brigades' small organizational profile allows them to embed with East Asian allies and partners and passively penetrate threat A2AD networks, circumventing the military problem of power projection in a denied environment. By integrating security force assistance brigades with partnered foreign security forces, the US Army can leverage partner multi-domain capabilities in ways that complement US Joint and interagency capabilities, deter adversaries, and create relative advantage, enabling successful competition for the United States and allies across domains.

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Planning for Positive Strategic Shock in the Department of Defense

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ABSTRACT: A concept of positive strategic shock would benefit the US Department of Defense's planning processes. Some US doctrine demonstrates awareness of the need to plan for negative strategic shocks but lacks consideration of positive strategic shock—any shock with a non-zero-sum outcome—which could create a situation where the Department of Defense misses opportunities. This article clarifies the term *positive strategic shock*, provides a brief review of where and how planning for any sort of strategic shock currently occurs, and makes recommendations based on three methods for thinking about strategic shock.

Keywords: shock, positive, non-zero-sum, planning, doctrine

Although US doctrine demonstrates awareness of the need to plan for negative strategic shocks, the lack of consideration of disruptive effects caused by positive strategic shocks could leave the Department of Defense (DoD) in a position where it misses the benefits of such shocks.¹ Advocacy for incorporating positive strategic shock in DoD planning processes first requires clarification of the term. *Negative strategic shock* refers to the deleterious facet of “unknown unknowns” and more practical “known unknowns” mentioned by the then Secretary of Defense Donald Rumsfeld and later analyzed by Nathan Freier and others, but *positive strategic shock* must be more ambiguously defined. After establishing a working definition of negative and positive strategic shock, the article explores existing processes for responding to strategic shock. Finally, three methods for thinking about strategic shock in planning—those of reframing, horizon scanning, and the “barbell” approach—form a basis for recommendations on how to consider incorporating a concept of positive strategic shock in DoD planning processes.

1. Paul Austin Murphy, “Rumsfeld’s Logic of Known Knowns, Known Unknowns and Unknown Unknowns,” A Philosopher’s Stone (blog), December 12, 2020, <https://medium.com/the-philosophers-stone/rumsfelds-logic-of-known-knowns-known-unknowns-and-unknown-unknowns-f506db31ac74>; Nathan Freier, *Known Unknowns: Unconventional “Strategic Shocks” in Defense Strategy Development* (Carlisle, PA: Strategic Studies Institute, 2008), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a489100.pdf>; and Nathan Freier, Robert Hume, and John Schaus, “Special Commentary: Memorandum for SECDEF: Restore ‘Shock’ in Strategic Planning,” May 5, 2020, https://ssi.armywarcollege.edu/wp-content/uploads/2020/05/COVID-19-Shocks_Freier_Hume_Schaus_v1.3_post.pdf.

Coming to Terms with Strategic Shock

Positive strategic shock, and strategic shock more generally, require clarification before proceeding. First, it is important to note that a parallel exists between defense-related strategic shock and the concept of *disruption* in business models. Former Harvard Business School professor Clark Gilbert observes that, like strategic shock, the concept of disruption “has usually been considered by established businesses as an attack that must be met through defensive measures.” Gilbert also points out, however, that “the real story behind disruptive innovation is not one of destruction, but of its opposite: In every industry changed by disruption, the net effect has been total market growth.”² This initial tendency within established businesses to frame disruption negatively provides a starting point for a critique of defense-related strategic shock. Is only the negative aspect considered? If so, is it because only negative strategic shocks exist or because threat perceptions within the Department of Defense choose to focus on the negative?

Before focusing specifically on positive strategic shock, strategic shock should be understood more generally. Freier links “defense-relevant” strategic shock to the same forces operating in business when he characterizes strategic shocks as “disruptive, transformational events for DOD [Department of Defense].”³ Freier explains that, despite some degree of uncertainty in origin and exact nature, his work considers only shocks that display clear, promulgating trends. This means the shock experienced could have been recognized and accounted for in advance if not for the decisions to ignore certain data and analysis.⁴ Rumsfeld advocated a more complete framework for shock, events deriving from both unknown unknowns and known unknowns.⁵ Freier considers only the known unknowns while relegating the unknown unknowns to a domain too speculative to bear consideration in DoD resource allocation or planning.⁶ This dismissal of the unknown unknown is precipitous, however, as possibilities exist for the Department of Defense to posture itself vis-à-vis unknown unknowns without overcommitting resources.

Although Rumsfeld’s quote popularized these terms, had been in use in strategic planning and project management since the late 1990s.⁷ A known unknown is an anticipated gap, which, according to Rumsfeld,

2. Clark Gilbert, “The Disruption Opportunity,” *MIT Sloan Management Review*, July 15, 2003, <https://sloanreview.mit.edu/article/the-disruption-opportunity/>.

3. Freier, Hume, and Schaus, “Restore ‘Shock’ in Strategic Planning,” 1.

4. Freier, Hume, and Schaus, “Restore ‘Shock’ in Strategic Planning,” 1.

5. Donald H. Rumsfeld and Richard B. Myers, “DoD News Briefing – Secretary Rumsfeld and Gen. Myers,” (briefing, US Department of Defense, Washington, DC: February 12, 2022), <https://archive.today/20180320091111/http://archive.defense.gov/Transcripts/Transcript.aspx?TranscriptID=2636>.

6. Freier, *Known Unknowns*, 11.

7. Murphy, “Rumsfeld’s Logic.”

can eventually be made a “known known” through “[asking] the right questions.”⁸ Therefore, known unknowns do not necessarily portend strategic shock, except in instances when an organization fails to ask the right questions. Conversely, unknown unknowns, unanticipated gaps in knowledge, are what Nassim Nicholas Taleb calls “Black Swans” in his metaphor for events characterized by “rarity, extreme impact, and retrospective (though not prospective) predictability.”⁹ Unlike Taleb, Freier does not address the potential for such unpredictable events to exhibit positive potentiality, but he does capture the importance of examining a gap in defense strategy that does not address the known unknown as “unconventional ground where irregular, catastrophic, and hybrid ‘threats of purpose’ and ‘threats of context’ rise and mix in complex combinations to challenge core interests.”¹⁰ Freier provides a model for thinking about shock in DoD planning, but his model is limited to the known unknown and negative strategic shock.

Expanding Freier’s thinking to consider the Black Swan and the known unknown as they relate to planning in the Department of Defense and to incorporate the possibility of positive strategic shock provides a more complete framework. Whether in utter surprise at a Black Swan or in a situation where blindness compounds the effect of a known unknown, shock will disrupt the Department of Defense if the institution has not developed a process allowing it to anticipate and implement policy before experiencing shock.¹¹ Again, that shock could be negative or positive, and the ways an organization thinks about and responds will—or at least should—differ on a case-by-case basis. This is why an expansion of Freier’s thinking, and the work to define that expansion, is important.

The term positive strategic shock has already been used in strategic planning literature, albeit with a meaning slightly divergent from the beneficial Black Swan or known unknown. Colin S. Gray has extrapolated a positive outcome can be obtained when negative shocks force an enterprise to recognize a deficiency and play catch-up. Gray writes, “Considered positively, national security challenges may well lend themselves persuasively to identification of opportunities.”¹² Like Freier’s phrasing, Gray’s phrasing precludes a positive event. Instead, Gray focuses on the idea that even negative shocks have the potential for positive benefits. By Gray’s definition,

8. Donald H. Rumsfeld, *Known and Unknown: A Memoir* (New York: Sentinel, 2011), xiv.

9. Nassim Nicholas Taleb, *The Black Swan: The Impact of the Highly Improbable* (New York: Random House, 2007), xviii.

10. Freier, *Known Unknowns*, 13.

11. Freier, *Known Unknowns*, 7.

12. Colin S. Gray, *Categorical Confusion? The Strategic Implications of Recognizing Challenges Either as Irregular or Traditional* (Carlisle, PA: US Army War College Press, 2012), 20, <https://ssi.armywarcollege.edu/2012/pubs/categorical-confusion-the-strategic-implications-of-recognizing-challenges-either-as-irregular-or-traditional/>.

positive strategic shock is merely dependent on negative strategic shock and not considered an independent occurrence.

Adding additional confusion, Peter Schwartz, in *Inevitable Surprises* (Gotham Books, 2003), takes a more nuanced approach to describing the same process of achieving positive results from a negative shock. He reframes the perspective taken on a negative strategic shock, such as that of mass immigration to Europe, as a positive shock, or positive when viewed from a different perspective.¹³ This case would require Europe to reframe its stance on immigration with a more inclusive and therefore entrepreneurial spirit along the lines of what Schwartz asserts has been a historical strength for America.¹⁴ This process of reframing bears further consideration as a recommendation for how the Department of Defense might better plan for strategic shock. Differentiating and recognizing the past usage by Gray and Schwartz of the term positive strategic shock helps frame a more complete set of recommendations.

Finally, for clarity, a few additional terms require further discussion. First, the gravity of labeling a shock as *strategic* should not be ignored, nor should the occasional overuse of the term *strategy* dilute its connotations. According to Freier, shocks of this magnitude “jolt convention to such an extent that they force sudden, unanticipated change in the Department of Defense’s (DoD) perceptions about threat, vulnerability, and strategic response. Their unanticipated onset forces the entire defense enterprise to reorient and restructure institutions, employ capabilities in unexpected ways, and confront challenges that are fundamentally different than those routinely considered in defense calculations.”¹⁵

Working from this definition, many historical examples of shock appear insufficiently disruptive, and many scanning processes for shock are ineffective. Whether an event is truly strategic in nature matters because issues below the strategic level tend not to disrupt the Department of Defense as an institution and pose less of an existential threat. For example, while the advent of hypersonic missiles is sometimes labeled a strategic issue, it has not created

13. Peter Schwartz, *Inevitable Surprises: Thinking ahead in a Time of Turbulence* (New York: Gotham Books, 2003), 49, 67–69. See also p. 12 for similar reframing of IBM’s transition from mainframe to services business model.

14. Schwartz, *Inevitable Surprises*, 49, 67–69.

15. Freier, *Known Unknowns*, vii.

a need for restructuring institutions, only additional research and perhaps some technological one-upmanship at the operational level.¹⁶

Due to its highly subjective nature, “positive” also risks being misused in discussions of strategic shock. One way to overcome that subjectivity is to equate positivity with the concept of a *non-zero-sum game*. Unlike most sports where one competitor loses as a condition of the other winning, in a non-zero-sum (also win-win) scenario both parties win because the activity creates aggregate growth.¹⁷ They often avoid direct confrontation in favor of approaches and actions that at least fractionally align and thus mutually reinforce one another.¹⁸ The definition of positive strategic shock used here, therefore, does not equate to positive gain contingent on negative shock, nor does it involve reframing a negative event as a positive one. The definition avoids a consideration of shock that occurs at a lower (perhaps operational or tactical) level. Instead, positive strategic shock represents a non-zero-sum occurrence requiring significant institutional reorientation. It falls within either the category of unknown unknowns or the known unknowns for which the Department of Defense has not adequately planned. The defining characteristic of positivity becomes its non-zero-sum orientation. Based on this definition, shocks that are positive for the United States but negative for its competitors or partners are still considered negative strategic shocks.

Here, a few concrete examples will help ground the discussion and clarify how certain past shocks were both strategic and non-zero-sum. Although not exhaustive, these examples display varying degrees of import to the military industrial capability of the Department of Defense. They include the discovery and proliferation of vaccines, the widespread ability to refrigerate food, and the development of the Internet. These are non-zero-sum because they benefit most, if not everyone, and operate at the strategic level rather than the operational or tactical levels. Looking to the future, the Department of Defense should anticipate the possibilities of cold fusion and asteroid mining as potentially non-zero-sum and strategically significant.

Unknown unknowns, however, are by definition unpredictable. The very act of attempting to predict a Black Swan goes against Taleb’s model, which he calls the “barbell strategy,” for how best to prepare.¹⁹ Discussion

16. David Axe, “Wrong: Why Hypersonic Weapons Aren’t Even Really a Real Weapon (Yet),” *Buzz* (blog), March 18, 2020, <https://nationalinterest.org/blog/buzz/wrong-why-hypersonic-missiles-arent-even-really-real-weapon-yet-134322>.

17. Business Terms Editors, “Non-Zero Sum Game,” Business Terms (website), n.d., accessed January 16, 2022, <https://businessterms.org/non-zero-sum-game/>.

18. Business Terms Editors, “Non-Zero Sum Game.”

19. Taleb, *Black Swan*, 205, 207.

of concrete unknown unknown examples becomes counterproductive, though recommendations for how to prepare still contain valuable insights for the Department of Defense and will be covered later in this article.

Processing Strategic Shock

One significant obstacle in responding to positive strategic shock is the near absence of a planning methodology around shock of any sort. A review of US military doctrinal guidance yields no mention of positive strategic shock and little on strategic shock of any sort.²⁰ The *Joint Operating Environment 2035 (JOE 2035)* contains only five references to shock, four that are not germane to a discussion of positive strategic shock and one that recognizes overemphasis of traditional planning as a negative but depreciates shock as “low-end.”²¹ *JOE 2035*’s one nod to shock states, “Placing too much emphasis on *contested norms*—particularly those high-tech and expensive capabilities geared to contain or disrupt an expansionist state power—may discount potentially disruptive low-end threats, which have demonstrated a troubling tendency to fester and emerge as surprise or strategic shock for the United States.”²²

This statement is neither prescriptive nor comprehensive with respect to shock. Unlike Taleb’s or Freier’s works, *JOE 2035* does not approach shock for what it is: a force of uncertainty with which senior DoD leaders should most closely contend, and the mechanism that accounts for most growth and change in the world.²³ Even more troubling, many erstwhile strategic think pieces in the defense space do not consider shock at all; instead they only speculate on relatively noncontroversial and predictable known unknowns.

20. Donald J. Trump, *National Security Strategy of the United States of America: December 2017* (Washington, DC: White House, 2017), 14, <http://nssarchive.us/wp-content/uploads/2020/04/2017.pdf>; and US Army Training and Doctrine Command (TRADOC), *The Operational Environment and the Changing Character of Warfare*, TRADOC Pamphlet 525-92 (Fort Eustis, VA: TRADOC, 2019), 18, <https://adminpubs.tradoc.army.mil/pamphlets/TP525-92.pdf>.

21. Joint Chiefs of Staff, (JCS), *Joint Operating Environment, JOE 2035: The Joint Force in a Contested and Disordered World* (Washington, DC: JCS, 2016), iii, 55, https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joe_2035_july16.pdf?ver=2017-12-28-162059-917.

22. JCS, *JOE 2035*, 51.

23. Freier, *Known Unknowns*, 3; and Taleb, *Black Swan*, 134.

These pieces include efforts by large organizations, like the RAND Corporation's predictive work, and publications by independent analysts.²⁴

The lack of consideration for strategic shock in strategic thinking and DoD planning processes leaves the Department of Defense open to criticism that it is reactive, lacking in imagination, and vulnerable to surprise.²⁵ Freier explains that “[s]hocks . . . undermine prevailing strategy and planning assumptions.” Shocks also often lie outside what Sam J. Tangredi refers to as “traditional or permitted” areas of defense inquiry.²⁶ Freier also cites two positive developments in incorporating strategic shock into planning processes. The first is the “Strategic Trends and Shocks” project that began in 2008 in the Office of the Secretary of Defense as a response to a lack of warning around the insurrection after Operation Iraqi Freedom.²⁷ The second is the awareness of shock's absence in planning processes demonstrated in the *National Defense Strategy*: “The Department should also develop the military capability and capacity to hedge against uncertainty, and the institutional agility and flexibility to plan early and respond effectively alongside interdepartmental, non-governmental and international partners.”²⁸ This statement does not mention shock specifically, but it can be read as an acknowledgment of, and a directive to employ agility and flexibility to, the great uncertainty of shock. One additional attempt at institutionalizing planning for strategic shock is the State Department's “Project Horizon.” This project demonstrates how the issue of shock, as mentioned in the *National Defense Strategy*, affects national strategy across interdepartmental lines.²⁹

That the Department of Defense has not formalized a planning process even for the negative aspect of known unknown strategic shock likely stems from a conservative mindset.³⁰ Conservatism of this sort leaves the

24. Raphael S. Cohen et al., *Peering into the Crystal Ball: Holistically Assessing the Future of Warfare* (Santa Monica, CA: RAND Corporation, 2020), https://www.rand.org/pubs/research_briefs/RB10073.html; Raphael S. Cohen et al., *The Future of Warfare in 2030: Project Overview and Conclusions* (Santa Monica, CA: RAND Corporation, 2020), https://www.rand.org/pubs/research_reports/RR2849z1.html; James M. Dubik, “No Guarantees When It Comes to War,” Association of the United States Army (website), August 22, 2018, <https://www.aula.org/articles/no-guarantees-when-it-comes-war>; Kimberly Amerson and Spencer B. Meredith III, “The Future Operating Environment 2050: Chaos, Complexity and Competition,” *Small Wars Journal* (website), July 31, 2016, <https://smallwarsjournal.com/jrnl/art/the-future-operating-environment-2050-chaos-complexity-and-competition>; and Anja Kaspersen, Espen Barth Eide, and Philip Shelter-Jones, “10 Trends for the Future of Warfare,” World Economic Forum (website), November 3, 2016, <https://www.weforum.org/agenda/2016/11/the-4th-industrial-revolution-and-international-security/>.

25. Freier, *Known Unknowns*, 1.

26. Freier, *Known Unknowns*, 4; Sam J. Tangredi, *All Possible Wars? Toward a Consensus View of the Future Security Environment, 2001-2025*, McNair Paper 63 (Washington, DC: National Defense University, 2000), 119.

27. Freier, *Known Unknowns*, 38, 10n.

28. Department of Defense, *National Defense Strategy* (Washington, DC: Department of Defense, June 2008), 5, <https://nssarchive.us/national-defense-strategy/national-defense-strategy-2008/>.

29. Freier, *Known Unknowns*, 25.

30. Freier, *Known Unknowns*, 13, 20, 27.

organization and the nation open to strategic surprise.³¹ Furthermore, the presence of this conservative mindset demonstrates that the consideration of unknown unknowns and positive strategic shock must first overcome the Department of Defense's more basic resistance to planning for shock. This conservatism and institutional inertia may be factors leading the Department to keep to the status quo—a good thing in the case of a negative strategic shock, but potentially not when confronted with non-zero-sum sea change.³²

Methods to Prepare for Shock

While organizations struggle to anticipate and plan for the risks or rewards of shock, three methodologies suggest ways the Department of Defense should prepare and position itself to adapt and respond to positive shock. These methodologies are the process of horizon scanning as advocated by Freier, the reframing technique demonstrated by Schwartz, and Taleb's barbell approach. While only Taleb specifically considers and proposes techniques anticipating positive strategic shock, all three methodologies offer insights and ideas useful for DoD planners to consider.

Freier's horizon-scanning technique responds to the DoD's perceived hesitancy to engage in speculation and commit resources based on such speculation.³³ This horizon-scanning technique bridges the gap between the areas of "prudent hedging," analogous to the known unknown, and highly speculative, extreme scenarios that could prove disruptive but cannot be accommodated in planning activities because the almost unlimited range of futuristic, low-probability challenges does not warrant the expenditure of resources or brainpower.³⁴ While this is a step in the right direction, Freier's application of the technique still considers only the negative aspect of shock, where other nations or forces gain an advantage that requires the United States to catch up.

In another work on the subject of shock, Freier encourages a process of horizon scanning as a low-cost solution to address this planning gap.³⁵ He proposes the Department of Defense and its components engage outside entities to identify disruptive shocks in a way that focuses on the competitive domains unique to each component.³⁶ Strategic planning processes

31. Freier, *Known Unknowns*, 1, 14, 20.

32. M. Chris Mason, "Strategic Insights: Better Late than Never," Strategic Studies Institute (website), October 23, 2018, <https://ssi.armywarcollege.edu/articles/articles-2018/better-late-than-never/>.

33. Freier, *Known Unknowns*, 20.

34. Freier, *Known Unknowns*, 11.

35. Freier et al., "Restore 'Shock' in Strategic Planning," 2.

36. Freier et al., "Restore 'Shock' in Strategic Planning," 6.

incorporating such horizon scanning can at least make the known unknown foreseeable with enough detail that planners and leaders can justify devoting resources to the consideration of branches and sequels to the main plan.³⁷

Beyond the fiscal hesitancy surrounding attempts to put planning rigor around speculation, Freier asserts “curiosity about and investigation into the unconventional and the unknown” are somewhat countercultural for the Department of Defense.³⁸ Advocacy for consideration of positive strategic shock in DoD planning represents a more speculative and less obviously urgent need than anticipating an adversary’s shocking, zero-sum technological advances. As such, and as with any idea that requires fiscal input and a change of thinking, the consideration of positive strategic shock will meet with more resistance from the Department of Defense, even though it does form a logical extension of Freier’s proposition.

Two points from Schwartz’s *Inevitable Surprises* add rigor and criteria for positivity to this approach to framing a process for thinking about positive strategic shock. First, Schwartz identifies four conditions stemming from science and technology that contribute to strategic change. If applied to the third-party competitive analysis recommended by Freier, a process watching for the convergence of these conditions could help the Department of Defense identify at an early stage potential domains within which to expect positive strategic shock. Passive scanning of this sort would also prevent early and speculative commitment of resources. The conditions Schwartz identifies are: the emergence of scientific anomalies, the development of new instruments that detect phenomena never before observed, comparatively rapid and effective communication among scientists, and a culture that values and rewards scientific and technological research.³⁹

Oddly enough, earlier in *Inevitable Surprises*, Schwartz points out a fifth condition (omitted from his later list) that is an even better indicator of a non-zero-sum or positive situation—the presence of trust. It should therefore represent a way to distinguish positive shock from a negative one early in the horizon-scanning process. Schwartz mentions trust in the context of globalization, venturing the quantity of technological advancement and the quality of it depends on trust and mistrust at several levels: between businesses, at the level of individual investors and financial institutions, at the consumer level, and between governments. Trust creates the possibility of greater connectivity that supports at least two of the bullets

37. Freier, Hume, and Schaus, “Restore ‘Shock’ in Strategic Planning,” 5.

38. Freier, *Known Unknowns*, 27.

39. Schwartz, *Inevitable Surprises*, 162–65.

in Schwartz's four-point science and technology scanning criteria: rapid and effective communication and the presence of a culture that values science and technology.⁴⁰

A competitive and cooperative horizon-scanning analysis using all five of these conditions can identify hotspots for positive strategic shock. It should watch for scientific anomalies, new instruments for phenomena detection, rapid and effective communication, the presence of a political and economic culture rewarding science and research, and a high degree of trust among organizations and individuals. Whether a shock is an unknown unknown or can be extrapolated based on emerging trend lines making it a known unknown matters less than embracing a process that watches for these developments.

The DoD operational-design methodology is the obvious candidate for incorporating Freier's horizon scanning and Schwartz's conditions. Operational design already involves reviewing and reframing based on evolving conditions, though it neither excludes nor requires consideration of strategic shock.⁴¹ The addition of a step in which planners scan the operational environment for potential strategic shock using Schwartz's criteria could become a simple and cost-effective way to formalize consideration of strategic shock in the DoD's current processes.

In addition to contributing this useful set of conditions to the horizon-scanning methodology, Schwartz proposes the previously discussed methodology of reframing a problem set to account for shock. He explains reframing through the examples of immigration in Europe and IBM's reorientation away from selling mainframe systems to providing consultative services.⁴² Although this technique does not assist planning efforts in the same way as horizon scanning or the barbell method, DoD strategists should consider reframing as a useful way to recover from strategic shock. More specifically, reframing brings non-zero-sum thinking into play by looking for ways to create a win-win situation from a shock. What Schwartz extrapolates from both the immigration scenario and the IBM business model is the tendency to return to the status quo and the flexibility and adaptability within an organization to take a shock, view it in retrospect, and find and maximize the non-zero-sum potential of the new paradigm. In the immigration scenario, Schwartz articulates the zero-sum and non-zero-sum perspectives by juxtaposing and correlating the consequences

40. Schwartz, *Inevitable Surprises*, 83.

41. JCS, *Joint Planning*, Joint Publication (JP) 5-0 (Washington, DC: JCS, 2020), iv, 5, https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp5_0.pdf.

42. Schwartz, *Inevitable Surprises*, 12, 49, 67–69.

of one's beliefs about immigration with one's beliefs in the limits, or lack thereof, of societal wealth.⁴³

Rather than forcing itself back to status quo, Schwartz advocates for Europe to adopt the second non-zero-sum perspective, which he models on the then US policy. He thereafter uses the United States' edge in creativity and entrepreneurship as proof that such reorientation would "solve" the strategic shock of the European immigration issue.⁴⁴ This reorientation turns negative shock into positive shock and provides a model DoD strategic planners could use, rather than attempting to anticipate shock, to build positive shock-aware branches and sequels.

Earlier, several examples of positive strategic shock (vaccines, the Internet, and refrigeration) were mentioned to ground the discussion and show how shocks can be strategic and non-zero-sum. The fact that vaccines, the Internet, and refrigeration became positive is clear in hindsight but may not have been clear at the moment of their invention. These innovations may not have been adopted and their impact may not have been so significant and strategic without some of Schwartz's conditions for adaptation being operative, especially the conditions of trust, rapid communication, and a culture that rewards scientific and technological achievement. Uneven implementation rates and the impact of these examples and other such positive strategic shocks across cultures and communities support this supposition.

Similarly, IBM was able to use a shift to non-zero-sum thinking to solve the problems it faced at the advent of the personal-computing revolution. The inherently positive shock of powerful home- and desktop-computing options changed the nature of work. Rather than trying to force those consumers into a model that had worked previously for IBM, the company survived as a business because it recognized the non-zero-sum nature of the change. It understood it might lose market share overall, but the aggregate size of the computing industry would grow to such a degree that its profits could increase even with a more modest and specific slice of the market.⁴⁵ The same dynamic is operative for the Department of Defense, but it is not a one-to-one comparison. The dynamic manifests differently because the connection between the Department of Defense's constituency and

43. Schwartz, *Inevitable Surprises*, 49.

44. Schwartz, *Inevitable Surprises*, 49.

45. Schwartz, *Inevitable Surprises*, 12.

its problem set is less immediate than the one between a business and its customers.

In business, clearly understanding the customer is a critical component of success, extending deeply into any successful company's processes and products, since customers can rapidly vote (so to speak) on such processes and products with their purchasing power.⁴⁶ While the Department of Defense clearly knows its customers, the business model by which those customers dictate their interests is not as straightforward as an exchange of capital.

The DoD's process involves translating guidance and strategic direction through the slow filter of representative democracy where outcomes can become muddled as they compete with values, debates, and forces other than voters' direct input.⁴⁷ Additionally, the Department of Defense does not enjoy the luxury of new customers in the same way a business might, were it to innovate. Instead, the Department of Defense has the same customers who engage in an ongoing reassessment of their values. Reframing, for the Department of Defense, becomes a unidirectional endeavor because it lacks the feedback loop of customers voting with their purchasing power. It is reactive to national-level strategic guidance and, thereafter, communicates its direction and actions to its customers when those customers cannot use their purchasing power in as unambiguous a way as they would in a business matter.

One speculative scenario for the Department of Defense that could benefit from a similar reframing approach might be movement into what some economists call a "post-scarcity economy," one where advances in critical economic drivers, such as energy and food production, make possible a non-zero-sum economic system.⁴⁸ In this situation, one indicator of aggression might be the incitement to a false sense of scarcity. While economic or production measures could deflate such a false proposition in a whole-of-government approach, security structures like the Department of Defense could also prepare branches and sequels with flexibility and adaptability that recognize the positive, non-zero-sum nature of such a development and actively oppose the aggression of false incitement. This example of anticipating and reframing a potential shock could help the Department of Defense tailor its reactions in a way that supports the emerging shock and contributes to the non-zero-sum phenomena. Yet, to do so,

46. Gilbert, "Disruption Opportunity."

47. Erik Olin Wright, *How to Be an Anticapitalist in the Twenty-First Century* (London: Verso, 2019), 8.

48. Philip Sadler, *Sustainable Growth in a Post-Scarcity World: Consumption, Demand, and the Poverty Penalty* (Surrey, UK: Gower Publishing, 2010), 7.

the Department of Defense would first need to be aware of the shock, recognize it as potentially or likely positive, and then act accordingly.

The third methodology, the barbell in Taleb's *The Black Swan*, accounts for the negative and positive ends of the spectrum. In its simplest format, Taleb frames the barbell approach as the need to be "robust to negative Black Swans and exposed to positive ones."⁴⁹ Robustness combats negative strategic shock by building redundancy and survivability for systems in an organization, so when a negative shock occurs, those systems survive and help the organization recover toward the status quo. On the other end of the spectrum, Taleb recommends organizations maximize and optimize exposure to positive strategic shock, given the unpredictable and temporal nature of Black Swans.⁵⁰ This call to create a diversity of opportunity on the positive end of the spectrum dovetails well with Freier's advocacy for horizon scanning but goes beyond it in its encouragement of bottom-up awareness mechanisms. In fact, horizon scanning and the barbell method complement one another; horizon scanning works for the known unknown because it begins with identification of a trend line, and the barbell method applies to the unknown unknown where trend lines remain speculative.

An example of a process already employed within the Department of Defense involving scanning and exposure at the operational level fitting within Taleb's barbell approach is the effort of the Center for Army Lessons Learned (CALL). The center provides a bottom-up funnel for ideas at the tactical and operational levels.⁵¹ Taleb's concept of exposure is closer to what the Center for Army Lessons Learned does than Freier's chartered third-party competitive analysis, though the two models likely would support each other in practice.

Pushing the identification of new, potentially shocking technological and organizational solutions down to the user level allows the process to iterate more quickly, reducing costs and risks and facilitating a propagation of the best ideas without committing institutional weight. Rather than looking at technology as determinant, which would be easier from a predictive standpoint, the Department of Defense should recognize that most organizations are unsure of what to do with a particular piece of technology until it undergoes a period of experimentation and adaptation by end users.⁵²

49. Taleb, *Black Swan*, 48.

50. Taleb, *Black Swan*, 337.

51. Michael Benvenuto, "Why the Center for Army Lessons Learned Is More Relevant than Ever (and How NCOs Can Harness This Resource)," *NCO Journal* (Fort Leavenworth, KS: Army University Press, September 2018), 1–3, <https://www.armyupress.army.mil/Portals/7/nco-journal/docs/CALL.pdf>.

52. Greg Satell, "4 Innovation Lessons from the History of Warfare," *Forbes* (website), March 14, 2015, <https://www.forbes.com/sites/gregsatell/2015/03/14/4-innovation-lessons-from-the-history-of-warfare/?sh=2987828573f3>.

Maximum exposure of end users to new technology allows them to determine its best value, which lies at the heart of Taleb's barbell approach. This approach is more cost-effective than speculative top-level DoD endeavors to anticipate technological and organizational shock.

The third portion of Taleb's barbell model applies to the middle area, the handle of the barbell figure. He radically de-emphasizes the so-called safe middle ground, which he asserts is rife with prediction errors.⁵³ Since more conservative investors or organizations feel safest with risk measures developed within—and therefore only applicable to—this middle ground, they leave themselves exposed to extreme fluctuations of risk on either end of the barbell—negative and positive shocks.⁵⁴ Taleb further asserts that almost all change and growth occur due to shocks on either end of this spectrum, not just known unknowns but the truly unanticipated Black Swans.⁵⁵ If, as Freier says, the Department of Defense operates almost exclusively within the safe middle area, then it misses both areas of learning.⁵⁶ The DoD's robustness—that is, its redundancy and survivability—is a product of an environment of ongoing reactivity to negative strategic shock. While that robustness is good, it misses the other end of the learning spectrum by overlooking the possibility of intentional orientation toward positive strategic shock.

Taleb puts an exclamation point on this theory when he discusses the strategy he employs for investment. This strategy involves taking risks when he anticipates exposure to positive Black Swans, being conservative around negative Black Swans, and ignoring the flawed middle. It seems simple enough, yet he demonstrates that it is the exact opposite of what other investors do. They use "flimsy theories to manage their risks and put wild ideas under 'rational' scrutiny."⁵⁷ Whether this method extends to decision making in the Department of Defense would form a good subject for follow-on analysis. Based on Freier's assessment of the DoD's lack of incorporation of strategic shock in planning, it seems the Department of Defense follows a logic similarly biased toward known risks extrapolated from models of linear rather than shock-based learning.

Antulio J. Echevarria II and Huba Wass de Czege advocate for the Department of Defense to orient itself toward positive ends while recognizing the pursuit of positive opportunities will require more short-term costs

53. Taleb, *Black Swan*, 333–34.

54. Taleb, *Black Swan*, 333.

55. Taleb, *Black Swan*, 451.

56. Freier, *Known Unknowns*, 13.

57. Taleb, *Black Swan*, 451.

in terms of resources and planning.⁵⁸ Their advocacy complements Freier's case for considering shock more fully, though Freier does not specify the need to account for shock's positive aspect. Combining these positions, the need for relatively low-cost planning methodologies that allow the Department of Defense to posture for strategic shock and prepare for both its positive and negative aspects becomes apparent. Horizon scanning, reframing, and the dual ends of the barbell of exposure and robustness are all low-cost methods to incorporate positive strategic shock into DoD planning processes.

The Department of Defense can quickly and efficiently adopt these processes by taking the following steps. First, it should incorporate a few key indicators of potential shock (such as certain convergences of scientific and technological indicators) in chartered third-party competitive analyses and operational design. Second, it should actively plan branches and sequels that give leaders time and space to reframe shocks in a non-zero-sum manner. Third, the Department of Defense should leverage and create capabilities similar to CALL to reward the "up-funneling" of strategically shocking innovation for quick and wide adoption in an iterative, entrepreneurial manner. These measures should be taken while continuing to build robust systems through traditional means to prepare for the negative aspects of shock. Finally, incorporating scanning, framing, and methods for exposure to positive strategic shock would form useful additions to existing educational programs at the strategic level (such as Joint Professional Military Education Phases I and II) and within lower levels of military education where frontline leaders should be exposed to indicators of emerging strategic shock. These recommendations will encourage leaders and planners to embrace the idea that the unknown and its environment of negative and positive

58. Antulio J. Echevarria II and Huba Wass de Czege, *Toward a Strategy of Positive Ends* (Carlisle, PA: US Army War College Press, 2001), ix, <https://press.armywarcollege.edu/monographs/105>.

uncertainty are the world's, and hence the Department of Defense's, predominant vehicle of change.

Conclusion

Challenges that the Department of Defense would face when implementing some or all of these recommendations could include the following.

- First, a small budgetary and administrative burden would accrue in order to create CALL-like capabilities or programs to sense and reward the “up-funneling” of innovation.
- Second, educational programs have finite bandwidth and many competing priorities for the attention and instruction of students, fitting in blocks of theory around shock in all its forms should not be problematic except insofar as it would require reprioritization of other material.
- The third, and easiest, would be to include a requirement in future horizon-scanning third-party analyses and in the operational-design process for a consideration of the elements that could indicate upcoming disruption—trust within scientific communities, the emergence of scientific anomalies, the development of new instrumentation, increases in effective communication, and the presence of political and economic culture valuing science and research.

These recommendations offer a range of approaches that avoid futile efforts to predict the unknown unknown while posturing the Department of Defense to take advantage of the positive and negative aspects of shock.

The implication of not adopting a mindset oriented to shock, of which positive strategic shock is an overlooked subset, is that decisions will derive from safe and predictable, but incorrect prognoses based on trend lines and other flawed statistical approaches. Shock on both ends of the spectrum, negative and positive, creates the greatest opportunities for growth and success. Embracing methods to deal with shock (such as the barbell approach, the horizon-scanning methodology, and educational improvements to teach shock in existing curricula) will be healthy for the Department of Defense's planning processes and provide a competitive advantage over enemies who think more linearly in a less revolutionary manner.

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Cognitive Performance Enhancement for Multi-domain Operations

Daniel J. Herlihy

ABSTRACT: Despite its desire to achieve cognitive dominance for multi-domain operations, the Army has yet to develop fully and adopt the concept of cognitive performance enhancement. This article provides a comprehensive assessment of the Army's efforts in this area, explores increasing demands on soldier cognition, and compares the Army's current approach to its adversaries. Its conclusions will help US military and policy practitioners establish the culture and behaviors that promote cognitive dominance and success across multiple domains.

Keywords: cognitive performance, resilience, neuroethics, human performance, information overload

Cognitive capability is the critical variable supporting all soldier performance: physical, mental, and emotional. US Army doctrine recognizes the importance of cognitive dominance, or gaining intellectual advantage over the enemy. It even features prominently in several recent publications, including the *2019 Army Modernization Strategy (AMS)* and the *U.S. Army in Multi-Domain Operations (MDO) 2028* concept.¹ Despite advances in cognitive science and recognition of the importance of cognitive overmatch in multi-domain operations, however, the US Army has not fully embraced the concept of cognitive performance optimization. The US National Institutes of Health have invested over \$53.5 billion in brain research in the past decade, but soldiers and leaders train and operate inside an “always on” culture of multitasking and connectivity with habits ultimately degradative of cognitive performance.² Both at home station and when deployed, leaders attempt to filter dozens of streams of information and make rapid decisions while operating on inadequate sleep and a limited understanding of the principles of cognitive performance optimization.³

1. Department of the Army (DA), *2019 Army Modernization Strategy (AMS): Investing in the Future* (Washington, DC: Government Publishing Office, 2019), 8, accessed October 21, 2020, https://www.army.mil/e2/downloads/rv7/2019_army_modernization_strategy_final.pdf; and Department of the Army (DA), TRADOC Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations (MDO) 2028* (Washington, DC: Government Publishing Office, November 2018), C-10, <https://adminpubs.tradoc.army.mil/pamphlets/TP525-3-1.pdf>.

2. National Institute of Health, “Estimates of Funding for Various Research, Condition, and Disease Categories (RCDC),” NIH RePORT research Portfolio Online Reporting Tools (website), last modified February 24, 2020, <https://report.nih.gov/funding/categorical-spending#/>.

3. Walter Reed Army Institute of Research, “WRAIR Investigator's Dispatch: Sleep Dispatch: Fighting Soldier Fatigue & Enhancing Cognitive Dominance” (Fort Detrick, MD: Walter Reed Army Institute of Research, June 2019), 3, https://www.wrair.army.mil/sites/default/files/2019-06/Behavioral_Health_and_Sleep.pdf; and Andrew C. Steadman, *Applying Neuroscience to Enhance Tactical Leader Cognitive Performance in Combat*, (master's thesis, US Army Command and General Staff College, 2011), 6, <https://apps.dtic.mil/sti/pdfs/ADA556552.pdf>.

Meanwhile, China and Russia have pursued biotechnical, neuroscientific, and artificial intelligence (AI) solutions to enhance human cognition and gain an asymmetric operational advantage over the United States and its allies.⁴ Unfettered by the ethical norms of Western society, China and Russia actively leverage dual-use civilian and military research to achieve this end.⁵ Both nations see the mind as the main battlespace in future warfare and are taking steps to dominate there.⁶

To meet this challenge, the US Army must remain aligned with Department of Defense cognitive performance research and development efforts. Science alone, however, will not be enough. The Army must also evolve its culture to recognize the importance of ethical, science-based methods to ensure cognitive dominance in ways that drive competition and innovation across the force. A deliberate approach to behavior modification rooted in education, training, and technology is needed to replace outdated cognitive performance myths that ultimately degrade cognitive function through multitasking, sleep deprivation, and information overload. Otherwise, our adversaries may find the asymmetric advantage they need to dominate the US Joint force.

Multi-domain Operations and the Cognitive Domain

Cognitive performance is the ability to observe, orient, decide, and act to produce the best possible outcome.⁷ Cognitive skill has always been important to success on the battlefield and plays a critical role in deciding battles and campaigns. The future will offer similar opportunities but with greater complexity, fog, and friction as the battlefield expands into space and cyberspace. The *2019 AMS* addresses this evolving environment and introduces the concept of multi-domain operations.⁸ The *2019 AMS* outlines how the MDO concept differs from previous operational concepts and requires higher levels of cognitive performance of its practitioners.

The MDO concept presents a cognitive challenge as it requires leaders to recognize and exploit fleeting opportunities to achieve cross-domain convergence of effects

4. Elsa B. Kania, "Minds at War: China's Pursuit of Military Advantage through Cognitive Science and Biotechnology," *Prism* 8, no. 3 (2019): 84, https://ndupress.ndu.edu/Portals/68/Documents/prism/prism_8-3/prism_8-3_Kania_82-101.pdf; and Lindsay Gorman "A Silicon Curtain Is Descending: Technological Perils of the Next 30 Years," in *Reassessing 1989*, edited by Thomas Kleine-Brockhoff (German Marshall Fund of the United States, 2019), 74, <http://www.jstor.org/stable/resrep21249.16>.

5. Guillermo Palchik, Celeste Chen, and James Giordano, "Monkey Business? Development, Influence, and Ethics of Potentially Dual-Use Brain Science on the World Stage," *Neuroethics* 11 (February 11, 2017): 112; and Royal Society, *Brain Waves Module 3*, technical report, RS Policy Document 06/11 (London: Royal Society Science Policy Centre, 2012) 7–9.

6. Kania, "Minds at War," 85; and Jānis Bērziņš, "The West Is Russia's Main Adversary, and the Answer Is New Generation Warfare," *Sicherheit und Frieden* (S+F) / Security and Peace 34, no. 3 (2016): 173, <https://www.jstor.org/stable/26428998>.

7. John R. Boyd, *A Discourse on Winning and Losing*, ed. Grant T. Hammond (Maxwell Air Force Base, AL: Air University Press, 2018), 384, https://www.airuniversity.af.edu/Portals/10/AUPress/Books/B_0151_Boyd_Discourse_Winning_Losing.PDF.

8. DA, *2019 AMS*, 4–5.

against advanced adversary capabilities in a complex operational environment.⁹ To win in multi-domain operations, the US Army fields increasingly sophisticated systems along six modernization priorities that cut across all domains.¹⁰ Not only do these advanced systems require higher intelligence and technical skill to operate and maintain, but when combined with improved digital communication and networking capabilities, leaders can also access more real-time data than ever before. Finally, the *MDO 2028* concept and the “Army People Strategy” place the American soldier at the center of the multi-domain operations concept.¹¹ Indeed, “[t]he Army’s greatest strength and most important weapon system,” soldiers will operate at the nexus of a myriad of real-time data and information sources and face increasing pressure to multitask, prioritize, assess, decide, and act as opportunities and threats arise.¹²

It is tempting to dismiss these challenges on the promise of advances in AI, human-machine interfaces, and other technologies.¹³ Many of these capabilities remain hypothetical, however, even as the cognitive demands on soldiers continue to rise. Even when they become available, AI and other technologies will complement human decision making, but the human brain will likely remain the critical node in the near term. As such, achieving cognitive dominance starts with developing an understanding of the basic capabilities and limitations of the human brain. Cognitive scientists such as David Rock insist understanding brain function is one of the best ways to improve cognitive performance.¹⁴ The concepts of optimal arousal, multitasking, cognitive endurance, and decision quality offer a framework for understanding and provide opportunities for performance enhancement.

Optimal Arousal

Levels of emotional arousal directly impact cognitive performance. The Yerkes-Dodson Law, first hypothesized in 1908, provides a basic model for this phenomenon and describes a sweet spot of cognitive arousal associated with peak performance.¹⁵ The right level of arousal, or stress, causes the brain to release just the right mix of neurochemicals to generate the alertness and focus required for optimal performance.¹⁶ Good coaches recognize how arousal levels impact performance

9. DA, *MDO 2028*, iii.

10. DA, *2019 AMS*, 6.

11. DA, *MDO 2028*, iv; and Department of the Army, “The Army People Strategy,” (October 2019) 3, https://www.army.mil/e2/downloads/rv7/the_army_people_strategy_2019_10_11_signed_final.pdf.

12. Department of the Army, “The Army People Strategy,” (October 2019) 3, https://www.army.mil/e2/downloads/rv7/the_army_people_strategy_2019_10_11_signed_final.pdf.

13. Paul Scharre and Michael C. Horowitz, “Research Report: The Artificial Intelligence Revolution,” from *ARTIFICIAL INTELLIGENCE: What Every Policymaker Needs to Know*, report (Washington, DC: Center for a New American Security, 2018), 3–4, <http://www.jstor.org/stable/resrep20447.4>.

14. David Rock, *Your Brain at Work, Revised and Updated: Strategies for Overcoming Distraction, Regaining Focus, and Working Smarter All Day Long* (New York: Harper Business, 2020), 1.

15. Rock, *Your Brain at Work*, 62; and Diane Pomeroy, *The Impact of Stressors on Military Performance* (Fishermans Bend, Australia: Land Division, DSTO Defence Science and Technology Organisation, December 2013), 6–7.

16. Rock, *Your Brain at Work*, 64.

and succeed in calming or pumping up a team as needed during competition.¹⁷ Too little leaves us flat, and too much creates counterproductive levels of stress, anxiety, or disengagement.¹⁸ Army leaders may be familiar with this phenomenon in combat situations where physical threats incite powerful reactions, but similar states can occur under conditions of work stress and information overload.¹⁹

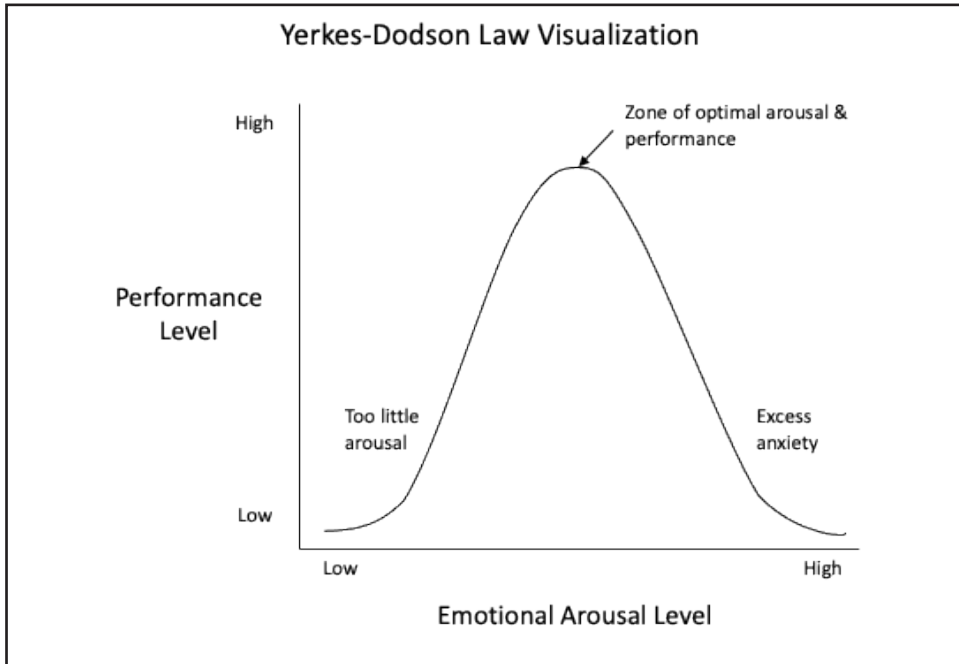


Figure 1. Yerkes-Dodson Law visualization

Although challenging to limit stress and anxiety in combat, monitoring and managing soldier emotional arousal levels can provide immediate opportunities for cognitive performance enhancement. One novel solution described by the UK Royal Society suggests military and law enforcement use cognitive overload monitoring systems to alert individuals when they show signs of cognitive overload. This awareness would allow users to consciously alter their states of emotional arousal and behavior to focus on the most critical problems.²⁰ Similarly, the Monitoring and Assessing Soldier Tactical Readiness and Effectiveness pilot research study conducted by the US Army Combat Capabilities Development Command Soldier Center focused on the optimization of individual soldier and small-unit perception, cognition, and interaction through innovative science and technology.

17. Phil Stieg and Marvin Chung, "Information Overload," April 3, 2020, *This Is Your Brain with Dr. Phil Stieg*, podcast, 5:50, <https://thisisyourbrainwithdrphilstieg.libsyn.com/information-overload>.

18. Rock, *Your Brain at Work*, 62.

19. Mark Goulston, *Just Listen: Discover the Secret to Getting through to Absolutely Anyone*, (New York: American Management Association, 2010) 16; and Rock, *Your Brain at Work*, 67.

20. Royal Society, *Brain Waves*, 38–39.

By analyzing data collected through body-worn and laboratory sensors during sustained training, the study identified opportunities for additional research that could help soldiers and leaders identify, predict, and sustain optimal arousal and tactical performance levels affecting decision quality, marksmanship accuracy, and attentional control.²¹

Multitasking

Military leaders are expected to develop an ability to juggle multiple balls—to respond immediately to texts, chats, and e-mails and to maintain situational awareness while solving problems in a rapidly changing environment. Unfortunately, the very tools Army leaders use and the methods of their use thicken the “fog of war” in combat as well as in garrison. Despite the demands of an increasingly connected society, science shows there are limitations to the number and complexity of operations the brain can process at any given time. Focusing our attention requires allocation of neural resources in the prefrontal cortex that prevents the brain from effectively focusing on two things at once.²² When multitasking, our brains are instead forced to transition rapidly from topic to topic. Switching between tasks requires high amounts of metabolic resources such as oxygenated glucose; once depleted, both cognitive and physical performance decline.²³ Multitasking also produces the stress hormone cortisol and affects both adrenaline and dopamine levels in ways that scramble our thinking.²⁴ The profundity of the impact of multitasking has convinced some researchers a constant string of interruptions—through text, email, radio traffic, and chat windows—may produce an effect similar to temporarily lowering your IQ.²⁵

Additionally, research demonstrates that multitasking increases decision-making risk. A 2009 Stanford University study claims heavy media multitaskers suffer degraded memory, learning, and cognitive function. The study compared the cognitive abilities of groups identified as heavy and light multitaskers.²⁶ While other factors could contribute to this degradation, the study suggests habitual multitasking may ironically impair

21. Erika Hussey and John Ramsay, *Monitoring and Assessing Soldier Tactical Readiness and Effectiveness (MASTR-E): Identifying the Readiness States and Traits of Tactical Mastery* (Natick, MA: US Army Combat Capabilities Development Command Soldier Center, April 27, 2020), 5.

22. Daniel Levitin, *The Organized Mind: Thinking Straight in the Age of Information Overload* (New York: Dutton, 2014), 39.

23. Levitin, *The Organized Mind*, 98.

24. Christine Rosen, “The Myth of Multitasking: How Intentional Self-Distraction Hurts Us,” *The New Atlantis*, no. 20 (Spring 2008): 107; and Levitin, *The Organized Mind*, 96–98.

25. Rosen, “Multitasking,” 36.

26. Eyal Ophir, Clifford Nass, and Anthony D. Wagner and Michael I. Posner, ed., “Cognitive Control in Media Multitaskers,” *Proceedings of the National Academy of Sciences* 106, no. 37 (September 15, 2009): 15,583–87.

an individual's ability to accomplish occasional multitasking.²⁷ Consider, for example, a driver in an unfamiliar part of town holding a conversation with a passenger while listening to the radio. After a missed turn, the driver instinctively pauses the conversation and turns down the radio to focus on correcting course. The driver's actions show an intuitive awareness of the challenges of doing two things at once.²⁸ By choosing to multitask we accept degraded performance, formally known as "dual task interference" or the "psychological refractory effect."²⁹

As part of an Army-wide brain science education initiative, early career education could provide a meaningful first step toward reducing the culture of multitasking, distraction, frequent interruption, and information overload. Techniques such as meditation, deliberate reflection, metacognition, mindfulness, and mindful awareness offer accessible, low-cost ways to build better cognitive habits across the force by enhancing focus and performance to meet training and mission requirements.³⁰

Cognitive Endurance

Army brain science education could also help leaders understand the cumulative toll of decision making and attentional filtering on cognitive performance. The brain has limited resources available for data processing, and actions such as making a decision, resisting an impulse, or ignoring a distraction drain our cognitive energy over time.³¹ Environments filled with trivial choices and distracting information exhaust our minds and dull our cognitive abilities, as the brain does not distinguish or prioritize decisions by level of importance.³² Said differently, our decision-making ability is subject to the limits of cognitive endurance and degrades over time.

Despite an innate awareness of the limits of cognitive endurance, many military leaders do not structure their schedules and battle rhythms to account for this. For example, commanders who hold "night court" nonjudicial punishment hearings at the end of the duty day may make important decisions when the cumulative effects of daily decision making have rendered their cognitive abilities problematic and unreliable. Conversely, leaders may spend their most productive hours answering emails or executing

27. Ophir et al., "Cognitive Control," 15,585.

28. Levitin, *The Organized Mind*, 11.

29. Harold Pashler, "Attentional Limitations in Doing Two Tasks at the Same Time," *Current Directions in Psychological Science* 1, no. 2 (April 1992): 45.

30. Headquarters, Department of the Army (HQDA), Army Field Manual (FM) 7-22, *Holistic Health and Fitness* (Washington, DC: Government Publishing Office, 2020), 13-3.

31. Rock, *Your Brain at Work*, 8-9.

32. Levitin, *The Organized Mind*, 6-7.

low-level tasks instead of maximizing their cognitive resources to accomplish complex tasks and decision making. These basic examples illustrate why the Army must include time management education and training in its cognitive dominance efforts.

Decision Quality

Even while considering the limits of cognitive endurance our brains are often inundated with information that must be synthesized before being acted upon. Studies of optimal complexity theory indicate there is an optimal number of factors to be considered when making a decision and that too few or too many degrade performance.³³ Just like studies on computers, these studies reveal the limits on the working memory of humans. We struggle to hold more than three to five pieces of knowledge in mind while synthesizing understanding.³⁴ Furthermore, attempting to consider more than 10 factors significantly degrades performance.³⁵ Understanding this phenomenon could help facilitate better decisions, particularly when time is of the essence.

Many believe more inputs will lead to optimal decision making. In decision-making experiments where subjects requested more information after exceeding the optimal level of complexity, the subjects' performance degraded through information overload.³⁶ This trend is of particular concern to the military, where information supremacy in Iraq and Afghanistan now conditions senior leaders to expect an abundance of information to support their decision making. Information addiction may delay commanders waiting for more information that, ironically, would degrade the quality of their decisions.³⁷

The military recognizes this challenge and is leveraging AI to develop improved information-filtering and decision-support algorithms to enable leaders to make better, faster decisions.³⁸ While promising, these efforts will be limited in the near future and will not fully alleviate the cognitive challenges associated with modern warfare. Once again, education on the

33. Levitin, *The Organized Mind*, 308.

34. Nelson Cowan, "The Magical Mystery Four: How Is Working Memory Capacity Limited, and Why?," *Current Directions in Psychological Science* 19, no. 1 (2010): 56.

35. Naresh K. Malhotra, "Information Load and Consumer Decision Making," *Journal of Consumer Research* 8, no. 4 (March 1982): 427.

36. Levitin, *The Organized Mind*, 310.

37. Alexander Kott, *Battle of Cognition: The Future Information-Rich Warfare and the Mind of the Commander* (Westport, CT: Praeger Security International, 2007), 205.

38. Mark Pomerleau, "Can the Intel and Defense Community Conquer Data Overload?," C4ISRNET (website), September 5, 2018, <https://www.c4isrnet.com/intel-geoint/2018/09/05/can-the-intel-and-defense-community-conquer-data-overload/>; and Jane Edwards, "Army Seeks to Encourage Troops to Trust AI Through Project Ridgway; Col. Dan Kearney Quoted," ExecutiveGov (website), last modified September 24, 2021, <https://executivegov.com/2021/09/army-seeks-to-encourage-troops-to-trust-ai-through-project-ridgway/>.

negative effects of information overload as part of an Army-wide brain science education initiative can drive cultural change and improve decision making—with and without AI augmentation.

Adversaries

While the US military slowly integrates cognitive performance enhancement into its culture, China and Russia have made troubling advances in the cognitive domain. China emphasizes research and development aimed at creating an operational advantage in neuroscience, AI, and biotechnology as part of ongoing military-civil fusion efforts.³⁹ Influential People's Liberation Army (PLA) leaders, including Major General He Fuchu, vice president of the PLA's Academy of Military Science, emphasize military preparation for a future operating environment extending into virtual domains. According to He, these domains include the information domain and the "domain of consciousness" and require "mental/cognitive dominance" for success.⁴⁰ Elsa B. Kania, a senior fellow and China expert at the Center for a New American Security, observes that these concepts are now frequently discussed in PLA writings, along with the concept of human and artificial intelligence fusion.⁴¹

This interest is backed by billions of renminbi to fund research as part of the "China Brain Project" launched in 2016—a prime example of civil-military fusion efforts.⁴² The project focuses on research into cognitive function with applied science in the areas of treating neurodegenerative diseases and the integration of the brain with artificial intelligence.⁴³ Participants' efforts include significant research into clustered regularly interspaced short palindromic repeats (CRISPR) gene editing in both animals and humans.⁴⁴ While the use of CRISPR remains a topic of global ethical debate largely due to its unknown consequences, Chinese scientists have already taken the

39. Kania, "Minds at War," 83.

40. Kania, "Minds at War," 85.

41. Kania, "Minds at War," 85–86.

42. Kania, "Minds at War," 85.

43. Olivier Dessibourg, "Primate Labs Give Us an Edge, Says China's Brain Project Chief," *NewScientist* (website), September 7, 2016, <https://www.newscientist.com/article/mg23130900-800-primate-labs-give-us-an-edge-says-chinas-brain-project-chief/>.

44. Elsa B. Kania and Wilson VornDick, "China's Military Biotech Frontier: CRISPR, Military-Civil Fusion, and the New Revolution in Military Affairs," *China Brief* 19, no. 18 (October 2019), <https://jamestown.org/program/chinas-military-biotech-frontier-crispr-military-civil-fusion-and-the-new-revolution-in-military-affairs/>.

unprecedented step of editing human embryos in ways that may enhance cognitive function.⁴⁵

The lack of adherence to Western standards of ethical research features prominently in attempts to attract international neuroscientists to work in and for China.⁴⁶ Poo Mu-ming, chief of the China Brain Project, openly touts the large-scale use of nonhuman primates for brain research as an advantage over Europe, Japan, and the United States in an attempt to lure international scientists for seemingly cutting-edge research.⁴⁷ The direct involvement of the Chinese Communist Party in brain research ensures scientists studying neurological disease in China's aging population also provide People's Liberation Army leaders with the scientific horsepower to pursue their strategy of cognitive dominance.⁴⁸ Together these factors create a loosely-regulated, well-funded research environment with a national sense of urgency for dual-use neurological research breakthroughs that could be readily exploited by the PLA to enhance soldier cognitive performance.

Similarly, Russia sees the mind as the main battlefield in modern warfare where "wars are to be dominated by information and psychological warfare."⁴⁹ Russia mimics China's questionable adherence to ethical norms in cognitive dominance research, but the Russian approach relies more heavily on undermining adversary cognitive processes through psychological warfare and other means.⁵⁰ Ubiquitous false Russian narratives place high cognitive loads on their adversaries and require increased information filtering, which consumes cognitive resources and degrades the speed and quality of decisions over time. Numerous examples of this exist in the first six months of the 2022 Russian War on Ukraine. Dehumanizing rhetoric, acts of illegitimate annexation, and false claims about Ukrainians' affinity for Russia are narratives meant to obfuscate Russian aggression and create confusion.⁵¹ By sowing doubt and creating confusion, Russian misinformation need only temporarily

45. Antonio Regalado, "China's CRISPR Twins Might Have Had Their Brains Inadvertently Enhanced," *MIT Technology Review*, February 21, 2019, <https://www.technologyreview.com/2019/02/21/137309/the-crispr-twins-had-their-brains-altered/>.

46. Palchik et al., "Dual-Use Brain Science," 112.

47. Dessibourg, "Primate Labs."

48. Palchik et al., "Dual-Use Brain Science," 112–13; and Kania, "Minds at War," 86.

49. Bērziņš, "New Generation Warfare," 173.

50. Gorman et al., *Silicon Curtain*, 78; and Bērziņš, "New Generation Warfare," 173.

51. U.S. Department of State, "Russia's War on Ukraine: Six Months of Lies, Implemented," 24 August 2022, www.state.gov/disarming-disinformation/russias-war-on-ukraine-six-months-of-lies-implemented/, accessed 16 October 2022.

cloud an enemy's judgment to cause hesitation and provide an advantage for Russian activities.⁵²

Additionally, Russian forces show continued interest in using incapacitating agents to degrade their adversaries' cognitive function. During the 2002 Dubrovka Theater hostage situation, Russian special forces released a fentanyl derivative into the ventilation system to manipulate the consciousness of approximately 50 Chechen separatists and 750 Russian hostages. While their action caused separatists to lose consciousness, it also resulted in the overdose deaths of approximately 125 hostages and permanent debilitation of others.⁵³ Although Russian officials largely viewed the operation as a success, their actions drew international condemnation and renewed debate over the effectiveness and applicability of international law, such as the 1993 Chemical Weapons Convention.⁵⁴

Neurology and biochemistry experts such as James Giordano, chief of neuroethics at Georgetown University Medical Center, fear advances in neuroscience and technology provide opportunities to exploit gaps in existing treaties, international laws, and supranational conventions governing the use of chemical and biological agents.⁵⁵ This includes the use of CRISPR gene editing and nanotechnology to enhance neural structures in soldiers while creating novel neuroweapons to degrade the cognitive function of their adversaries.⁵⁶

Opportunities for the US Army

As Russia and China continue to ignore ethical boundaries related to human performance, the allure of leap-ahead technology and advances in neuroscience also garner much of the domestic media attention related to cognitive performance initiatives.⁵⁷ While these efforts are important and should continue, the US military must capitalize on practical, near-term opportunities to achieve cognitive dominance now.

Indirect and direct approaches to cognitive performance enhancement and optimization can provide quick wins for the Army at modest

52. James K. Wither, "Making Sense of Hybrid Warfare," *Connections* 15, no. 2 (Spring 2016): 82.

53. Mark Wheelis, " 'Nonlethal' Chemical Weapons: A Faustian Bargain," *Issues in Science and Technology* 19, no. 3 (Spring 2003): 74.

54. Peter Baker and Susan B. Glasser, "90 Hostages Killed in Moscow Theater," *Washington Post* (website), October 26, 2002, <https://www.washingtonpost.com/wp-srv/articles/A21613-2002Oct26.html>.

55. Joseph DeFranco, Diane DiEuliis, and James Giordano, "Redefining Neuroweapons: Emerging Capabilities in Neuroscience and Neurotechnology," *Prism* 8, no. 3 (2019): 51.

56. DeFranco et al., "Redefining Neuroweapons," 52–53.

57. Antonio Regalado, "Elon Musk's Neuralink Is Neuroscience Theater," *MIT Technology Review* (website), August 30, 2020, <https://www.technologyreview.com/2020/08/30/1007786/elon-musks-neuralink-demo-up-date-neuroscience-theater/>.

costs. Understanding that the direct-indirect dichotomy involves some oversimplification of complex cognitive and neuroscience concepts, these categories nevertheless provide a framework for discussion. Indirect approaches to cognitive performance enhancement affect cognition through dietary intervention, sleep modification, physical exercise, pharmacology, and resilience training. Direct approaches “immediately target the structural or functional mechanisms and processes underlying learning, perception, cognition, or emotion” and include methods such as transcranial electrical brain stimulation or reality augmentation.⁵⁸ In practice, no boundaries separate the two approaches, and both are required to effectively enhance and optimize cognitive performance.

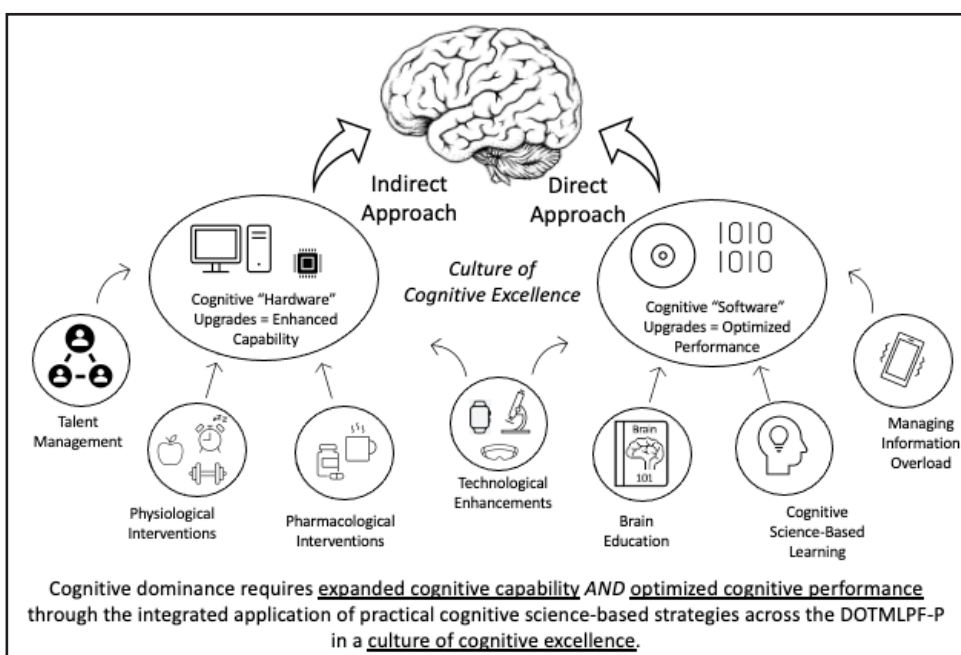


Figure 2. Integrated approach to cognitive dominance

Cognitive Hardware Upgrades – An Indirect Approach

Using a computer analogy helps visualize cognitive enhancement while building on the concepts of indirect and direct approaches. Cognitive performance optimization implies we maximize our software (cognitive abilities, or how we think) within existing limitations of our hardware (or physiology). In this context, both hardware and software upgrades can provide opportunities for cognitive enhancement. Hardware upgrades provide

58. Tad T. Brunyé et al., “A Review of US Army Research Contributing to Cognitive Enhancement in Military Contexts,” *Journal of Cognitive Enhancement* 4 (February 2020): 3; and Wade Elmore, discussion with author, December 9, 2020.

an indirect approach through talent management, physiological interventions, pharmacological interventions, and technological enhancements.

Talent Management

In *Good to Great* (Harper Business, 2001), James C. Collins describes the first step to building a winning organization through the metaphor of “getting the right people on the bus, the wrong people off the bus, and the right people in the right seats.”⁵⁹ Similarly, the Army’s best opportunity to increase the collective cognitive operating capacity of the force may be in identifying, recruiting, assessing, and retaining the right people.

Studies show cognitive ability is partly hereditary, and identifying traits such as neural flexibility and skill expertise is possible by combining neuroimaging technologies, statistical tools, and traditional cognitive assessments.⁶⁰ These tools provide the Army with an opportunity to identify and optimize the application of individual cognitive traits as part of an Information Age recruiting and talent management program, promoting cognitive diversity to improve creativity and decision making. *Cognitive diversity* is defined as “differences in perspective or information processing styles.”⁶¹ Recent research indicates that cognitive diversity accelerates learning and enhances team performance in uncertain, complex scenarios.⁶² Increased cognitive diversity on military teams could be enabled through an effective assessment and talent management program. Initiatives such as Project Athena offer a promising model for applying assessments as a self-development tool, but Army-wide implementation requires increased funding for research, development, and application.⁶³ In today’s competitive job market, the Army must build on current assessment and talent

59. James C. Collins, *Good to Great: Why Some Companies Make the Leap...and Others Don't* (New York: Harper Business, 2001), 13.

60. Robert Plomin, John C. DeFries, Valerie S. Knopik, and Jenae M. Neiderhiser, “Top 10 Replicated Findings from Behavioral Genetics,” *Perspectives on Psychological Science* 11, no. 1 (2016): 4–5; and Leonard Wong and Stephen Gerras, *Changing Minds in the Army: Why It Is So Difficult and What to Do about It* (Carlisle, PA: US Army War College Press, October 2013), 9, <https://press.armywarcollege.edu/cgi/viewcontent.cgi?article=1514&context=monographs>; and Royal Society, *Brain Waves*, 29–30.

61. Alison Reynolds and David Lewis, “Teams Solve Problems Faster When They’re More Cognitively Diverse,” *Harvard Business Review* (website), March 30, 2017, <https://hbr.org/2017/03/teams-solve-problems-faster-when-theyre-more-cognitively-diverse>.

62. Anita Williams Woolley, Ishani Aggarwal, and Thomas W. Malone, “Collective Intelligence and Group Performance,” *Current Directions in Psychological Science* 24, no. 6 (2015): 422; and Reynolds and Lewis, “Cognitively Diverse.”

63. Department of the Army, “Center for the Army Profession and Leadership: Project Athena Leader Self-Development Tool,” Center for the Army Profession and Leadership (website), n.d., accessed January 17, 2022, <https://capl.army.mil/athena/#/>.

management efforts to recruit and retain the talent required to optimize its cognitive potential and outpace near-peer competitors.

Physiological Interventions

Numerous studies show that physical training, proper nutrition, and sleep management are clearly linked to cognitive capacity. The Army has long championed the psychological and physiological benefits of physical exercise, and studies confirm neurochemicals produced during endurance exercise have neuroprotective effects and can improve learning and memory.⁶⁴ Sleep management and nutrition guidelines are also reflected in the US Army's "Holistic Health and Fitness" (H2F) doctrine and its "Performance Triad Strategy," yet lack wide acceptance across the force.⁶⁵ Even though the Army recognizes the importance of proper nutrition in support of "optimal physical and cognitive function, soldiers often associate Army nutritional concepts with physical strength, body mass, and energy levels instead of mental function or mood."⁶⁶ For example, leaders are familiar with the physical effects of dehydration. The cognitive effects of dehydration, however, are less commonly known outside the medical and research communities.

Of the physiological interventions available to enhance cognitive performance, sleep management may hold the most untapped potential for Army application. Army H2F doctrine states that "[c]ognitive ability and readiness vary as direct function of the amount of sleep obtained" and numerous studies directly link sleep to cognitive function and operational readiness in the Army.⁶⁷ Even so, research suggests over 62 percent of soldiers suffer chronic sleep deficits, averaging fewer than six hours sleep per night, whether in garrison or deployed.⁶⁸ Deliberate cultural change through brain education during accessions training and all phases of professional military education is required for the Army to make meaningful progress on sleep management.⁶⁹ Education must be coupled with programs that recognize

64. Christopher Bergland, "Scientists Discover Why Exercise Makes You Smarter," *Athlete's Way* (blog), October 11, 2013, <http://www.psychologytoday.com/blog/the-athletes-way/201310/scientists-discover-why-exercise-makes-you-smarter>.

65. Department of the Army, *The Performance Triad Guide: Sleep, Activity, and Nutrition* (Washington, DC: Government Printing Office), <https://ireland.tricare.mil/Portals/66/P3%20Guide.pdf>.

66. Rosa María Martínez García, Ana Isabel Jiménez Ortega, Ana M. López-Sobaler, and Rosa María Ortega, "Nutritional Strategies That Improve Cognitive Function," *Nutrición Hospitalaria* 35, no. 6 (2018): 16–19; and HQDA, FM 7-22, 8-1.

67. HQDA, FM 7-22, 11-1; and Troxel et al., *Sleep in the Military*, 15–18.

68. DA, "Sleep Dispatch," 3.

69. Troxel et al., *Sleep in the Military*, 103.

and reward soldiers for establishing healthy sleep habits as part of a lifestyle of cognitive performance enhancement.

As the Army seeks to alter its culture, wider adoption of wearable technology could increase soldier and leader awareness, build desirable habits and practices, and alter mindsets. All three will be required to initiate enduring enhanced performance in the cognitive and physical domains. Studies by the Walter Reed Army Institute of Research (WRAIR) and the US Army Combat Capabilities Development Command Soldier Center involving hundreds of 10th Mountain Division soldiers show commercial off-the-shelf wearable technology such as watches, rings, or bands can drive behavioral changes at the individual and organizational level.⁷⁰ For instance, monitoring sleep habits and off-duty physical activity levels can help leaders coach their soldiers to establish healthy habits using personalized data. The Army should prioritize near-term investments in this area as quick and visible means to demonstrate commitment to enhancing cognitive performance. Combined with education and emphasis from leadership, the use of wearables could provide a powerful catalyst toward widespread cultural change.

Pharmacological Interventions

Similar to physiological interventions, pharmacological interventions offer opportunities for enhanced cognitive capacity. Stimulant use is one such intervention that is already pervasive in the Army. At the high end, medical providers prescribe drugs such as dextroamphetamine to aviators for sustaining cognitive performance and alertness on long missions. More commonly, soldiers consume caffeine to aid their individual performance.⁷¹ While opportunities exist for further research and ethical debate on the use of cognitive performance-enhancing drugs such as modafinil (Provigil), methylphenidate (Ritalin), and various amphetamine mixes (Adderall), caffeine use is largely uncontroversial in Western society.⁷² Even so, excessive caffeine consumption produces unwanted side effects, including insomnia, anxiety, increased blood pressure, and heart palpitations.⁷³ To reliably enhance

70. Adam Cucchiara, *Project Polar Unit Report*, (Camp Dwyer, Afghanistan, 4-31 Infantry Battalion, November 2, 2020), 3.

71. Paul Scharre and Lauren Fish, *Human Performance Enhancement* (Center for a New American Security, 2018), 7–9, <http://www.jstor.org/stable/resrep20411>.

72. Scharre and Fish, *Human Performance Enhancement*, 8.

73. Yolanda R. Arrington, “The Science behind Why You Should Stop Chugging So Many Energy Drinks,” *Department of Defense News* (website), December 28, 2016, https://www.army.mil/article/180140/the_science_behind_why_you_should_stop_chugging_so_many_energy_drinks.

cognitive performance, a deliberate approach to stimulant use is required to achieve optimal levels of arousal without negative health consequences.

The *2B-Alert* application is one novel approach to optimizing caffeine usage with potential for use Army-wide. Currently in development by Walter Reed Army Institute of Research in collaboration with the Biotechnology High Performance Computing Software Applications Institute, *2B-Alert* uses machine learning, sleep history, and personal data to predict cognitive function during periods of sleep loss and develops a caffeine-dosing schedule to maximize alertness during desired time windows.⁷⁴ If integrated with wearable technology, incorporated into all training, and made a part of everyday military culture, applications like *2B-Alert* could provide safe and cost-effective cognitive enhancement across the Joint force.

Technological Enhancements

Multiple efforts across the DoD explore technology-based means of cognitive enhancement. These techniques vary widely in terms of development, methods of application, and cost but should be considered part of an overall cognitive dominance strategy. For example, transcranial electrical stimulation (TES) enhances brain signals to mimic brain waves found during deep, restorative sleep to improve sleep quality.⁷⁵ Thus, use of TES in a sleep-deprived environment could allow soldiers to gain more restorative effects from brief periods of sleep to enhance cognition. Ongoing studies by the Walter Reed Army Institute of Research Sleep Research Center, partnered with the Defense Advanced Research Projects Agency (DARPA) and Teledyne Scientific, are assessing the effectiveness of a fieldable TES device to make the most of limited sleep periods and improve fatigue management.⁷⁶

Transcranial direct-current stimulation (tDCS) is already in use by Olympic athletes and undergoing testing within the Department of Defense. Unlike transcranial electrical stimulation, tDCS works by increasing energy in the brain to promote neural activity and alter brain connections to improve motor performance and cognition. Initial testing by Navy special operators shows tDCS can improve training efficiency, and Air Force studies show

74. DA, *Sleep Dispatch*, 6; and Telemedicine and Advanced Technology Research Center, Military Operational Medicine Research Program, and US Army Medical Research and Development Command, “*2B-Alert* Web: Predictions on the Effects of Sleep/Wake and Caffeine on Alertness,” Biotechnology HPC Software Applications Institute (website), <https://2b-alert-web.bhsai.org/2b-alert-web/login.xhtml>.

75. Tina Burke, discussion with author, December 10, 2020.

76. DA, *Sleep Dispatch*, 9.

increased vigilance and enhanced cognition under fatigue using transcranial direct-current stimulation.⁷⁷

Biotechnological and pharmacological cognitive enhancement is sparking ethical debate regarding the liberty of soldiers to consent to enhancement and the long-term repercussions of enhancing a segment of society.⁷⁸ The Army should engage in this debate as it continues its enhancement research efforts to keep pace with near-peer competitors. Recognizing these ethical limitations and budgetary constraints, however, the Army should place more emphasis on readily executable and less controversial efforts in the near term.

Cognitive Software Upgrades – A Direct Approach

Revisiting our computer analogy helps illustrate that enhanced cognitive software—how we use our minds—provides a direct approach to cognitive performance enhancement. While indirect steps can improve cognitive hardware, better hardware alone may not enhance performance. New hardware often requires upgraded software and greater user proficiency to maximize its potential. Therefore, direct and indirect approaches—upgraded hardware *and* software—are necessary to achieve the highest levels of cognitive performance. Brain education, cognitive science-based learning techniques, and methods of managing information overload offer practical software upgrades for minimal investment.

Brain Education and Self Awareness

Many cognitive psychologists and neurologists agree the optimization of individual cognitive performance starts with understanding the brain.⁷⁹ A basic understanding of brain function sets the stage for metacognition, or “thinking about thinking.” Army doctrine values metacognition for complex problem-solving and adaptive thinking but provides little insight into how to develop and improve metacognitive processes.⁸⁰ Moreover, the scant writing on metacognition in Army doctrine focuses entirely on leaders in a complex problem-solving context and fails to account for broader application across the force. In his 2011 thesis on applying neuroscience to enhance cognitive performance in the Army,

77. Scharre and Fish, *Human Performance Enhancement*, 9.

78. Gareth W., “Hacking Brains: Enhancing Soldier Cognitive Performance,” Wavell Room: Contemporary British Military Thought (website), June 25, 2020, <https://wavellroom.com/2020/06/25/hacking-brains-enhancing-soldier-cognitive-performance/>.

79. Peter C. Brown, Henry L. Roediger III, and Mark A. McDaniel, *Make It Stick: The Science of Successful Learning* (Cambridge, Massachusetts: Belknap Press, 2014), 7; Rock, *Your Brain at Work*, 1.

80. Department of the Army, Army Field Manual (FM) 6-22, *Leader Development* (Washington, DC: Government Publishing Office, 2015), 5-2.

Andrew Steadman observes, “metacognition has not [yet] descended to the tactical level as a desirable leader trait and training concept.”⁸¹

Universal training and education of service members on basic brain science and metacognition can create the foundation for peak cognitive performance when complemented by an individual’s ability to observe brain processes in real time.⁸² Metacognition is accomplished through mindfulness, or paying close attention to the present moment “on purpose and without judgment.”⁸³ Multiple neuroscience and psychology studies reveal significant benefits from practicing mindfulness, including improved cognitive control and decision making.⁸⁴ The Army incorporates mindfulness training as part of the Comprehensive Soldier and Family Fitness program and recognizes the concepts of mindfulness and mindful awareness in Army H2F doctrine and coaching.⁸⁵ The concepts of mindfulness and mindful awareness, however, lack a widespread understanding and adoption across the force.

Brain science, metacognition, and mindful awareness must be integrated into professional military education to optimize soldier cognitive performance across the Army. The Applied Critical Thinking course offered by the US Army’s University of Foreign Military and Cultural Studies offers baseline curriculum content for field grade pre-command courses and the Army Strategic Education Program.⁸⁶ These topics should also be taught across all initial entry training pipelines, tailored to skill and experience level, and customized based on career-long assessment results. This approach is similar in many ways to the Navy’s Warrior Toughness program, which focuses on the development of sailor spiritual, mental, and physical strength and has seen promising initial results.⁸⁷

The Navy implemented the Warrior Toughness curriculum across all enlisted and officer accessions programs in 2018 after reviewing recent accidents aboard USS *Fitzgerald* and USS *John S. McCain*.⁸⁸ It uses mindfulness and the sports psychology techniques of goal setting, self-talk, visualization, and energy management to improve emotional regulation and

81. Steadman, *Cognitive Performance in Combat*, 24.

82. Rock, *Your Brain at Work*, 87.

83. HQDA, FM 7-22, 13-3; and Rock, *Your Brain at Work*, 89–90.

84. Elizabeth A. Stanley and Amishi P. Jha, “Mind Fitness: Improving Operational Effectiveness and Building Warrior Resilience,” *Joint Force Quarterly* 55, no. 4 (2009): 147–48; and Rock, *Your Brain at Work*, 86–89.

85. Brunyé et al., “Cognitive Enhancement in Military Contexts”: 6; and HQDA, FM 7-22, 13-3.

86. “Red Team Education,” United States Army Combined Arms Center (website), <https://usacac.army.mil/organizations/ufmcs-red-teaming>.

87. Michael Bernacchi, Stephen Drum, Jennifer Anderson, and Kathleen Saul, “Warrior Toughness: Making the Mind, Body, Soul Connection,” *Proceedings* 145, no. 7 (July 2019), <https://www.usni.org/magazines/proceedings/2019/july/warrior-toughness-making-mind-body-soul-connection>; and Melissa D. Hiller Lauby, “Navy Warrior Toughness Program” (Microsoft Teams presentation, 2020 Performance Psychology Summit, Microsoft Teams, November 12, 2020).

88. Lauby, “Navy Warrior Toughness Program.”

cognitive performance.⁸⁹ The implementation of Warrior Toughness marks a significant investment in cultural change across the Navy, the results of which are thus far difficult to quantify. Anecdotally, US Navy clinical psychologist Captain Melissa D. Hiller Lauby notes sailors successfully responding to the fire aboard USS *Bonhomme Richard* in July 2020 referenced the benefits of Warrior Toughness training on multiple occasions during after-action debriefings. Specifically, the use of self-talk and emotional regulation helped some sailors respond more calmly in the face of extreme stress.⁹⁰ Additional time and analysis are required to judge the effectiveness of the program, but Warrior Toughness could inform Army efforts to change its cognitive performance culture.

Cognitive Science–Based Learning

Training is ubiquitous in the Army, but recent cognitive science research demonstrates how many of the Army’s training techniques may fail to produce long-term comprehension. Cognitive science shows repetitive drills, rote memorization, and rereading are not as effective as many believe.⁹¹ Research in academic situations and with athletes attempting to master motor skills, such as hitting a baseball, reveal that changing how instruction and training are provided greatly influences the quality and durability of learning.⁹² Adoption of cognitive science-based learning methods such as spaced practice, interleaving, and adaptive tutoring can provide the Army with low-cost opportunities to maximize the effectiveness of education and training to improve cognitive performance.

Furthermore, Army Field Manual (FM) 7-22, *Holistic Health and Fitness*, states cognitive science-based learning strategies, which control the learning environment, limit interruptions, and tailor instruction to soldier learning preferences, can result in more effective task mastery.⁹³ Wade Elmore, an applied cognitive and brain science expert at Army University, sees the opportunity for adaptive tutoring technology to increase durable learning.⁹⁴ Studies indicate intelligent tutoring platforms using machine learning and computer algorithms to deliver customized instruction outperform all other

89. Bernacchi et al., “Warrior Toughness.”

90. Lauby, “Navy Warrior Toughness Program.”

91. Brown, Roediger, and McDaniel, *Make It Stick*, 9.

92. Sarma and Yoquinto, “Cramming May Help for Next-Day Exams, but for Long-Term Memory, Spacing Out Study Is What Works,” *Washington Post*, November 30, 2020, https://www.washingtonpost.com/health/memory-and-cramming-for-exams/2020/11/27/d395a838-29bd-11eb-8fa2-06e7cbb145c0_story.html.

93. HQDA, FM 7-22, 9-3.

94. Elmore, discussion with author, December 9, 2020.

methods, including human tutors.⁹⁵ Although intelligent tutoring may not directly enhance decision-making and critical thinking skills, increasing soldier tacit knowledge through a tailored approach to enhanced learning provides a basis for subsequent mastery of related cognitive tasks.⁹⁶ Cognitive science-based learning methods and technology must be adopted throughout Army training, incorporated into Army training doctrine, and integrated into Army training culture. Increasing the quantity and quality of durable knowledge and skills embedded in soldier long-term memory is a powerful way to optimize cognitive software for peak performance.

Managing Information Overload

While cognitive science-based learning methods and technologies can assist with optimizing learning, improving soldier short-term working memory requires a different approach. Army doctrine recognizes this and asserts in FM 7-22, *Holistic Health and Fitness*, that soldiers who optimize their short-term working memory can process and complete complex tasks more effectively.⁹⁷ The manual goes on to offer task simplification, learning cues, and memory cues as ways to boost performance but stops short of a more comprehensive approach and misses an opportunity to influence Army culture in this critical area.

Offsetting the effects of information overload requires a fundamental change to the Army's "always on" culture of communication and information management. The expectation that leaders in particular are always available for instantaneous communication degrades cognitive performance through frequent interruptions, distractions, and emotional arousal.⁹⁸ Education on the effects of multitasking, distraction, frequent interruption, and information overload as part of an Army-wide brain science education initiative could provide an important first step in driving change.

Effective time management provides another opportunity to reduce mental friction and boost cognitive performance.⁹⁹ The demands of daily operations often test leader time-management skills. Yet, effective time-management techniques are not taught systematically in professional military education below the senior service college level. Consequently, many leaders

95. James A. Kulik and J. D. Fletcher, "Effectiveness of Intelligent Tutoring Systems: A Meta-Analytic Review," *Review of Educational Research* 86, no. 1 (March 2016): 67, <https://journals.sagepub.com/doi/10.3102/0034654315581420>.

96. Brown, Roediger, and McDaniel, *Make It Stick*, 18–19.

97. Alan Baddeley, "Working Memory," *Science* 255, no. 5044 (January 1992): 559, <http://psych.colorado.edu/~kimlab/baddeley.1992.pdf>; and HQDA, FM 7-22, 9-3.

98. Rock, *Your Brain at Work*, 131.

99. Levitin, *The Organized Mind*, 175–76.

are unaware of cognitive science-based best practices for time management and execute daily schedules that guarantee suboptimal cognitive performance. Increased education in this area could help leaders create daily schedules that avoid distractions during creative times, provide opportunities for focused work, and support adequate sleep and nutrition.

Conclusion

Cognitive capability is the foundation of individual and collective performance in all domains. As the US Army prepares for multi-domain operations, establishing the culture and behaviors that promote cognitive dominance is essential to compete successfully with near-peer adversaries seeking asymmetric advantages across multiple domains. To succeed, the Army must replace its “always on” culture of multitasking and connectivity with a culture of cognitive performance optimization and enhancement to dominate and win in the Information Age. It is only through a deliberate approach rooted in education, training, technology, and hard work that the US Army can establish a lasting culture of cognitive dominance.

While it is tempting to bet solely on technological advances to achieve cognitive dominance, a diversified approach across the doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policies (DOTMLPF-P) framework is required to reduce risk in a time of budgetary and operational uncertainty. The Army must incorporate both indirect and direct approaches to cognitive performance enhancement while engaging in the ethical debates associated with these methods. America’s future adversaries will continue to seek an asymmetric advantage in the cognitive domain. We must force them to try to overcome the determination, creativity, and grit of the American soldier to achieve it.

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Leader Perspectives on Managing Suicide-related Events in Garrison

Thomas H. Nassif, George A. Mesias, and Amy B. Adler

ABSTRACT: Leaders who have personally experienced the aftermath of a suicide-related event can provide important lessons and recommendations for military leadership and policymakers. This paper executes a thematic analysis of interviews with leaders, chaplains, and behavioral health providers who responded to garrison suicide-related events and explores leader decision making related to memorials, investigations, and readiness.

Keywords: suicide postvention, garrison, military leader, chaplain, behavioral health provider

Suicide is a significant threat to military readiness and is a preventable form of death. In the last decade, suicide has become a leading cause of death for service members, claiming more lives than combat and transportation accidents.¹ The suicide rate among active-duty service members increased from 20.3 members per 100,000 in 2015 to 28.7 members per 100,000 in 2020.² Collectively referred to as suicide-related events, suicides, suicide attempts, and suicidal thoughts requiring intervention have ripple effects extending beyond any one individual. Researchers estimate every death by suicide impacts 135 people.³

Clearly, these disturbing and tragic events reverberate across the community, from leaders and unit personnel to friends and family members. Supporting those affected in the wake of a suicide-related event is called *postvention*. Suicide postvention targets those potentially affected by the event to help mitigate behavioral health concerns in the aftermath.⁴ Postvention refers to support in response to suicide but may also apply to support in response to a suicide attempt or other suicide-related event. Postvention responses are shared by a team of unit leaders, chaplains, and behavioral health providers. This team is further supplemented by civilian nonmedical counselors (military and family life counselors). Leaders faced with managing these events must sustain the morale and readiness of their troops while acknowledging each

1. Armed Forces Health Surveillance Center, "Surveillance Snapshot: Manner and Cause of Death, Active Component, U.S. Armed Forces, 1998–2013," *Medical Surveillance Monthly Report (MSMR)* 21, no. 10 (October 2014): 21.

2. Department of Defense (DoD), *Annual Suicide Report* (Washington, DC: DoD, 2020), 6.

3. Julie Cerel et al., "How Many People Are Exposed to Suicide? Not Six," *Suicide and Life-Threatening Behavior* 49, no. 2 (April 2019): 529–34.

4. John Deheegher, "Suicide of a Service Member: How to Organize Support for the Bereaved Service Members in the Emotional Aftermath," in *Lowering Suicide Risk in Returning Troops: Wounds of War*, ed. Brenda K. Wiederhold, (Fairfax, VA: IOS Press, 2008), 149.

event. Despite its importance, little has been written about how to respond to the aftermath of suicide-related events. In fact, a RAND report about the Department of Defense identified the response to suicide-related events as an area in critical need of study.⁵

In an effort to address this gap, the Defense Suicide Prevention Office published a Postvention Toolkit in 2019. The Toolkit details postvention procedures, roles, and responsibilities and includes checklists of immediate actions for unit leaders, chaplains, behavioral health providers, and other key players (for example, military investigators and casualty assistance officers) involved in managing a suicide death.⁶ The Toolkit, however, does not address situations involving nonlethal suicide-related events nor does it provide nuances around managing suicide-related events and how these decisions operate in a real-world context. Leaders have much to consider in the aftermath of a suicide-related event, including their own emotional responses, and may feel alone in navigating this process. The present article expands upon the Postvention Toolkit by addressing these remaining gaps.

Building on a previous effort to study postvention practices during deployment, we have summarized leader decision making following a suicide-related event in garrison.⁷ The current garrison-focused study, funded by the Military Operational Medicine Research Program and coordinated with the Defense Suicide Prevention Office, conducted 16 semi-structured interviews with five leaders, six chaplains, and five behavioral health providers, each of whom had responded to a garrison suicide-related event in the past five years. The study was approved by the Institutional Review Board of the Walter Reed Army Institute of Research, and participants provided informed consent. Leaders included Army officers with nine to 24 years of military service who served as company, battalion, and brigade commanders during these events. Chaplains included Army officers with 11 to 30 years of military service who served at the battalion and brigade levels and the state (National Guard) level. Behavioral health providers included social workers and clinical psychologists comprised of Army officers with two to 17 years of military service. Officers in each

5. Rajeev Ramchand et al., "Suicide Postvention in the Department of Defense: Evidence, Policies and Procedures, and Perspectives of Loss Survivors," *Rand Health Quarterly* 5, no. 2 (2015).

6. Department of Defense (DoD) and Defense Suicide Prevention Office (DSPO), "Postvention Toolkit for a Military Suicide Loss" (Washington, DC: DoD, 2019), <https://www.dspo.mil/Portals/113/Documents/PostventionToolkit.pdf>.

7. Abby Adler et al., "A Qualitative Analysis of Strategies for Managing Suicide-Related Events during Deployment from the Perspective of Army Behavioral Health Providers, Chaplains, and Leaders," *Military Psychology* 30, no. 2 (April 2018): 87–97.

category ranged in rank from captain to colonel, and there was one Army civilian behavioral health provider.

This paper reports on results from a thematic analysis of these interviews, provides brief case studies, and highlights lessons learned. Quotes were edited for clarity and to preserve anonymity. By leveraging the experience of leaders, chaplains, and behavioral health providers, we aim to offer a real-world perspective on navigating the challenges of suicide postvention. Themes are not presented in any particular order. Our intent is for this information to better equip leaders to respond to suicide-related events and mitigate the potentially negative impact on themselves, their units, and the wider community.

Confronting Personal Emotions about Suicide

The first theme that emerged from the interviews was how leaders described the aftermath of the suicide-related event in terms of their own emotional experience. Leaders, chaplains, and behavioral health providers who participated in the interviews experienced a range of emotions in response to suicide-related events. Many reported initial shock and disbelief, particularly because many thought the affected soldiers were doing well. Interviewees also mentioned feeling disappointment that the affected soldier did not reach out for help and self-doubt as to whether there was something they could have done differently. Finally, some experienced anger and frustration with themselves, the affected soldier, and the unit for not foreseeing and preventing the suicide.

Interviewees recognized the importance of being aware of their emotions and identifying ways to manage them. Some reported that taking leave from work provided a tactical pause to refocus on the tasks at hand. For others, the experience of a unit member's death by suicide led them to realize certain behaviors such as turning to alcohol were less productive, whereas other coping strategies such as connecting with family for support or engaging in recreational activities were more productive. As one leader mentioned: "I turned to that six-pack of beer, and did that very heavily, which was not helpful. I soon realized that talking with professionals and having open conversations with my wife about why I'm feeling that way, and taking breaks to do things I love, like travelling, hunting, and fishing, was what I needed most."

Leaders reported that suicide-related events negatively impacted their lives at home. One leader mentioned his high level of stress in response to the event made time with his wife and child more stressful than at any

other time in his career. Another leader expressed a similar experience of stress but discussed how they found it helpful to take the long way back from work or go for a run before returning home to readjust to family life after a stressful day.

General consensus emerged among respondents that the process of handling difficult personal emotions and learning about the issue of suicide offered an opportunity to develop as a leader. For example, one respondent reported that learning about suicide was professionally enlightening and helped him perform more effectively. Another leader reflected: “If you disregard the issue of suicide and say, ‘that can’t happen to me,’ you risk losing credibility as a leader. These experiences have helped my personal growth and allowed me to evaluate my own priorities and move through life with purpose. Seeing through a different lens helped suspend my assumptions and embrace the reality of suicide.”

For others, personal discomfort with the topic of suicide and avoidance of candid discussions served as barriers to unit cohesion: “I stayed positive around those soldiers, but I was uncomfortable talking about the subject. I had to put that behind me and ask the hard questions, otherwise I was going to miss something and wouldn’t be able to help them.” As this leader noted, engaging in genuine conversations with soldiers who were grappling with suicide-related issues was more productive than putting on a positive facade or ignoring the suicide.

By recognizing rather than avoiding personal emotions in response to a suicide-related event, leaders appear better able to respond effectively. Additionally, leaders reported the utility of engaging in productive coping strategies such as connecting with family for support or partaking in enjoyable activities outside of work.

Managing Stress around Blame

Besides their own emotions, leaders may also have to manage blame-related stressors. Despite leader efforts to prevent suicides, many respondents felt leaders often shouldered the blame for suicide-related events provoked by circumstances outside of their control.⁸ In one case, a soldier was using illicit drugs, receiving addiction treatment, and being chaptered out of the Army. The soldier met with a behavioral health specialist who cleared him as “low risk.” A week after the meeting, the soldier fatally stabbed himself. The soldier’s parent called his commander in the middle of the night,

8. Pak et al., “Suicide Postvention,” 189, 195.

accusing him of killing their son. In another case, a soldier had received multiple DUIs, failed an Army Physical Fitness Test, and had marital issues. The soldier's parent blamed their son's leader for the suicide, which occurred shortly after the leader took command. In both cases, intense family grief and accusations exacerbated the emotional toll on leaders and made it more difficult for leaders to manage the aftermath effectively.

In addition to stress from grieving family members, leaders faced stress related to the completion of procedural requirements such as 15-6 investigations and the Department of Defense Suicide Event Report. Furthermore, leaders reported being confused about what actions to take in response to the suicide-related event. They indicated the investigations following a suicide appeared bureaucratic, burdensome, and focused on finding a scapegoat for the suicide. Personnel responsible for completing these procedural requirements may not be familiar with the principles of postvention and are not expected to play a role in postvention activities. Nevertheless, leaders wished a team would help them proactively work toward the next steps in managing the event and preventing a recurrence.

Generally, investigations were described as centering on uncovering the cause of the suicide rather than providing postvention guidance. For example, one investigation focused on determining whether barriers to seeking behavioral health services could have contributed to the suicide. Nonetheless, respondents expressed concern that the investigation process appeared to emphasize blame. Respondents also reported the investigation process detracted from other priorities such as checking in with those who may have been affected by the event and providing emotional support to subordinate leaders.

Whether being blamed by family members or experiencing the strain of an investigation, leaders may find themselves juggling additional sources of stress during this difficult time. Furthermore, while those affected by a suicide may seek answers to why it occurred, it is not always possible to identify a root cause.

Caring for Individual Soldiers and Sustaining Unit Readiness

Emotional support was a key theme across interviews, and several leaders reflected on the challenge of striking a balance between individual and unit needs. One observed that when navigating suicide-related events "making sure [soldiers] get the help they need but also holding them accountable was a hard balance—one that I haven't completely figured out." Although unit readiness was a priority, several leaders felt it was important

to consider the needs of individual soldiers when setting training expectations following a suicide in their unit. Considering the nature and culture of the organization was regarded as helpful in striking this balance between empathy and discipline. For example, leaders discussed the need to set aside time to mourn, reflect, and understand and then to move forward as a unit to refocus on the mission. Explicitly acknowledging this balance helped send a message to the unit that people come first and that their leadership cares. Not all respondents, however, felt this balance was supported: “First Sergeant said this is not a way to get out of training. You signed the dotted line. If you are having issues, get help, but if not, put your best effort forth. This is tough love.”

This balance between empathy and discipline is a challenge for leaders. Resuming training too soon after a suicidal event could be jarring. Responses indicated moving from the period of mourning to refocusing on training has to be carefully timed. Shifting training by a week and reengaging in unit tasks could help morale and maintain discipline. One leader feared if his unit remained too engrossed in a suicide-related event, rather than getting “on the beat” and moving, it could damage unit morale and lead to suicide contagion.⁹ This leader emphasized moving forward: “We’re not going to delay our field training next week—it’s going to run its course. We’ll honor the individual’s service, but then we’re going back out to train.”

Leaders reported the health of an organization’s climate and culture determined the effectiveness of the organization’s response to a suicide-related event. One leader felt it was important to be a selfless leader, mentor, and peer: “If you’re not visible, present, and compassionate, you’re going to have problems in the organization.” Leaders emphasized caring for their soldiers and ensuring everyone received the support needed. According to one commander, “Leaders don’t want to be considered callous. Some might argue that if you weren’t caring about the individual, then you were a cause of the suicide.”

Leaders reported simple acts can go a long way toward showing soldiers that leadership cares about their well-being. One leader noted the importance of “letting your walls down, allowing your emotions to show, taking off your rank, and being human and compassionate.” The same leader added,

9. For additional information on suicide contagion, see Pak et al., “Suicide Postvention”; and Robert J. Ursano et al., “Risk of Suicide Attempt among Soldiers in Army Units with a History of Suicide Attempts,” *JAMA Psychiatry* 74, no. 9 (2017): 924–31.

“If a soldier is in quarters, go visit them. It’s not just the care you show to that individual, it’s the care you have for the organization.”

In addition, senior leaders found an open-door policy helped boost unit morale, foster trust, and increase awareness of personal problems insolvable at junior levels of leadership. One leader noted: “When I first assumed command, morale was very low. My First Sergeant and I were the gatekeepers of all that was going on in the unit. After the suicide, soldiers came to me with marital problems and other issues they couldn’t solve with subordinate leadership.” Despite efforts to build unit morale and support, soldiers may not always experience this support. According to the observation of one chaplain, soldiers feel they are “not more important than the materiel we manage in our unit—a tank, a Humvee, or their M16.”

The health of an organization’s climate and culture begins with a leader’s commitment to being visible to, open with, and compassionate toward soldiers. By striking a balance between empathy and discipline—and carefully timing unit tasks and training events in the aftermath of a suicide—leaders can both support the needs of individual soldiers and maintain unit morale.

Leveraging Communication Channels

Another prominent theme was the importance of empowering subordinate leaders to help soldiers struggling with work or personal problems. This empowerment is intended to alleviate subordinate leaders’ concern that suicidal events occurred on their watch. Leaders emphasized the importance of subordinate leaders knowing their soldiers, tracking their soldiers’ actions, and keenly observing circumstances that could negatively impact well-being.

Following one suicide-related event, a battalion commander set the expectation that the immediate level of leadership within each company and platoon would monitor its soldiers and mitigate potential stressors. Consequently, lines of communication improved, enabling soldiers to feel more comfortable with speaking up if something was bothering them. Similarly, another commander, following a suicide-related event, reported explicitly holding his subordinate leaders accountable for providing engaged leadership, which helped identify unit members in need of additional support. This commander also communicated directly with chaplains and behavioral health providers to identify unit members struggling to cope with the suicide-related event. In another interview, a leader noticed his mid-level NCOs were shouldering a great deal of stress looking out for

their junior enlisted soldiers, which prompted him to coach his E7s and E8s to mentor and support these mid-level NCOs.

As these examples demonstrate, leaders play a critical role in assessing soldier risk, mitigating that risk, and creating a network of support. To help leaders in this role, the Army has developed and evaluated tools to support leaders with monitoring suicide risk in their respective units. The Behavioral Health Readiness and Suicide Risk Reduction Review (R4) was designed to help unit leaders review unit members in terms of (1) risk factors (for example, suicide-related thoughts and behaviors), (2) behavioral health profiles, (3) loss (for example, death of a close family member, a breakup, injury, financial hardship, or career transition), (4) social and psychological isolation, and (5) high-risk comments (for example, statements indicating suicide is acceptable).¹⁰ Additionally, R4 provides recommendations for leaders depending on their level of responsibility, with tailored versions for platoon and company leaders.¹¹ Although it is difficult to determine empirically if R4 is effective, there is potential benefit from R4 when it comes to strengthening leaders' assessment and management of risk.¹²

While the interviews were conducted prior to the release of the R4 tool, respondents emphasized the need for all levels of leadership to continue fostering open communication channels following the immediate aftermath of a suicide. Even after regular training resumes, leaders may need to continue providing targeted support. A behavioral health provider reflected on the importance of communication with the affected unit: "We determined the unit needs and talked to the guys in the affected unit to get a pulse of how

10. Justin M. Curley et al., "Development of the U.S. Army's Suicide Prevention Leadership Tool: The Behavioral Health Readiness and Suicide Risk Reduction Review (R4)," *Military Medicine* 185, no. 5–6 (2020): e668–77.

11. Curley et al., "R4," e673–76.

12. Justin M. Curley et al., "Suicide Behavior Results from the U.S. Army's Suicide Prevention Leadership Tool Study: The Behavioral Health Readiness and Suicide Risk Reduction Review (R4)," *Military Medicine* 00 (2022): 1–9.

they were feeling. And then [we] followed up with the unit periodically.” A chaplain emphasized the need to follow up with soldiers long-term.

Following a suicidal event, people are stunned, and then things appear to return to normal. Weeks later, many experience a shift in thoughts and emotions and a sense of unfinished business. It’s important to give it some time because you will likely need to address behavioral health challenges later on. Follow-ups are an extremely important source of new information.

Leaders also reported that open communication with the chaplains assigned to their unit provided invaluable information following a suicide-related event. Although some leaders felt the rules around confidentiality might impede the identification of additional at-risk soldiers, other leaders reported that chaplains were able to check on potentially worrisome issues within units (for example, suicidal thoughts, marital problems, and social isolation) and help mitigate the risk of future suicide-related events.

One leader asked their chaplain to provide weekly anonymous statistics to the command on the overall health of the unit (for example, marital problems, and suicidal ideations). They believed reporting the number of suicidal ideations each month provided a useful way of highlighting the overall risk facing the unit. Thus, chaplains could communicate risk levels to leadership while maintaining confidentiality. As one chaplain noted: “Confidentiality in the Chaplain Corps allows us to approach individuals who seem to be struggling, and when they report feeling better, that’s a win. If we didn’t have that confidentiality, there would be even more stigma and hiding of issues.”

Chaplains and behavioral health providers can support a leader’s efforts in fostering open communication channels following a suicide. In addition, empowering subordinate leaders to monitor soldiers for potential behavioral health concerns can help leaders identify unit members in need of additional support. Army tools such as R4 can help monitor suicide risk by tailoring recommendations to leaders at different levels of responsibility.

Planning the Postvention Response

Respondents noted the importance of taking the risk of suicide seriously while acknowledging sometimes the nature of the risk is only identified after the leader is confronted with a suicide-related event in their own

unit. As one leader noted, his past experience with suicide attuned him to the topic.

After going to a funeral of a soldier from my first command, it made me react faster the next time. In my second command, I was more reflective and responded quicker when I saw someone going down the road of suicidal thoughts and made them go see someone. I had a better sense of when someone was truly stressed and wasn't saying anything about it.

Besides taking the risk of suicide seriously, leaders also talked about the importance of developing a plan for accessing behavioral health resources, though such a plan should be in place prior to a suicide-related event. Pairing servicemembers with appropriate resources can be facilitated by adapting leader tools like the R4 for the postvention phase.¹³

A net of behavioral health resources following a suicide can help improve unit coordination, ensure soldiers receive adequate support, and provide a safe environment. For example, leaders reported that, following a suicide, behavioral health providers supporting unit members with information on the grieving process and survivor's guilt were helpful. One chaplain suggested the Warrior Ethos (for example, "never leave a fallen comrade") supported the commitment of unit members to escort fellow soldiers to get help from a chaplain or behavioral health professional. As one chaplain noted, whenever he met with a soldier who was having a difficult time in response to a suicide-related event, the chaplain would routinely ask a battle buddy to accompany them as part of an extended safety net. Respondents concurred when a soldier expresses suicidal ideation or intent the immediate response should be to assign a trusted peer or leader to escort that soldier to the emergency department or behavioral health clinic for an evaluation and remain with the soldier until discharge or admission to an inpatient treatment facility. Consistent with the Army ACE (Ask, Care, and Escort) Suicide Intervention model, leaders described the need to ensure their subordinate leaders and soldiers were familiar with procedures for referring to medical and behavioral health care.¹⁴

Respondents commented on the importance of counteracting the stigma of seeking professional help through positive messaging amongst leadership and through leading by example. Following a suicide in his unit, one leader worked with his subordinate leaders to generate positive messaging

13. Curley et al., "R4," e672–73.

14. Rajeev Ramchand et al., "The War Within: Preventing Suicide in the US Military," *Rand Health Quarterly* 1 (Spring 2011): 128.

across the chain of command to normalize help-seeking behavior as an act of strength and courage rather than a sign of weakness and to emphasize sustaining physical and mental wellness. As this leader observed: “We have physical rehab for knees and backs that are broken, but when your mind is broken, you have rehab for that too. . . . And if Sergeant Major goes there, it sets the example to the unit that it’s okay to go to the clinic for support.” In this context, “broken” refers to mental health problems from which soldiers can recover much like physical injuries.

One behavioral health provider commented: “When the commander asked us to be there, he needed to know that they could depend on us. After the suicide happened, the whole brigade rallied with resources.” These behavioral health professionals offered formal and informal approaches such as one-on-one counseling or small group sessions to provide a forum for soldiers to discuss their feelings. Following the discussions, behavioral health providers remained behind for informal closed-door sessions and made themselves available at morning sick call to provide additional nonclinical support. As one provider stated: “We were there to help, not clinically, but instead we put on a different hat temporarily and made them feel more comfortable to speak freely.” Behavioral health providers can put on different hats and offer formal clinical and informal nonclinical support.

For soldiers who might not feel comfortable seeking support from their unit leadership, chaplain, or behavioral health services, leaders reported the benefit of making their soldiers aware of alternative postvention resources such as Army Community Services, Military OneSource, and Military and Family Life Counselors (MFLCs). For example, the MFLC Program offers short-term, nonmedical counseling support for a number of issues such as relationships, crisis intervention, stress management, grief, and occupational issues.¹⁵ Since sessions are not documented and are treated less formally than therapy, soldiers may feel more comfortable engaging MFLC services. As one chaplain noted, “Some soldiers are disenchanted with chaplains because they are religious in nature. Others will not go to behavioral health because the visits are annotated in their records. The third option makes up the trifecta. MFLCs are generally older, more experienced practitioners who work in civilian clothes.”

Respondents also described how during the postvention phase they chose to coordinate suicide awareness and prevention training events that generated awareness of high-risk categories (for example, relationship problems, legal or financial difficulties, or substance misuse) and reinforced

15. Thomas E. Trail et al., “An Evaluation of U.S. Military Non-Medical Counseling Programs,” *Rand Health Quarterly* 8, no. 2 (2018), <https://www.rand.org/pubs/periodicals/health-quarterly/issues/v8/n2/06.html>.

a supportive and caring culture to help mitigate the risk of future suicide-related events. The concern about mitigating future suicide-related events was a priority for leaders even as they were trying to manage the postvention phase.

Each of these leader responses—from taking future suicide risk seriously to building a net of resources, normalizing help-seeking behavior, offering a variety of behavioral health services, and coordinating suicide awareness and prevention training events—reflects the desire to reduce the risk of additional suicide-related events and to establish a culture that proactively supports the behavioral health of unit members.

Building a Supportive Climate to Reintegrate At-Risk Soldiers

During the interviews, leaders described taking a number of actions to build a safe and supportive climate to help reintegrate at-risk soldiers after an evaluation or hospitalization. Leaders mentioned the degree to which the affected soldier believed the unit genuinely cared influenced the effectiveness of unit support. For instance, leaders mentioned that encouraging their squad leaders to set aside their rank periodically to listen actively to the affected soldier could show the individual leadership cares. Leaders and chaplains also commented on the importance of reintegrating soldiers who appeared socially isolated by encouraging them to connect with specific unit members and engaging them in group activities such as basketball or watching a movie. Such activities helped foster a sense of unit connection and belongingness for at-risk soldiers.

For soldiers deemed high-risk in terms of behavioral health problems, unit commanders received helpful guidance from behavioral health providers regarding the soldier's profile (for example, duty limitations and recommended command actions). In an effort to facilitate decision making among behavioral health providers, the Army developed the Behavioral Health Readiness Evaluation and Decision-Making Instrument. This tool standardizes the behavioral health provider's understanding of policies and procedures and clarifies under what circumstances a soldier should be profiled based on regulations.¹⁶

Although interviewees did not mention the Decision-Making Instrument, respondents shared the following recommendations to foster a safe

16. Justin M. Curley et al., "Results of the Behavioral Health Readiness Evaluation and Decision-Making Instrument Study," *Military Medicine* 186, no. S1 (January/February 2021): S142–52.

environment, offer unit support, and strengthen camaraderie. These actions should be conducted based on consultation with the behavioral health provider (see table 1).

Table 1: Recommendation for unit support of at-risk soldiers after suicide-related events

Recommendation	Implementation Considerations
Restrict access to lethal means. ¹⁷	Lethal means may include medications, personal firearms, or sharp objects.
	Request soldiers secure their weapon or ammunition voluntarily at another location such as a trusted friend's house or the unit arms room.
	Restrictions should be made in coordination with behavioral health providers for the duration the soldier is considered at-risk.
Engage in upstream prevention. ¹⁸	Ensure the soldier has the support needed to manage stressors that contributed to the suicide-related events.
	Some potential stressors include financial issues, legal problems, and relationship problems.
Ensure consistent leadership involvement.	Ensure first line leaders (team or squad leader) periodically check in on the soldier.
	During check-ins, leaders should engage the soldier with empathy and active listening.
Engage social support and reintegrate soldiers to unit. ¹⁹	Assign the soldier a battle buddy for social support.
	Encourage involvement in unit-led or soldier-led group activities.
	Discourage social isolation within the unit and foster a culture of inclusion.
Facilitate behavioral health appointments. ²⁰	Ensure the soldier is aware of appointments, and ensure leaders allow sufficient time for the soldier to attend them.
	Remove potential barriers to utilization of behavioral health or other support systems, such as transportation limitations or scheduling conflicts.

Determining which actions to take to support at-risk soldiers can be difficult. Leaders may find it helpful to assess risk factors in their unit by using the Leader Suicide Risk Assessment Tool. This tool assesses suicide risk factors through seven risk areas. These risk areas include legal and discipline problems, occupational problems, access to firearms,

17. "Lethal Means Safety for Military Service Members and Their Families," DSPO (website), n.d., <https://www.dspo.mil/Tools/Download-Library/LethalMeansSafety/>; and Craig J. Bryan, *Rethinking Suicide: Why Prevention Fails, and How We Can Do Better* (New York: Oxford University Press, 2021), 165–71.

18. Tim Hoyt et al., "Development of a Leader Tool for Assessing and Mitigating Suicide Risk Factors," *Military Medicine* 185, no. S1 (January/February 2020): S334–41.

19. Rajeev Ramchand et al., "War Within."

20. Hoyt et al., "Leader Tool," 336.

relationship problems, financial problems, substance misuse, and psychiatric hospitalization or suicide attempts. This tool also prescribes concrete mitigation responses.²¹ By assessing risk factors, leaders can monitor their unit's behavioral health, foster a sense of unit connection, strengthen camaraderie, and take appropriate actions to build a safe and supportive climate. Collectively these actions can help leaders successfully reintegrate at-risk soldiers in their unit.

Honoring the Life of a Soldier, Not the Suicidal Act

Within the first 15 days of a suicide, it is customary for unit leaders to conduct a memorial service.²² There was general agreement across the interviews that the memorial service was one of the most difficult and potentially contentious parts of postvention. Several leaders were concerned a formal service would encourage their soldiers to perceive the suicide as an honorable act rather than a tragedy. Many leaders and chaplains expressed reservations about holding the same type of memorial event for a soldier who died by suicide as they would for a soldier who died during combat or training.

Rituals can play an integral role in providing closure for unit members and family grappling with a significant loss. Respondents agreed that if planned carefully to recognize the life and the service of the soldier rather than honor the suicidal act, then memorial services could help surviving unit members, family, and friends cope with grief. A behavioral health provider remarked, “There’s always a service member who needs that closure—it’s more for us and less for the service member who [died by] . . . suicide. It’s helpful for the provider who offered the services to deal with grief and find closure. And it’s a way to honor them.”

Memorial services may also help demystify suicide and discourage future suicidal events. One Army leader reported, “We do a memorial to honor their service, not the decision they made. I want every leader to see that this was a tragic end state. It really crushed people. It’s how you approach

21. Hoyt et al., “Leader Tool,” 335–40.

22. DoD and DSPO, *Postvention Toolkit*, 27.

suicide and educate people at memorial services. I did not have any suicides in the brigade after this.”

One leader modified the ceremony to emphasize that suicide was wrong and should not be “rewarded,” in order to discourage future suicides. This leader said:

[The Army conducts] . . . memorial ceremonies like a soldier is a hero, with the boot and rifle. We salute him like he was killed in action. Following back-to-back suicides, I worked with my chaplain on his ceremony speech. I gave a coin to his son as a token of his father’s service. But by following other traditions of memorial etiquette to this soldier who [died by] . . . suicide we are covering up the issue. . . . My chain of command was very nervous when I wanted to change the ceremony. I didn’t want to treat him like a hero killed by enemy fire. I didn’t change everything I wanted. They still fired the volleys. The chaplain said we were grateful for his service.

Several respondents shared the sentiment that, though there may be a tendency to cast blame, prudence should be exercised in what is said at the service. Unit members can respond with anger and frustration when they hear a commander speak disrespectfully about a fellow soldier who died by suicide.²³ Even so, leaders, chaplains, and behavioral health providers remarked that their perspectives about suicide and memorial services evolved over time. A chaplain reflected on his shift in thinking regarding these issues: “Thinking about it, I have become more empathetic with people who have gone down that road alone and can understand the circumstances that brought them there. For memorial services, I went from ‘no, we’re good’ and ‘suck it up’ to ‘it’s vitally important to honor these people.’”

In summary, leaders emphasized the importance of carefully planning memorial ceremonies to recognize the life and the service of the soldier rather than honor the suicidal act. In this way, memorial services can support surviving unit members, family, and friends in the coping process, provide a sense of closure for those affected by the suicide, and discourage future suicide-related events.

23. Pak et al., “Suicide Postvention,” 189.

Integrating Lessons Learned

Based on the results from the study interviews, we offer several recommendations for units following suicide-related events (see table 2). First, suicide postvention may be best conducted through prioritizing preparation before the suicide-related event. Leaders, chaplains, and behavioral health providers should build strong relationships through frequent interactions. They should also prepare for worst-case scenarios by discussing how they would respond and work as a team.

In another form of preparation, leader training on suicide postvention could incorporate frank discussions on personal feelings and biases regarding suicide, including how much time is needed to mourn, when military training should resume, how to handle memorial services, how to manage attitudes about blame, and ways to engage in self-care. The goal of these discussions should be to emphasize the potential ripple effects of such events in a community, prepare leaders to be adaptive, attuned, and responsive to unit members, and foster a nonjudgmental culture in the aftermath. Leader professional development may offer a venue for the inclusion of these topics.

Additionally, the interviews revealed how suicide-related events can place a heavy burden on leaders. Division or brigade command groups should identify leaders with experience in managing such events to serve as mentors for other unit leaders in the context of postvention. By leveraging their experience, these mentors can help validate the challenges of postvention and provide practical guidance to leaders following a suicide in their unit, which may complement support from behavioral health providers and chaplains.

Table 2: Summary of recommendations based on findings

Recommendation	Goals
Maintain regular interactions between unit leaders, chaplains, and behavioral health providers.	Build stronger relationships prior to events.
	Clarify roles and expectations.
	Prepare coordinated responses for various scenarios.
Adapt leader trainings to incorporate frank discussions on personal feelings and biases related to suicide.	Promote awareness of the ripple effects of suicide in a community.
	Prepare leaders to be adaptive, attuned, and responsive to unit members.
	Foster a non-blame culture.
Identify division or brigade level leaders with prior experience in managing suicide-related events to serve as mentors for subordinate unit leaders.	Provide practical postvention guidance to subordinate leaders following a suicide in their unit.
	Support and validate junior leaders' challenges during postvention.
	Complement support from behavioral health providers and chaplains.

Conclusion

Many gray areas exist in the suicide postvention decision-making process, and leaders can choose from a number of strategies to mitigate potentially negative impact on themselves, their unit, and the wider community affected. The data reported here is not exhaustive—every leader has unique experiences and thoughts about how postvention can be better managed. The present study was designed to report on frank conversations with key community members: leaders, chaplains, and behavioral health providers. Together, their views aid in identifying themes that define aspects of postvention. We hope the results from this thematic analysis can help prioritize leader actions during the postvention process and support leader decision making following suicide-related events.

As the field of postvention evolves and our understanding of suicide changes, we may need a better approach to postvention. Craig J. Bryan contends we should rethink the prevailing notion of suicide as the result of mental illness accompanied by warning signs and instead acknowledge the dynamic and shifting risks associated with suicide and the degree to which it occurs when individuals do not appear to be struggling with mental health and there are few to no warning signs. In addition, suicide may be better understood as a consequence of decision-making processes influenced by environmental and social stressors (for example, legal concerns, financial pressures, or relationship

problems) rather than a result of individual characteristics or mental illness.²⁴ Such an approach broadens our view of suicide prevention and may be useful in shaping postvention practices focused on improving the social context rather than identifying other at-risk soldiers.

For leaders confronted with managing a suicide-related event, there is no simple checklist of actions to ensure optimal healing and eliminate risk among unit members. The data presented here illustrate some of the challenges leaders have faced in navigating the nuances of suicide postvention. Despite confronting a number of challenging emotions and circumstances, leaders reported various coping strategies to handle their emotions, myriad perspectives on leadership strategies to bolster the behavioral health of their unit, and significant shifts in their thinking about how to approach suicide risk. There are, however, other options to be considered, and there is an enterprise-wide team to help move the unit forward in a positive direction. Leaders emphasized the importance of empowering subordinate leaders to care for soldiers and of leveraging communication channels with the chain of command, chaplaincy, and behavioral health professionals to sense their unit's behavioral health, identify behavioral health problems before they become more serious, and help affected soldiers receive help in recovering. Finally, leaders grappled with the role of memorial services in honoring the soldier while acknowledging the reality of the loss to friends and family. The collective experiences of leaders, chaplains, and behavioral health providers offer a real-world perspective for navigating the challenges of suicide postvention on the wider community.

24. Bryan, *Rethinking Suicide*, 7, 32–34, and 47–50.

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Why Do Senior Officers Sometimes Fail in Character?

The Leaky Character Reservoir

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ABSTRACT: This article argues senior officers may fail in character because their rate of character development throughout their careers typically decreases as environmental stressors rise. It conceptualizes character as an open system with both gains and leaks over time and integrates existing scholarship on personality and ethical development to create the Leaky Character Reservoir framework, which it then applies to Army officers' careers. Military leaders will gain a new understanding of character and find specific actions leaders, units, and the US Army can undertake to strengthen the character of its senior officers.

Keywords: character, ethics, personality, conditioning history, adult development, moral development

Gulf War hero General Norman Schwarzkopf argued that in addition to competence, effective leaders must also have character.¹ Appropriately, character is one of three competencies of the US Army's Leadership Requirement Model and one of three lanes for the US Navy's Leader Development Framework, though both stop short of defining *character*.² Some define character as "[doing] the right thing when no one is watching," "choosing the harder right over the easier wrong," or "having a priority concern for executing one's duties and responsibilities while conforming to moral codes of behavior."³ For the purpose of understanding senior officers' ethical (or unethical) decision making, we define character as, "the propensity to take ethical and selfless actions when facing temptation to act unethically or selfishly." Character-based leadership suggests character serves as a mooring for leaders, tethering the

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1. H. Norman Schwarzkopf, "Address to the Corps of Cadets, United States Military Academy" (West Point, NY, May 1, 1991), YouTube video, 25:13, <https://www.youtube.com/watch?v=uGfrMzqNZqc>.

2. Headquarters, Department of the Army (HQDA), *Army Leadership and the Profession*, Army Doctrinal Publication (ADP) 6-22 (Washington, DC: HQDA, 2019) and US Navy Chief of Naval Operations (CNO), *Navy Leader Development Framework: Version 3.0* (Washington, DC: CNO, May 2019).

3. Miguel Alzola, "Even When No One Is Watching: The Moral Psychology of Corporate Reputation," *Business & Society* 58, no. 6 (2019): 1277; Robert L. Caslen Jr. and Michael D. Matthews, *The Character Edge: Leading and Winning with Integrity* (New York: St. Martin's Press, 2020), 208; and Walter Ulmer, personal communication (e-mail) with author, March 8, 2021.

criteria for leader decisions to something unmoving, such as an organization's espoused values.

Although the Army requires its leaders to have competence and character, the relative importance of these virtues to the Army may have changed over time. For example, in just six months during World War II, the US Army's 90th Infantry Division had 20 battalion commanders and senior officers relieved, primarily for incompetent battlefield leadership.⁴ Unfortunately, this crisis of competence was not isolated to the 90th division. At least 16 US World War II-era division commanders and five corps commanders were similarly removed for battlefield ineffectiveness.⁵ Yet, this stands in stark contrast to the causes of today's reliefs. In one year in Iraq (2010–11), Major General Robert Caslen, then commander of the 25th Infantry Division, adjudicated the alleged misconduct of 78 officers and senior enlisted personnel (master sergeant/first sergeant and above) for character failures (such as improper relationships, inappropriate use of government resources, larceny, toxicity, making false statements, alcohol abuse, and drug abuse). In 2021's first five months, at least three US Army brigade commanders were relieved: one for personal misconduct, one after allegations of misconduct, and one after allegations of counterproductive leadership behaviors.⁶ Notably, we are unaware of any active-duty US Army battalion commander, brigade commander, or general officer being formally relieved for tactical, operational, or strategic incompetence since 2001. Instead, perceived character failures have been the leading factor in most modern-day officer reliefs.

Historically, commentators have considered competence and character independently, but this may prove a false distinction since they influence the same outcome: organizational effectiveness. Professor Don Snider observes a leader's character sets, or fails to set, "the culture/climate of trust that facilitates cohesive teams, and thus military effectiveness."⁷ Similarly, Caslen acknowledged the negative organizational ripple effects generated by his subordinate leaders' aforementioned misconduct.⁸ Former US Army Chief of Staff General H. K. Johnson summarized how leaders' personal character failures can hurt organizational effectiveness when he lamented, "If you will cheat on your wife, you will cheat on me!"⁹ Additionally, senior

4. Henry G. Gole, *General William E. DePuy: Preparing the Army for Modern War* (Lexington University Press of Kentucky, 2008).

5. Thomas E. Ricks, "General Failure," *Atlantic* (website), November 2012, <https://www.theatlantic.com/magazine/archive/2012/11/general-failure/309148/>.

6. Davis Winkie and Kyle Rempfer, multiple articles published from April–May 2021, *Army Times* (website).

7. Don Snider, "Will Army 2025 Be a Military Profession?" *Parameters* 45, no.4, (Winter 2015–16), <https://www.press.armywarcollege.edu/parameters/vol45/iss4/6/>.

8. Robert L. Caslen Jr., personal communication (e-mail) with author, November 6, 2020.

9. Walter Ulmer, personal communication (e-mail) with author, March 28, 2021.

leaders' public failures can consume significant organizational energy by diverting focus and resources from the primary mission.¹⁰ When leaders fail, employees might be less proud to belong to the military and less likely to remain voluntarily in the service.¹¹ If a platoon leader makes a significant character mistake that becomes known, the 35 soldiers in the platoon are negatively affected. If a battalion commander makes a character mistake that becomes known, the 500 soldiers in the battalion are negatively affected. Thus, the more senior leaders are, the more their character failures adversely affect others.

Concerned about these implications, we wanted to better understand what is driving poor decision making and what the Army can do about it. A review of the literature shows character is a function of one's personality, conditioning history, and positive and negative environmental influences. Integrating these functions with the concepts of less visible ethical fading and erosion, we conceptualize an Army officer's ability to do the right thing in the face of temptation is the result of an open system that experiences both character gains and losses over time. We illustrate this idea with the leaky character reservoir (LCR) framework, which models an officer's available character as a dynamic quantity of liquid "potential character" stored in a reservoir inside each officer.

We hypothesize the rate of character education and development typically decreases over an Army officer's career, while character-related environmental stressors increase over the same period, placing senior officers at an increased risk to experience a character gap, or shortage of character needed to meet the demand for ethical behavior, and subsequent character failure. Alternatively, the leaky character reservoir predicts that if the Army increases mid-grade and senior officers' deliberate character development and education while mitigating character-related environmental stressors, more senior officers will do the right thing when faced with temptation, providing Army units with the leadership they deserve while reducing senior-leader reliefs.

To build a shared understanding of the issue, we first present two vignettes of character failures by hypothetical senior US Army officers. Next, we look to theory to understand what factors determine the level of potential character available in any officer's reservoir. Subsequently,

10. Caslen and Matthews, *Character Edge*, 245.

11. Arto Lindblom, Sam Kajalo, and Lasse Mitronen, "Exploring the Links between Ethical Leadership, Customer Orientation and Employee Outcomes in the Context of Retailing," *Management Decision* 53, no. 7 (July 2015): 1642–58, <https://doi.org/10.1108/MD-04-2015-0126>; and Jonathan Doh, Stephen Stumpf, and Walter G. Tymon Jr., "Responsible Leadership Helps Retain Talent in India," *Journal of Business Ethics* 98 (2011): 85–100.

we graphically illustrate the LCR framework to predict how senior officers may end up with a character gap that can lead to character failure and use the character reservoir to explain poor decision making by two senior officers described in the earlier case studies. Finally, we suggest actions individuals, units, and the Army can take to turn the senior officer character gap into a senior officer character surplus.

Cases of Failed Character

Colonel A. A. and Personal Temptation

Although Colonel A. A. was a battle-hardened officer who had successfully commanded a battalion task force in Syria, he was less familiar with the nuances of commanding a separate brigade. As he prepared to deploy the brigade to Korea, he augmented the traditional brigade staff with a handful of additional officers from across the brigade's battalions. One of these officers was a junior lieutenant, initially assigned for a two-month period to assist with key leader engagements. After two months, the colonel extended the lieutenant's temporary assignment and started spending time alone with her off duty. They began a sexual affair that would last throughout the deployment and beyond.

After redeployment, during a skit at a social gathering with family members present, active-duty actors jokingly portrayed a junior officer and colonel engaging in a sexual relationship. Even after the skit, no one strongly intervened into the situation, and the relationship continued over a three-year period until the junior officer—then a captain—formally reported the situation. During the following court-martial, the former brigade commander pled guilty to adultery.

Colonel B. B. and Professional Ambition

Shortly after assuming command, Colonel B. B. was excited to learn his separate brigade combat team would be able to prove itself in an upcoming rotation to the National Training Center (NTC). He believed his unit's success at NTC would be influential on his future upward mobility in the Army. He described his leadership style as deliberate and passionate, but he told his battalion commanders, in the stress of his brigade's NTC train-up, he would take a pencil and jam it into their eyes if they were not loyal. He had public, disrespectful confrontations with his command sergeant major and expected the spouses of his subordinate leaders to attend all events his wife attended. Many of his subordinates felt he disregarded any voices

other than his own or those of his few favorite officers. These behaviors soon created five isolated battalions that shared the same unit patch but with different priorities and cultures.

Many soldiers did not want to follow B. B. in battle, and several battalion commanders and command sergeants major said he produced a negative command climate and routinely threatened the future of subordinate commanders and staff. After a formal investigation, B. B. was relieved of command.

Four Drivers of Potential Character

To understand what led these otherwise successful senior Army officers to make poor character choices, we must consider what influences potential character levels and the likelihood of making an ethically sound decision(s) in the face of strong temptation(s). Drawing on Professor Kurt Lewin's seminal theory that posits human behavior is a function of personality and environment, we examine how officers' personalities and environments drive their ethical choices before and after joining the Army.¹²

Driver 1: Heredity and Experiences Growing Up

Research shows approximately 40–60 percent of personality is innate, likely derived from heredity.¹³ Examples of personality traits include the “Big Five” categories of neuroticism, extraversion, openness, conscientiousness, and agreeableness.¹⁴ When considering character, a multitude of additional personality traits come into play (such as resilience, judgment, integrity, and perseverance).¹⁵ Various studies using the Big Five categories and character strengths as antecedents for ethical decision making illustrate how personality influences behaviors, and thus ethical decision making.¹⁶

In addition to heredity, much of the balance of officer candidates' character levels at entry into their pre-commissioning programs can

12. Kurt Lewin, *A Dynamic Theory of Personality: Selected Papers*, trans. Donald Adams and Karl Zener (London: Read Books Ltd., 2013).

13. Kerry Jang, John Livesley, and Philip Vernon, “Heritability of the Big Five Personality Dimensions and Their Facets: A Twin Study,” *Journal of Personality* 64 (1996): 577–91.

14. Christopher Soto, “Big Five Personality Traits,” in *The SAGE Encyclopedia of Lifespan Human Development*, ed. Mark H. Bornstein (Thousand Oaks, CA: Sage, 2018), 240–41.

15. Christopher Peterson and Martin E. P. Seligman, *Character Strengths and Virtues: A Handbook and Classification* (Oxford, UK: Oxford University Press, 2004).

16. Virginia Bratton and Connie Strittmatter, “To Cheat or Not to Cheat: The Role of Personality in Academic and Business Ethics,” *Ethics & Behavior* 23 (2013): 427–44; Mary Crossan, Daina Mazutis, and Gerard Seijts, “In Search of Virtue: The Role of Virtues, Values and Character Strengths in Ethical Decision Making,” *Journal of Business Ethics* 113, no. 4 (April 2013): 567–81, doi:113. 10.1007/s10551-013-1680–88; and Tamara L. Giluk and Bennett E. Postlethwaite, “Big Five Personality and Academic Dishonesty: A Meta-Analytic Review,” *Personality and Individual Differences* 72 (2015): 59–67.

be attributed to their conditioning histories.¹⁷ For example, families, coaches, peers, education, socioeconomic situations, and communities all potentially influence character. These influences and experiences affect young peoples' personalities until young adulthood, when most scholars argue personality becomes relatively fixed, though a minority of scholars argue personality remains malleable longer.¹⁸ The conditioning history while growing up likely influences the future officer candidates' character by providing thousands of experiences that serve as lenses for how to view, interpret, and behave in future similar situations. These ethical experiences move the future officers into successive stages of adult or moral development. Robert Kegan's adult development theory and Lawrence Kohlberg's moral development theory imply that the ethically-sound conditioning from life's lessons will likely enable future officers to progress to a more advantaged stage of adult identity and a higher stage of moral development, respectively. It follows that Army officers who have reached more advanced stages of adult or moral development should be more likely to make ethical decisions.¹⁹

Since heredity and conditioning history influence character, Army officer candidates will have different levels of character upon starting pre-commissioning programs. To ensure these candidates have a minimal level of character prior to joining their programs, the Army typically requires all candidates to pass baseline character assessments, including criminal background checks, letters of recommendation, and face-to-face interviews.

Driver 2: Army's Deliberate Character Development

Deliberate conditioning includes formal interventions designed to develop character positively.²⁰ For Army officers, this conditioning incorporates mandatory institutional character curricula, which is part of pre-commissioning programs, officer education schools (OES),

17. Thomas Bouchard Jr. and Matt McGue, "Genetic and Environmental Influences on Human Psychological Differences," *Journal of Neurobiology* 54 (2003): 4–45.

18. Avshalom Caspi and Brent W. Roberts, "Personality Development across the Life Course: The Argument for Change and Continuity," *Psychological Inquiry* 12, no. 2 (2001): 49–66; and Deborah A. Cobb-Clark and Stefanie Schurer, "The Stability of Big-Five Personality Traits," *Economics Letters* 115, no. 1 (2012): 11–15; and Carol S. Dweck, "Can Personality Be Changed? The Role of Beliefs in Personality and Change," *Current Directions in Psychological Science* 17, no. 6 (2008): 391–94.

19. Robert Kegan, *In Over our Heads: The Mental Demands of Modern Life* (Boston: Harvard University Press, 1998); and Lawrence Kohlberg, *Essays on Moral Development: The Philosophy of Moral Development* (New York: Harper & Row, 1981).

20. Matthew Erickson, Kevin Cooper, and Anthony Miccolis, "On Becoming Virtuous," *Journal of Management Education* 43, no. 6 (December 2019): 630–50, doi: 10.1177/1052562919866885.

pre-command courses (PCC), unit-level development (LPDs/OPDs), and self-development.

Each of the Army's pre-commissioning programs includes deliberate institutional curricula in character-related topics. We define *deliberate institutional character development* as hours of education where character is the primary learning objective and the curriculum is testable (papers, exams, and exercises). Examples include teaching the Army Ethic, the Seven Army Core Values (loyalty, duty, respect, selfless service, honor, integrity, and personal courage), and the character component of the Army Leadership Requirements Model. Practical exercises that require students to apply these character models and frameworks to various ethical challenges are often part of the curriculum. As of 2021, the Reserve Officer Training Corps (ROTC) two- to four-year program includes 32 hours of deliberate institutional character development, the United States Military Academy (USMA) four-year program includes 72 hours, and the Officer Candidate School (OCS) 12-week program includes 18 hours.

After commissioning, officers receive six hours of character education at the Basic Officer Leadership Course (BOLC) and three-and-a-half hours at the Captain's Career Course (CCC). Notably, deliberate institutional character development does not occur again until intermediate-level education (ILE), typically the Command and General Staff College (CGSC), at approximately the 11th year of service, where students receive 16 hours of development.²¹ Officers also receive three hours of character development at the lieutenant colonel-level pre-command course and three hours at the colonel-level pre-command course. Most officers selected for the rank of colonel attend the Army War College (AWC) or an equivalent school, where they receive 27 hours of direct character development. Lastly, brigadier generals attend a short capstone course that includes an hour of deliberate character instruction. Table 1 shows how the Army provides most brigadier generals with approximately 100 cumulative hours of deliberate institutional character development during their careers.

21. TRADOC program of instruction based on *Army Leadership*, ADP 6-22.

Table 1. Army's deliberate institutional character development

	Pre-Commissioning Program^a	Second Lieutenant Basic Officer Leadership Course (BOLC)	Captain Captain's Career Course (CCC)	Major Intermediate-Level Education (ILE)^b
Year Officer Service Development Is Received	-4 to 0	1	5	12
Hours of Direct Character/Ethics Education ^c	40 (weighted average) USMA = 72 ROTC = 32 OCS = 18	6	3.5	16
Cumulative Hours	40	46	49.5	65.5
	Lieutenant Colonel Pre-Command Course (PCC)	Lieutenant Colonel (P) Army War College^b (AWC)	Colonel Pre-Command Course (PCC)	Brigadier General Capstone
Year Officer Service Development Is Received	17	21	22	26
Hours of Direct Character/Ethics Education ^c	3	27	3	1
Cumulative Hours	68.5	95.5	98.5	99.5

Source: The authors received each of these statistics via a personal communication from an instructor/professor who either taught or oversaw the character/ethics curriculum at that organization. For ROTC and USMA, personal communication received December 23, 2020; for OCS, personal communication received, January 4, 2021; for BOLC, CCC, and ILE, personal communication received August 11, 2020; for PCC, personal communication received January 25, 2022; for AWC, personal communications received April 1 and 2, 2021; and for Capstone, personal communication received May 11, 2021.

a. The weighted average for pre-commissioning is based on the number of officers from each source per year. For example, while USMA cadets receive a greater number of hours, USMA commissions about 21 percent of officers (~1,000) in a given year.

b. This does not include the 40-hour culminating exercises that include a dimension of ethical decision making because ethics is not the primary focus of the exercises.

c. Data for all OES directly collected from course directors and instructors responsible for curricula from 2020–21 at USMA, ROTC, OCS, Maneuver OES for BOLC/CCC, CGSC (ILE), and PCC at Fort Leavenworth, and AWC/Capstone at Carlisle Barracks.

Yet, when we consider deliberate character development as a rate rather than a total quantity, an interesting trend emerges. Although the rate (hours/year) of the Army's deliberate character development starts high early in officers' careers, it decreases significantly over time.²² In sum, the Army currently provides junior officers a higher rate of deliberate character development per year of service (in both pre-commissioning programs and as an officer) than it provides senior officers, as illustrated in figure 1.

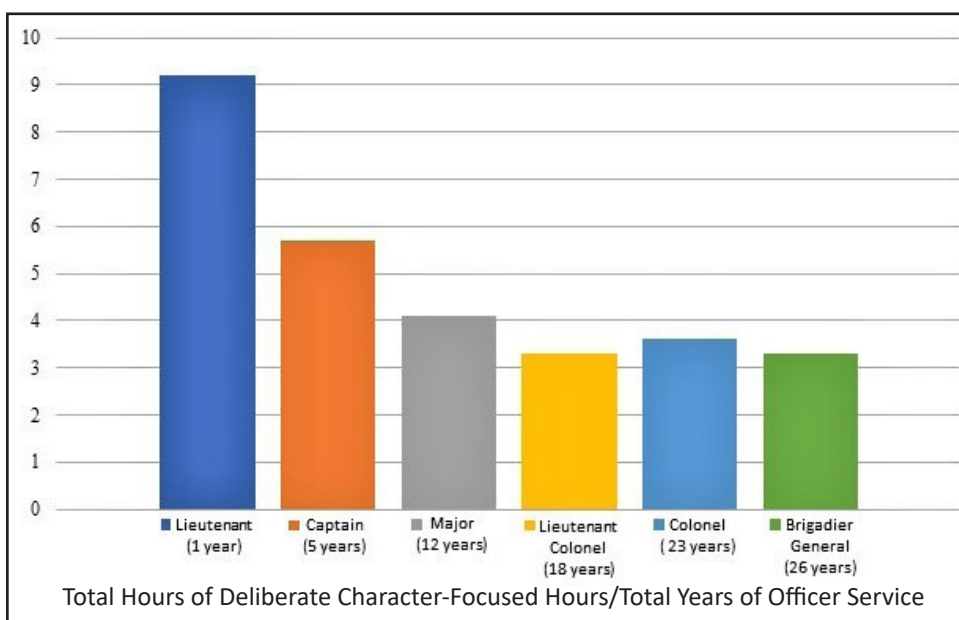


Figure 1. Rate of deliberate character development for US Army officers over a career

(Note: The rate is calculated by dividing the cumulative hours of deliberate development by the total years of officer service, including pre-commissioning programs. For example, new captains have an average of 49.5 hours of deliberate character development over the four years of their pre-commissioning program and five years as an officer, resulting in a deliberate institutional character development rate of (49.5 hours/9 years=) 5.5 hours/year.)

In addition to formal character development through the officer education schools (OES) and pre-command course (PCC) curricula, many brigade, battalion, and company commanders institute unit-level character development sessions and programs for subordinate officers, including leader/officer professional development events (such as leader/officer professional development sessions [LPDs/OPDs] and character-focused guest speakers, book clubs, and formal mentorship programs). Additionally, some unit leaders assign unit members who are character exemplars to onboard new officers instead of letting the sponsor-newcomer

22. Paul Robinson, "Ethics Training and Development in the Military," *Parameters* 37, no. 1 (Spring 2007): 23–36, <https://press.armywarcollege.edu/parameters/vol37/iss1/8/>.

matching process happen by chance. Finally, motivated officers can embark on deliberate character self-development by studying character-related theory and ideas; reading about leaders who displayed strong character; spending time with virtuous institutions, mentors, and friends while off duty; and regularly and deeply reflecting on their own character and values.

Driver 3: Army Life's Environmental Influences

In addition to an officer's personality and deliberate character development, Lewin's theory notes that officers' environments can significantly influence their character-related behaviors. The components of Army life's environmental influences include checks and balances from supervisors; virtuous (or unvirtuous) climates set by one's institution, boss(es), peers, and subordinates; and life's lessons while off duty.

The Toxic Triangle framework posits that leaders need adequate checks and balances from bosses and peers to ensure they maintain their character. Yet, as officers gain seniority, their bosses also have more responsibility and correspondingly less time to check subordinates.²³ As leaders increase in rank, their supervisory role often necessitates travel to cover a larger footprint and reduces face-to-face interactions with individual subordinate leaders. Concurrently, the emphasis on peer support and accountability from the Army's "battle buddy" system during the summer training portion of pre-commissioning programs is not facilitated during officers' subsequent careers. As leaders advance in the Army, they have fewer interactions with boss(es) who would notice if something character-related were offtrack and with peers who can help prevent them from making poor character decisions. This two-pronged lack of relational accountability over time may become a major contributor to the ethical shortcomings of our senior leaders.

The ethical climate created by bosses, peers, subordinates, and the Army influences character. Supervisors set, through personal example and official/unofficial policies, a command culture (the accepted and unaccepted character behaviors for leaders in their organization) that influences subordinates' behavior. Colleagues also shape the work environment by exerting peer pressure—both intended and implied. Typically viewed as responsive to their leader's character, subordinates can also influence a leader's character. People often act like those they spend the most time

23. Art Padilla, Robert Hogan, and Robert Kaiser, "The Toxic Triangle: Destructive Leaders, Susceptible Followers, and Conducive Environments," *Leadership Quarterly* 18 (2007): 176–94.

with, and subordinates far outnumber leaders in hierarchical organizations.²⁴ Finally, when leaders perceive the institution does not enact the values it espouses, they may feel less loyal to the institution and be less likely to make difficult character-based decisions aligned with those values.

Just as an officer's behavior may conform to the character level of the work environment over time, the off-duty environment can also impact the officer's behavior. These off-duty influences can be positive or negative, and will likely change over time as the officer develops relationships through hobbies, recreation, and family. In summary, each environmental factor may lead to stronger character, conceptualized as a character gain, or weaker character, conceptualized as a character leak.

Driver 4: Ethical Fading/Erosion

The psychological concept of ethical fading states that ethical standards may deteriorate over time, implying character gains are not permanent.²⁵ This fading, also known as *ethical erosion*, may include factors such as *ethical drift*, an incremental deviation from ethical practice that goes unnoticed by individuals who justify the deviations as acceptable and who believe themselves to be maintaining their ethical boundaries and *ethical fatigue*, the lessening of one's ethical standards due to the fatigue of having to fight ethical battles regularly.²⁶ There is a strong likelihood many senior Army leaders also have less visible and persistent leaks of potential character.

This ethical fatigue is related to stress, and while a moderate level of stress is known to increase performance, increased span of control and seniority can raise Army officers' stress and lead to unhealthy conditions. The diathesis-stress model posits when a preexisting vulnerability undergoes prolonged stress, the individual is far more likely to develop a disorder.²⁷ On average, battalion commanders experience five times the responsibility of company commanders, and brigade commanders experience five times the responsibility of battalion commanders. The increased stress is likely exacerbated during periods of extended or repeated

24. Jing Qian et al., "Ethical Leadership, Leader-Member Exchange and Feedback Seeking: A Double-Moderated Mediation Model of Emotional Intelligence and Work-Unit Structure," *Frontiers Psychology* 8 (2017): 1174, doi:10.3389/fpsyg.2017.01174.

25. Ann Tenbrunsel and David Messick, "Ethical Fading: The Role of Self-deception in Unethical Behavior," *Social Justice Research* 17, no. 2 (2004): 223–36.

26. Carole Kleinman, "Ethical Drift: When Good People Do Bad Things," *JONA's HealthCare Law, Ethics and Regulations* 8, no. 3 (2006): 72–76; and Cannon et. al., "Ethical Erosion: How Far from Center Are You? You May Be Further Than You Think," *Journal of Health Care Compliance* 17, no. 5 (2015): 11–64.

27. "APA Dictionary of Psychology – Diathesis-Stress Model," American Psychological Association (website), n.d., accessed October 31, 2021, <https://dictionary.apa.org/diathesis-stress-model>.

collective training cycles and deployments. Over time, these stressful events can lead to physical, emotional, and mental exhaustion, burnout, and an increased likelihood of developing post-traumatic stress disorder.²⁸ Senior officers may also compensate for increased responsibilities (both emotional and operational) by reducing sleep time, which further affects stress levels, resulting in the propensity to engage in unethical conduct.²⁹ Finally, senior officers often change duty stations more frequently than junior officers, and moving is one of the largest stressors on individuals and families.³⁰ Author Wade Goodall notes that “many leaders [who] have become involved in an adulterous encounter have been overtired, stressed out, and/or have a feeling of emptiness.”³¹ A senior officer’s likelihood of acting in an irrational way increases with the presence of stress.

Along with the probable increase in unhealthy stress comes an increase in external temptation. As a leader’s seniority and power increase, some individuals seek to develop access to those leaders for less-than-honorable purposes. Additionally, increasing seniority gives leaders more control over personnel decisions, organizational budgets, and strategic direction, often without a parallel increase in oversight; therefore the level of temptation typically increases with seniority.

Yet, these same Army leaders are likely overconfident in their ability to manage this increased stress and temptation. A facilitator of senior officer education recently shared that most “[senior officers] know right from wrong. What stuns me is the number who think they are the ones that won’t get caught.”³² Since senior officers have been successful for so long (without being found with a major character failure), they are at risk of developing a perception of invulnerability, which could lead to decision making that further stresses their character, making the officer even more vulnerable.³³ When this perceived invulnerability parallels the rise

28. Christopher M. Barnes et al., “Leader Sleep Devaluation, Employee Sleep, and Unethical Behavior,” *Sleep Health* 6, no. 3 (2020): 411–17; and Oronzo Parlangeli et al., “Perceptions of Work-Related Stress and Ethical Misconduct amongst Non-Tenured Researchers in Italy,” *Science and Engineering Ethics* 26, no. 1 (2019): 159–81.

29. Christopher M. Barnes, John Schaubroeck, Megan Huth, and Sonia Ghumman, “Lack of Sleep and Unethical Conduct,” *Organizational Behavior and Human Decision Processes* 115, no. 2 (2011): 169–80, <https://doi.org/10.1016/j.obhdp.2011.01.009>.

30. Sarah Kershaw, “The Psychology of Moving,” *New York Times*, February 28, 2010.

31. Wayde Goodall, *Why Great Men Fall: 15 Winning Strategies to Rise Above It All* (New York: New Leaf Press, 2005), 56.

32. Personal communication with author, May 11, 2021.

33. Dean Ludwig and Clinton Longenecker, “The Bathsheba Syndrome: The Ethical Failure of Successful Leaders,” *Journal of Business Ethics* 12, no. 4 (1993): 265–73.

in the senior leader's influence, larger organizations can experience immense negative consequences if their leader fails in character.³⁴

Integrating the Four Drivers of Character: The Leaky Character Reservoir

To integrate and illustrate the four drivers of character, we present character as an open system called the Leaky Character Reservoir (LCR). Imagine each person has a hypothetical internal reservoir that stores potential character in liquid form. Every time the officer exhibits a positive character influence from the drivers, the amount of potential character in the reservoir increases by at least a drop. Alternatively, every instance of unethical character-related influence from the drivers causes the reservoir to leak. The potential for ethical fading and erosion is always present, resulting in persistent, but less-noticeable leaks.

The reservoir stores potential character. When a character challenge (temptation) appears, we posit an officer with the necessary levels of potential character in his or her reservoir will have the strength to choose the harder right over the easier wrong and take the more ethical action. Conversely, if the officer does not have the requisite amount of potential character to meet the ethical challenges, the officer is unlikely to make ethically sound decisions, and character failure may result.

34. Jim Detert, *Choosing Courage: The Everyday Guide to Being Brave at Work* (Boston: Harvard Business Press, 2021).

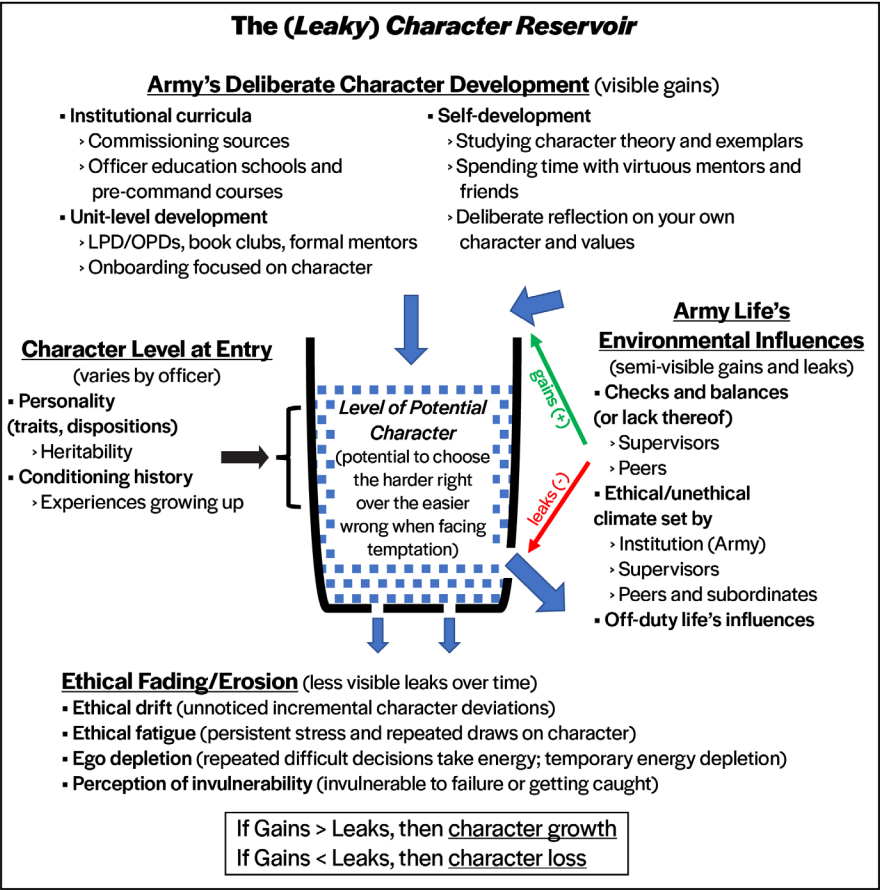


Figure 2. Leaky Character Reservoir

Modeling the LCR over Time: Senior Officer Character Gap

By examining how the drivers of character change over a typical officer's career, it becomes clear that seniority brings more temptation, often through stress and privileged access to objects, information, and people.³⁵ Yet, over the same period, senior officers experience a lower rate of deliberate character development, deal with increased stress, and are less likely to receive adequate checks and balances from their peers and bosses. Since other influences vary widely across people and time (unit-level development, self-development, character of those around the leader, and off-duty life's curriculum), the net result is the senior officer character gap. Simply put, some senior officers

35. Ludwig and Longenecker, "Bathsheba Syndrome."

may not have enough potential character in their reservoir to confront the increasing temptations to be selfish.

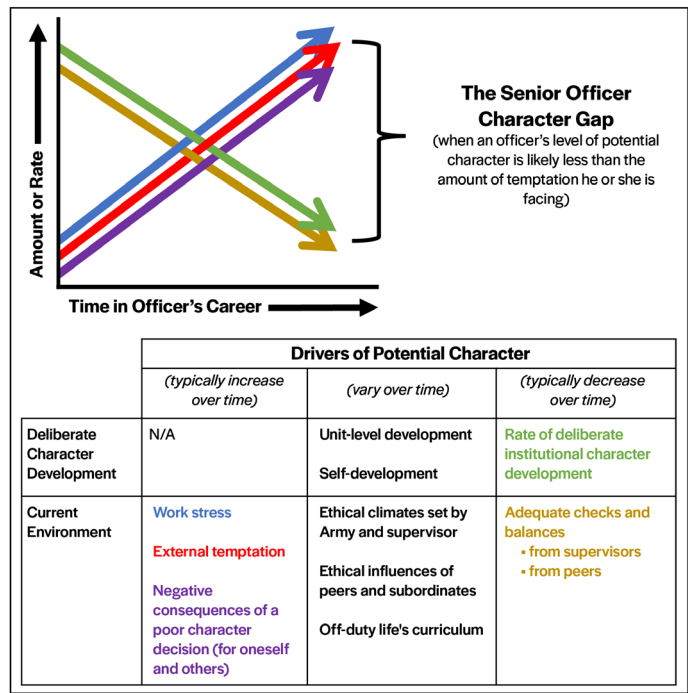


Figure 3. Current senior officer character gap

Leaky Character Reservoir Applied to Colonels A. A. and B. B.

Colonels A. A. and B. B. passed the character screening to enter pre-commissioning sources, where they received a baseline level of deliberate character education. They then attended officer basic courses, where they received additional deliberate character instruction. At that point, the rate of deliberate character education began to decrease over their remaining careers.

Colonels A. A. and B. B. led geographically separate brigade combat teams; therefore, neither had a co-located peer with whom they interacted frequently. Consequently, there was no one to notice and initiate the difficult conversation with A. A. about his potential inappropriate relationship or B. B. about his increasing perceived toxicity with subordinates. The geographically isolated environment led to both receiving less than adequate checks and balances from their bosses. Both experienced ethical fading and erosion, as they had participated in multiple deployments prior to their brigade commands. As they were leading a unit approximately five times larger than before, each likely dealt with a proportional increase

in serious problems and were under the heightened stress of preparing units for deployment to combat or to a major training center rotation. Both may have felt an inaccurate perception of invulnerability, as their poor choices were not isolated incidents but a continuation of choices without being held responsible over years (A. A.) or months (B. B.). At the critical moment, neither had the potential character available to match the temptations they faced. Judging from the number of reliefs for character across today's senior officer corps, other senior officers likely suffer from a similar character gap.

Moving from a Character Gap to a Character Surplus

Collectively, the US Army's current character development programs assume character gains are permanent. Unlike the one hour of daily physical fitness training required by most Army units, few units have regular character training, and while the Army tests everyone's fitness level twice a year, it rarely conducts character assessments. This character training and testing may not be needed if leaders' character gains are permanent. Yet, the LCR framework argues that an Army officer's level of potential character is conceptually similar to his or her level of physical fitness. Both are likely to atrophy if neglected over time.

The Army should address the problem by acknowledging that character gains are not permanent. While the Army can do little to increase the rate of character at entry or eliminate ethical erosion, military leadership can increase deliberate character development and mitigate environmental influences, with the intent of closing the senior officer character gap and creating a character surplus.

Mechanisms to Increase Deliberate Character Conditioning

The Army can increase the quantity (rate) of deliberate character conditioning across the officer education schools (OES). Since the rate of character education decreases significantly as seniority increases, the Army can increase and/or tailor the amount of character education in mid- and senior-level education programs (intermediate level education [ILE], Army War College [AWC], pre-command courses [PCCs], and Capstone) to reverse this trend. Special emphasis on the character demands of senior officers should be a part of deliberate conditioning later in an officer's career. Naturally, the character education's quality matters and should also be a priority. Part of this education should be self-awareness generated by studying the LCR framework, especially the concept that the level of one's potential character can shift over time. During these

educational experiences, the Army should require officers to study numerous recent case studies of senior officers who failed in character in tandem with case studies where officers chose the harder right. Additionally, the Army should require mid-grade and senior officers to engage in deliberate reflection designed to examine character weaknesses and risks honestly by having operational psychologists administer confidential psychometric assessments of self-awareness, empathy, self-regulation, compulsive behavior, and narcissism.

Organization leaders should be incentivized and enabled to enact quality unit-level character development. They should ask institutional organizations (such as the Center for Army Leadership, the Army War College, the United States Military Academy, and the Combined Arms Center) to provide, and regularly update, character-focused officer and leader professional development programs (OPDs/LPDs) so they can be easily accessed and implemented by unit leaders. Additionally, units should be required to implement local character-development programs, including onboarding programs, to be briefed to bosses at quarterly training briefings.

Senior officers should be required to attend Army-sponsored resiliency-building programs/counseling that include a secular or religious-based spiritual wellness component. Character and moral growth are often developed through spiritual practice and can provide a constant during periods of change during an officer's career.³⁶ The value of workplace spirituality, characterized by a sense of community and alignment with the organization's espoused values, can positively impact an individual's moral judgment and an organization's ethical climate.³⁷ Army leadership can reach out to organizations that can host resiliency-building programs, including the Army's Directorate of Morale, Welfare, and Recreation; Army Community Service offices; chaplains; Army medical providers; and others.

The Army should incentivize individual mid-grade and senior officers to invest in character development. By providing officers with an annual stipend of up to \$5,000 to invest in individual character development efforts (such as book purchases, civilian character workshops and academic courses, and executive coaching with a character focus), Army leadership could create

36. Peterson and Seligman, *Character Strengths and Virtues*.

37. Badrinarayan Shankar Pawar, "Individual Spirituality, Workplace Spirituality and Work Attitudes: An Empirical Test of Direct and Interaction Effects," *Leadership & Organization Development Journal* 30, no. 8 (2009): 759–77; and Lilian Otaye-Ebede, Samah Shaffakat, and Scott Foster, "A Multilevel Model Examining the Relationships between Workplace Spirituality, Ethical Climate and Outcomes: A Social Cognitive Theory Perspective," *Journal of Business Ethics* 166, no. 3 (2019): 611–26.

a positive environment for character development, and encourage raters and senior raters to document and reward self-improvement efforts positively.

Additionally, the Army must ensure all officers, especially isolated commanders, have an adequate level of checks and balances. Senior leaders must prioritize regular time spent with subordinate commanders in a deliberate coaching/developmental mode. Creating a healthy culture requires being present and getting to know subordinate commanders and their organizations. When interacting with subordinate commanders, senior officers should discuss and recognize acts of character as much, or more than, they talk about and reward organizational fitness, marksmanship, reenlistment, readiness, and other traditional unit-level accomplishments. In addition to requiring the regular review of subordinates' climate assessments (Commander 360, Defense Organizational Climate Survey, etc.), superior officers should host thoughtful, realistic discussions with subordinate commanders on practical daily actions that demonstrate an ethical life and ethical climate while recommending and resourcing steps, events, and courses that can build character along the way.

Army leaders should increase checks and balances through fostering values-based friendships in the form of peer-accountability groups. Each year, after officers are selected and slated as principal lieutenant colonel- or colonel-level commanders at command assessment programs, the Army should assign groups of four-to-six to peer-accountability groups (PAGs) based on professional and personal preferences, interests, and future command locations. When possible, officers who have different senior raters should be put together to reduce the chance of competition. In their article on best practices of peer support groups, Boris Groysberg and Robert Halperin explain, "Members also build camaraderie and form connections that help them feel safe, grounded, and capable in a volatile and uncertain world. The support they receive in forums sustains them through their toughest professional (and personal) challenges and fosters their long-term success."³⁸ With the help of an Army-funded civilian executive coach, these PAGs would meet (virtually or in person) for 90 minutes every other month to check in with a series of structured questions, including sharing character challenges and successes and allowing open time for free-flow discussion. Annually, each member should assess the PAG's effectiveness, with the Army switching members as needed to ensure

38. Boris Groysberg and Robert Halperin, "How to Get the Most out of Peer Support Groups," *Harvard Business Review* (May–June 2022).

the PAGs build positive, peer-accountability groups built on trust, values, and fit.

Mechanisms to Mitigate Character Losses from Army Life's Environmental Influences

The Army can reduce stress by creating five years of predictability for battalion command selects. The period after selection for battalion command can be extremely unpredictable and stressful for senior officers and their families, including up to four moves over five years. Military leadership could provide the Army's new command-assessment program principal selectees with the ability to choose a command location, senior service college, and follow-on job locations and timing of moves. Additionally, senior officers could be stabilized at locations by changing the implicit career expectation that general officers hold two jobs at each level to holding one job for twice as long.

The Army could also reduce stress through sabbaticals. Giving senior officers six- to 12-month sabbaticals between major assignments without other work responsibilities would provide them time to reduce stress levels, prioritize health and relationships, and recharge.³⁹ During sabbaticals, officers would participate in required guided reflection with assigned mentors. Periods of education (for example, OES and advanced civilian schooling) are good for this, but senior officers would still have full-time responsibilities during educational assignments. With periods of reduced responsibilities, officers can learn new hobbies, regularly spend quality time with children, travel recreationally, and take better care of themselves.⁴⁰

The Army can decrease the risk of stress by providing senior officers regular emotional/mental health assessment and tools. Since emotional and mental health can affect decision making, implementing in-depth health screenings as part of lieutenant colonel- and colonel-level PCCs will help prevent mental and emotional states that could lead to unethical decisions. Battalion commanders and above should be issued health-tracking smart devices, like smart rings that measure and give reliable feedback on sleep and exercise quantity and quality, so they can monitor and improve health.

39. Melissa Servier, "The Healthy Practice of Pastoral Sabbaticals," *Presbyterian Outlook* 199, no. 9 (June 2017): 32; Mohammad Yarmohammadian, Patricia Davidson, and Chao Yeh, "Sabbatical as a Part of the Academic Excellence Journey: A Narrative Qualitative Study," *Journal of Education and Health Promotion* 7, no. 1 (2018): 119; and Gabrielle Simionato, Susan Simpson, and Corinne Reid, "Burnout as an Ethical Issue in Psychotherapy," *Psychotherapy* 56, no. 4 (2019): 470–82.

40. Lee Tobin McClain, "A Sabbatical Ends," *Chronicle of Higher Education* 53, no. 7 (October 2006).

Taking a holistic approach to sustaining the character of senior officers may not fully prevent a character failure, but it can slow the leaks and reinforce the character reserves built over a lifetime.

Conclusion

The Leaky Character Reservoir framework conceptualizes a person's potential character as a resource stored in an open system, with gains and leaks over time. When modeled across a senior Army officer's career, the rate of formal character development typically decreases. In contrast, environmental character stressors increase, leading to slow leaks from the reservoir and, eventually, the potential for a character gap. To address this problem, the Army and unit leaders should recognize that character gains are not permanent and increase the rate of deliberate character development across formal and unit- and individual-level initiatives and promote positive environmental influences while mitigating negative ones. By taking these recommendations and other thoughtful actions, the Army can ensure future senior officers develop enough potential character to make selfless choices and take positive actions when faced with significant temptations, resulting in higher-quality leadership, better-developed subordinates, more-ready units, and a stronger Army.

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Preserving Taiwan as Strategic Imperative

George Shatzner

Review of

The Trouble with Taiwan: History, the United States and a Rising China

By Kerry Brown and Kalley Wu Tzu-hui

Taiwan Straits Standoff: 70 Years of PRC–Taiwan Cross-Strait Tensions

By Bruce A. Elleman

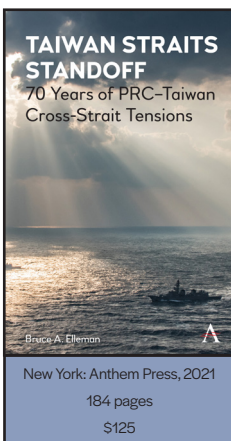
Keywords: China, Taiwan, Cross-Strait tensions, Taiwan Strait, PRC

Despite the ongoing Russian war against Ukraine and Russian President Vladimir Putin's repeated threats to employ nuclear weapons, the gravest threat to global security remains the potential for war over Taiwan. Were the People's Republic of China (PRC) to attempt to forcibly overthrow the government of Taiwan and seize the island nation, the resulting US-led military operation to defend Taiwan could spark a much wider international war. The world's two largest economic powers with arguably the most powerful nuclear-armed militaries engaging in open war would be a catastrophic first in human history. Both the United States and the PRC would suffer huge military casualties and lose significant portions of combat power, rendering both nations vulnerable to other threats. The homelands for both countries would be subject to nuclear attacks, which would kill and wound many thousands of civilians and lay waste to vast areas. Security commitments and allegiances would likely draw nations in Asia, especially Japan, North and South Korea, the Philippines, Russia, and Singapore, into the conflict. The United States, the PRC, and most of the world would suffer economically as US-PRC trade and the regional maritime shipping that drives much of the global economy slams to a halt. Some would argue US-PRC economic ties alone would prevent war. It is worth remembering wars large and small have jumped the firebreak of economic entanglement many times in history.

Especially worrying today is the threat of conflict over Taiwan seems to be growing and drawing nearer. In what some have called the "Fourth Taiwan Strait Crisis," the visit to Taiwan earlier this year by the US Speaker of the House of

Representatives sparked an angry response from the PRC. Beijing employed its People's Liberation Army (PLA) aggressively against the main island of Taiwan with unprecedented scale. The deployment of PLA air and maritime forces and the firing of missiles around Taiwan was a significant expansion over what the PRC did during the 1995–96 Taiwan Strait Crisis, a response to concern that Taiwan's first democratic presidential elections could lead to a referendum on independence for the island. Both in terms of the scale and extent, the PLA demonstrated a much expanded capacity to isolate Taiwan by force.

Additionally, the overt US military response this time was substantially more muted. In December 1995 and March 1996, the United States sent two Naval carrier groups (the USS *Nimitz* and *Independence*, respectively) near Taiwan. This strong US response is widely seen today as a large part of the impetus behind the PRC's rapid acceleration of efforts to build a large, modern military. In 2022, the United States seems content to continue only with what it calls “routine” transits of the Taiwan Strait with smaller US Navy warships. While the lack of a clear military response might be a wise step to de-escalate tensions today, the effect on PRC thinking and actions in the future is potentially unfavorable for the United States and Taiwan should Beijing perceive the United States as unwilling to defend the island. Indeed, as reported by the government of Taiwan, the PRC has increasingly sent its maritime and air forces across the median line of the Taiwan Strait to challenge Taiwan's military and shift the norm for where the PLA can operate in proximity to Taiwan.



Understanding the contentious and violent history of cross-strait relations between the PRC and Taiwan is important to dealing with the problem today and in the future. Bruce A. Elleman's *Taiwan Straits Standoff* is vital reading to this end. This short book was published in 2021 prior to the strait crisis of 2022, and provides the right depth of background to today's issues. Throughout the historical narratives describing the previous three strait crises, the consistency across time in policy perspectives, strategic factors, and military operations is remarkable. Several of these are worth special mention because they are suggestive of potential problems and strategies the United States and

Taiwan must understand today.

First, Elleman reminds us of the critical role Taiwan can play to influence PRC behavior elsewhere. He mentions how US military operations in the Taiwan Strait helped bring the PRC to the negotiating table for armistice talks in Korea in 1953. Further, once the armistice was signed, the PRC immediately began pulling forces from Korea to reinforce its posture across from Taiwan (30). The connection

between deep-seated PRC security concerns on or near its borders (especially with India, Japan, Korea, and Taiwan) must be accounted for and leveraged as pressure points to shape Beijing's decision making and actions. Similarly, we must be mindful that the PRC could use the same stratagem of generating a military crisis in one location to draw in US forces and reduce its ability to respond elsewhere.

Second, the PRC harbors a misconception that aggressive action against Taiwan will somehow cause the United States to split from Taiwan. Elleman notes this was the PRC's expectation when it attacked the Taiwan-held offshore island Quemoy in 1954–55 during the first strait crisis (55). The PRC routinely seems to misperceive a US reluctance to fight a war with it as a sign of fundamental weakness in the US-Taiwan relationship or in US resolve to support Taiwan. Yet, in each instance of PRC aggression against Taiwan, the United States has taken concrete measures to reaffirm and even strengthen its relations with the island nation. Recognizing this blind spot in Beijing's thinking is important when working through the potentials for escalation and off-ramps in the next crisis. Perhaps the United States can defuse an emerging crisis and moderate PRC behavior by clearly communicating that escalation is a dead end and will only strengthen US-Taiwan ties.

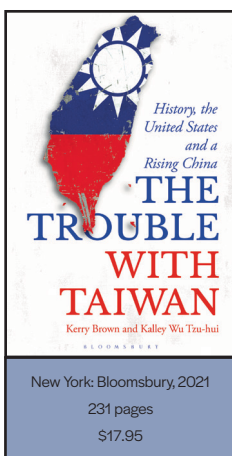
Additionally, history points to other possibilities for PRC military attacks against Taiwan that do not always receive much attention today. In 1958, the PRC ended its shelling of Quemoy after 44 days and the wounding or killing of nearly 3,000 soldiers and 500 civilians. But occasional artillery fire would take place for the next 20 years—the longest sustained artillery campaign in history (105). While it is well known that the PRC has planned firepower strike operations against Taiwan, less appreciated perhaps is the PRC's will to sustain these operations (even if at low volumes) for years and even decades. Given the PRC's present-day rocket and missile capabilities and inventories, we must account for the real possibility of a sustained fires campaign against the main island of Taiwan that would generate far more casualties and destruction today.

Conventional strikes against Taiwan suggest the issue of nuclear weapons. Elleman dedicates an entire chapter to the history of US threats to use nuclear weapons in the context of a Taiwan Strait conflict and briefly tracks the evolution of US nuclear use policy given the advent of PRC nuclear weapons, the dissolution of the PRC-USSR alliance, and Taiwan ending its nuclear weapons program. The specter of nuclear war between two global powers hangs heavily over any Taiwan conflict. Nonetheless, US strategists must thoroughly investigate all the potentials of the nuclear factor. On the surface, it might seem the PRC enjoys a strong first-mover advantage in conducting military operations against Taiwan because the United States would not want to risk a response escalating the situation to a nuclear war. Yet, the PRC faces the same dilemma should the United States

choose either to deter with forward-postured forces or counterattack to defend Taiwan. The US second-strike capability is something Beijing cannot ignore and carries serious deterrent weight.

Another historical Taiwan conflict dynamic Elleman illuminates is the complexity of the PRC-USSR relationship and past US efforts to undermine that relationship. In simple terms, the United States sought to push the USSR and the PRC closer together so they could then be split apart (125). He argues the United States let the Chinese Communist Party (CCP) dominate China so the PRC would become dependent on the USSR for support. This closer, dependent relationship exacerbated the animosities and tensions between them and made it easier to fracture the relationship. A key mechanism in fracturing the relationship was the threat of a Taiwan conflict potentially escalating into a broader conflict in which the USSR would be vulnerable to a US attack. As the PRC pressed forward aggressively during the 1958 Taiwan Strait Crisis, the USSR fears of a wider conflict helped drive it to withdraw support from the PRC and ultimately collapsed the relationship (131–34). With a much closer PRC-Russian relationship developing today, strategists must consider what tensions exist in PRC relations that might be vulnerable in the context of a Taiwan conflict. These weak points may offer pressure points that deter or constrain military action.

Finally, the book reminds us that for much of cross-strait history the PRC has judged war with the United States over Taiwan “pointless,” since they believed they could ultimately gain control of the island through propaganda and other subversive means (147). If winning without fighting is still a core tenet of Chinese military thinking, then the United States must seek to encourage this idea and leverage its deterrent value. The most troubling trend in the military balance across the strait may not be the growth of PRC military power but rather the growth of nationalism and impatience in the CCP such that they decide it is worth fighting to seize Taiwan.



In *The Trouble with Taiwan*, Kerry Brown and Kalley Wu Tzu-hui delve deeper into PRC perceptions and attitudes toward Taiwan. The book centers on questions of identity and the powerful effects this has on thinking and actions, especially those of the PRC. This welcome find provides fresh perspectives and ideas on the cross-strait problem from British and Taiwan points of view. Distressingly, the authors identify multiple factors that seem to suggest future conflict is becoming more likely.

They first provide a very clear explanation of the importance of Taiwan to the PRC. Taiwan’s symbolic value

is bound up with the PRC's notions of its historical legitimacy and the very idea of the Chinese nation they claim ownership of. For Beijing, compromising on the status of Taiwan would mean forfeiting its claimed historical and cultural right to controlling it and would thus call into question its right to every other territorial and maritime claim, such as the South China Sea, Tibet, and Xinjiang (55–56). The CCP has based its legitimacy in the restoration of the Chinese nation. Ceding any of these claims would mean the literal breaking up of this Chinese nation—an action irreconcilable with the CCP's stated purpose. As US President Abraham Lincoln asserted in his first inaugural address in 1861, no government proper ever permits its own termination.

Additionally, the authors argue nationalism is on the march in the PRC and, for President Xi Jinping and the CCP, it is now a “core source of legitimacy” (111). Along with this shift is a burgeoning sense of urgency in resolving the Taiwan problem. While the PRC has for decades been clear it views Taiwan as one of its provinces, the authors convincingly illustrate how the PRC under Xi has been much more assertive in enforcing this claim internationally as well as at home (112). Further, Brown and Tzu-hui argue the pervasive nationalist messaging and quashing of dissenting views have created an insular and dangerous orthodoxy on Taiwan such that the CCP decisionmakers have outdated views. The authors suggest Xi's inner circle of advisers—much like with Putin and his misguided war on Ukraine—is out of touch and dares not challenge convention or present new ideas anyway (117).

Finally, the authors contend the real reason today the PRC wants control of Taiwan owes to status and face. As the PRC has grown wealthier and more powerful, its view of its status has increased. With its growth in power the PRC now has more means at its disposal today to compel “reunification” with Taiwan than at any other time in its history. These trends elevate the desire and urgency of taking control of Taiwan (220). Also, harkening back to historical notions of China as a “civilizational force” and “mother culture,” today the PRC has the strong Confucian sense of being an elder sibling to Taiwan and deserving of its respect (221). This dynamic means Taiwan cannot be sovereign in the eyes of the PRC and hence there is no room to consider any sort of relationship that would afford Taiwan equality. The PRC expects to have senior status (222). As the authors summarize: “That Taiwan has become so tied up with the PRC's own identity and definition of its self [sic], and feelings about itself, creates an almost intractable problem. To be fully China, to have the status it wants, to rank as a great global power, the PRC needs Taiwan to be part of it” (223).

Despite this bleak assessment, the authors offer some hopeful ideas. They suggest Taiwan's democracy is its best defense against PRC aggression (68). Like many other observers of Taiwan society, the authors note that increasingly

the people of Taiwan, especially younger generations, view themselves as being uniquely Taiwanese and not Chinese. While this dynamic would seem to make the possibility of a peaceful reconciliation with the mainland more remote, it does have two potentially useful effects. First, democracy holds with it the possibility that the people could choose to reunify with the PRC. This permits Taiwan to say it is not ruling out that possibility (98). Second, the unique Taiwanese identity suggests to the PRC that Taiwan has a strong will to resist. This identity raises the stakes and potential threat to the CCP's legitimacy should it fail to subdue Taiwan. No matter how confident the PRC becomes in its military power, it will have to account for the real possibility that Taiwan will resist with all means, even without US intervention.

Returning to the worst-case scenario of a US-PRC war described earlier, this presumes the United States would defend Taiwan. A great many questions have been raised concerning the likelihood of the United States risking war with the PRC over an island the size of Maryland. While the Taiwan Relations Act of 1979 does not require the United States to defend Taiwan, it is nonetheless a strong statement of US commitment to supporting Taiwan militarily and in other ways. Additionally, the Taiwan Policy Act of 2022 greatly expands US security assistance over the next four years. Most compelling have been seemingly resolute statements by President Joe Biden, twice last year and twice again this year, that the United States would defend Taiwan in the event of a PRC attack to seize the island.

These recent assurances of US commitment seem to be shifting the long-standing US policy of “strategic ambiguity” on the question of US military intervention in a Taiwan conflict. In decades past, when the United States enjoyed clear military superiority over the PLA, maintaining strategic ambiguity was a sensible approach to checking the PRC's aggressive ambitions towards Taiwan while also not encouraging Taiwan to declare independence. As the military balance across the strait no longer seems to favor the United States (or Taiwan), the utility of strategic ambiguity has arguably worn thin. Critics charge that dropping strategic ambiguity is dangerous because it hardens US and PRC positions and ripens the potential for war. This is a valid but manageable concern so long as the United States can maintain a credible capability to deny the PRC achieving its objective by force. This deterrence mission very much remains viable so long as the United States makes the necessary investments in posture, will, relationships, and capabilities in the region and beyond.

Yet, the valid question remains: are such massive investments worth it? Or, put another way, is Taiwan worth it? The clear answer is yes. Economically, Taiwan and the United States enjoy robust trade relations, particularly in goods, services, and agriculture. In the past few years, US foreign direct investment in Taiwan has

doubled to over \$31 billion, especially due to the vital semiconductor industry as Taiwan is the world's top producer of computer chips. Further, Taiwan sits astride some of the world's busiest maritime shipping lanes. Nearly 90 percent of the largest container ships transit through the Taiwan Strait every year as they connect East Asia with the Middle East and Europe.

Taiwan's geographic location also matters deeply from a military perspective. It is noted frequently that Taiwan is the central link in the island chain that sits just offshore of mainland China and effectively bounds Beijing's ability to project the PLA eastward. This island chain runs from the Russian-controlled Kuril Islands (claimed in part by Japan) in the north through the Japanese archipelago, the Ryukyu Islands and Taiwan, and the northwestern Philippine islands and ends with Borneo in the South China Sea. Less often elaborated is the military maritime advantage the PRC would gain if it controlled Taiwan. The PRC would be able to expand significantly the reach of its maritime surveillance and submarine warfare capabilities. This would leave US naval forces far more vulnerable even at great distances east of Taiwan as the PRC could significantly upgrade its long-range fires capabilities. This, in turn, would greatly complicate US naval operations and war planning generally and leave the United States with fewer practical contingency response options in the region. Also, PLA Navy and Air Force operations out of Taiwan would present a much greater direct, flanking threat to Japan and the Philippines, especially, and would open a direct attack route to Guam.

The most serious interest the United States has in preserving Taiwan is political. The United States had a mutual defense treaty with Taiwan for nearly 25 years (from 1955–79). Although the United States switched diplomatic recognition from Taiwan to the PRC in 1979, it replaced that treaty with a set of laws mandating the sale of defensive arms to Taiwan and enshrining a range of other business and cultural ties with the island. Were the United States to choose not to defend Taiwan with military force, the clear signal to allies and partners in the region would be that the United States is unwilling to defend anyone from the PRC military threat. Additionally, the United States would be standing by as the PRC snuffed out a democratic government and locked its nearly 24 million people in an industrial-sized police state. The democratic experiment in Taiwan and US leadership in the region would end (to say nothing of the damage done to US leadership worldwide). In essence, the United States would be permitting the PRC to control the region. This would immeasurably hurt the region and the United States—immediately and in the long run. It is hard to imagine the expense and suffering that would have to be borne to reverse this situation and recover US position and influence.

Preventing this outcome requires careful study of the PRC and the development of a firm understanding of its thinking. What does the PRC fear more: loss of

legitimacy from not “liberating” and “reunifying” Taiwan with mainland China or loss of legitimacy from losing a war with the United States over Taiwan? This is the critical question framing PRC decision making. If the CCP increasingly perceives that its so-called China Dream of national rejuvenation is threatened by failing to absorb Taiwan and that the United States is unwilling or unable to defend Taiwan, then Beijing might choose to use force to seize the island. This is the question and problem the United States must commit to solving.

George Shatzer

Colonel George Shatzer is the director of the Strategic Research and Analysis Department in the Strategic Studies Institute at the US Army War College.

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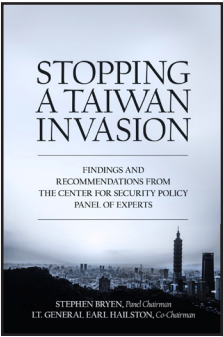


Council Special Report No. 90
February 2021

The United States,
China, and Taiwan:
A Strategy to Prevent War

Robert D. Blackwell and Philip Zelikow

New York: Council on Foreign
Relations, 2021
100 pages
\$12.99



STOPPING
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FINDINGS AND
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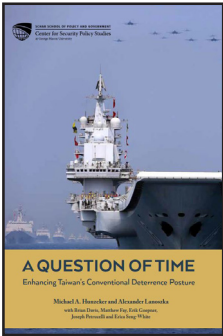
Washington, DC: Center for
Security Policy, 2022
88 pages
\$3.99



MEDIA WARFARE
Taiwan's Battle for the Cognitive Domain

Kerry K. Gershanek

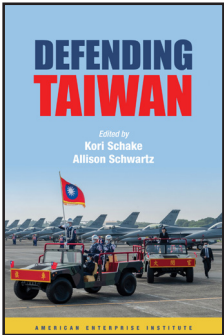
Washington, DC: Center for
Security Policy, 2021
222 pages
\$14.99



A QUESTION OF TIME
Enhancing Taiwan's Conventional Deterrence Posture

Michael A. Hennessey and Brandon J. Lemke
with Ryan Davis, Matthew Fay, Erik Gosselin,
Joseph Harrell, and Eric King White

Washington, DC: Center for
Security Policy Studies, 2018
123 pages
Free

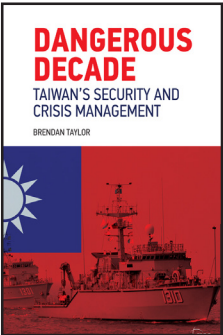


DEFENDING
TAIWAN

Edited by
Kori Schake
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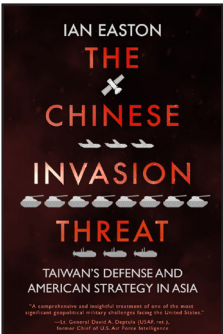
Washington, DC: American
Enterprise Institute, 2022
200 pages
\$14.99



DANGEROUS
DECADE
TAIWAN'S SECURITY AND
CRISIS MANAGEMENT

BRENDAN TAYLOR

Oxfordshire, UK: Routledge, 2020
264 pages
\$17.56



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AMERICAN STRATEGY IN ASIA

"A comprehensive and insightful treatment of one of the most
important geopolitical military strategies facing the United States."
—Lt. General David A. Dornan, USMC, ret.
Former Chief of U.S. Air Force Intelligence

Manchester, UK: Eastbridge
Books, 2019
428 pages
\$34.99

Hacking the Bomb: Cyber Threats and Nuclear Weapons

by Andrew Futter

Washington, DC: Georgetown University Press, 2018

212 pages

\$29.95

Cyber Threats and Nuclear Weapons

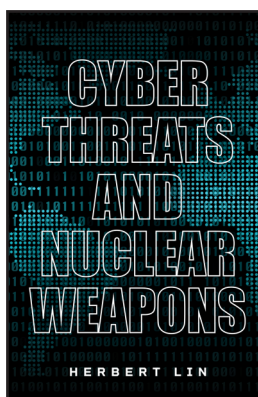
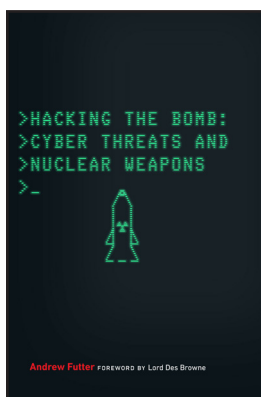
by Herbert Lin

Stanford, CA: Stanford University Press, 2021

216 pages

\$25.00

Reviewed by Jeffrey Caton, colonel, US Air Force (retired),
president, Kepler Strategies LLC



Andrew Futter and Herbert Lin have written recent and similarly titled books—which, for clarity, I will refer to as *Hacking the Bomb* and *Cyber Threats and Nuclear Weapons*, respectively—aimed at helping senior government policymakers confront the complex interactions between modern cyberspace operations and nuclear operations. The outstanding sources both authors identify reflect their seriousness and credibility as researchers. But—remarkably—their books are tepid in content and offer little new information for the cyber-nuclear dialogue.

Andrew Futter, a professor of international politics at the University of Leicester, has published an impressive list of publications on nuclear weapons, missile defense, and cyberspace. In *Hacking the Bomb*, he aims

“to assess, examine, and explore what this new global [cyber-nuclear] context means” for nuclear weapons, forces, and strategy (4). He posits this task is based on two dynamics: increasing use of information technology in nuclear weapons management and emerging new cyber capabilities. He organizes his treatise into four parts addressing the nature of the cyber-nuclear challenge, what hackers might do to nuclear systems, the cyber-nuclear nexus at the strategic level, and challenges for the cyber-nuclear future.

Part I of *Hacking the Bomb* begins with an abridged historical contextualization of the “cyber challenge,” as Futter calls it, “involving four different domains of analysis: physical/mechanical, logical, informational, and human/cognitive” (23). Futter rails against the imprecise language that clouds ongoing cyber debate, but he uses imprecise and inconsistent terminology. With his context established, Futter explores the vulnerabilities of nuclear systems and their implications for the goal of ensuring weapons are always available when properly initiated but never available to unauthorized users. He emphasizes the increasing complexity of such command-and-control processes and suggests “a key part of the cyber challenge for nuclear systems security will be intrinsic, and not involve any attackers at all”—that is, normal accidents may be more likely to occur (45).

Part II opens with a concise summary of information breaches at the Departments of Defense and Energy with implications for nuclear weapon development. He surmises the cyber-espionage threat “probably represents more than 90 percent of the cyber challenge that we currently face in the nuclear realm” (69). Such statements are indicative of Futter’s cavalier prioritization within his analysis that undermines the credibility of his synthesis. After all, are readers to believe the other material in this book addresses less than 10 percent of the cyber challenge? The remaining chapter of Part II explores how cyberattacks could lead to the unauthorized use of nuclear weapons or the disruption of authorized use. It largely rehashes well-known historical cases of cyberattack of nonnuclear systems and includes another account of Stuxnet.

Part III focuses on the strategic level of nuclear weapons and cyber deterrence with a discussion marred by simplifications and debatable assertions. Futter reveals his implicit bias of viewing cyber operations in Clausewitzian terms while treating nuclear operations as Jominian. To wit, Futter declares, “though we have come to understand just how powerful and destructive nuclear weapons are during the past seventy years, the same cannot yet be said for the diverse range of threats posed by the much newer cyber challenge” (95). Unlike atomic bombs, thermonuclear weapons have never been used in combat. Thus, while the immediate effects of nuclear warheads may be characterized by tests and analyses, the

strategic effects of actual nuclear conflict remain unknown. To his credit, Futter raises the topic of a US declaratory nuclear policy with regard to potential aggression in cyberspace, citing the foundational 2011 International Strategy for Cyberspace. Yet, his narrative on how cyber operations may affect nuclear escalation is an unbalanced collage of existing issues surrounding an emerging “cyber-nuclear security dilemma”—a term he fails to define (119). Fixed on the negative implications of cyberspace, he fails to consider how information provided through cyberspace may enhance lucid decision making.

In Part IV, Futter examines nuclear weapon modernization and advanced conventional weapons through the lens of technological determinism where “technology drives social and societal change” (132). He tackles this broad topic by describing potential military capabilities with vague cyber-nuclear connections. The chapter concludes with unfounded speculation about a potential revolution in nuclear affairs and the third nuclear age. *Hacking the Bomb* ends with a whimper, its final chapter laden with adages and conjecture about the cyber-nuclear future. Despite his preceding insights, Futter can muster only three trifling recommendations: develop a consensus on what the term *cyber* means; protect nuclear systems against direct cyberattacks; and include cyber operations in other emerging strategic dynamics, such as nuclear arms control.

Hacking the Bomb promises a fecund discussion with a propitious opportunity to expand the dialogue surrounding the strategic use of cyber and nuclear capabilities. But its delivery is often repetitive and wordy with a diluted sense of priority in analysis—Futter identifies too many issues as *the* central concern. Certainly, much serious work went into the research of the book—to which its impressive, well-documented array of authoritative references attest. But its lack of a congruent lexicon or balanced analyses facilitates an ambiguous and unilateral discussion neither favorable to educate novices nor to inform serious decisionmakers.

Herbert Lin holds research positions at Stanford University’s Center for International Security and Cooperation and Hoover Institution. A recognized expert on policy-related aspects of cybersecurity with a list of publications on par with Futter, Lin has little discernable experience with nuclear weapons. His version of *Cyber Threats and Nuclear Weapons* walks readers through background material and cyber-nuclear context, cybersecurity lessons for nuclear modernization, nuclear scenarios with cyber risks, and imperatives for the future. His target audience is White House and congressional policymakers who will influence the next *Nuclear Posture Review*. Lin claims “[t]his book addresses the relationship to and possible impact of cyber technology on all aspects on U.S. nuclear

forces and operations” (ix). With this statement, Lin establishes a vast—but ultimately unachieved—scope of effort.

The first two chapters of the book provide very basic information on cyberspace and nuclear operations. Although the use of artificial intelligence is increasing in many cyberspace applications, Lin wisely defers any related discussions to other venues. While he notes the *2018 Nuclear Posture Review* includes strategically significant language “to indicate that the United States might contemplate a nuclear response to certain kinds of cyber attack” he explicitly decides not to address it in the book (27). His examples of cyberattacks—such as those on Sony Pictures, the Office of Personnel Management, and US election media sites—have no direct connection to nuclear operations.

While Lin’s third chapter on the US nuclear enterprise is the longest chapter, it is far from comprehensive. Its content reveals Lin’s forte is cyberspace, and that his aptitude for strategic nuclear affairs is questionable. A major portion of the chapter rehashes a 2019 report by the US Government Accountability Office that explored cyber vulnerabilities for weapon systems. Inexplicably, Lin completely ignores the 2019 version of Joint Publication 3-72, *Nuclear Operations*—a document that should be mandatory for anyone exploring an authoritative model of the nuclear enterprise.

The fourth chapter, “Cybersecurity Lessons for Nuclear Modernization,” is short and forgettable. Its content has little direct relevance to anything nuclear, with only examples of mundane issues, such as physical security, Internet service outages, and supply chain vulnerabilities. The next chapter presents six scenarios designed to highlight cyber risks in nuclear crises, the first four of which are predictable and basic. The other two scenarios do not involve direct cyberattack on nuclear systems but deal instead with the use of social media to influence decisionmakers. Unfortunately, Lin does not discuss the concepts of information warfare and strategic communication that would contextualize such indirect attacks facilitated by means of cyberspace.

The sixth chapter is the book’s intended core contribution to the cyber-nuclear dialogue and offers six observations and eight imperatives. None of the observations are original, and most involve cyber risks applicable to all modern weapons systems. The fourth observation, “[t]he legacy NC3 [nuclear command, control, and communications] has not failed catastrophically since 1985,” is notable in that Lin neglects to give readers any clue as to what happened in 1985 (134). The companion eight imperatives are equally unremarkable—neither new nor unique to the nuclear enterprise. Like Futter, Lin’s final chapter attempts to convince readers

that the book provides a novel way ahead for decisionmakers to address cybersecurity in ongoing nuclear modernization efforts.

The back cover of *Cyber Threats and Nuclear Weapons* declares the work is “the first book to consider cyber risks across the entire nuclear enterprise.” Clearly, this claim is erroneous, considering Lin cites Futter’s *Hacking the Bomb* and fails to address significant portions of the nuclear enterprise. Like Futter, Lin often repeats himself and does not apply consistent terms and logic in his analysis. In fact, the unique and topical material in Lin’s tome likely could be reduced to the length of a *Parameters* article. Such a concise and focused piece might better draw the attention of busy staffers in any presidential administration.

Both books suffer from at least three fatal flaws: scope, context, and military operations. First, Futter and Lin opt to tackle a research scope far too broad for a single book. The lack of systematic approaches for their analyses as well as blurring of the tactical, operational, and strategic aspects of both cyber and nuclear operations further hamper their work. In each book, nuclear war theory is simplified as a consensus dialogue vice a nuanced and evolving debate, though, to be fair, any detailed discussion of cyber or nuclear operations quickly enters the realm of classified information.

One could reduce the book’s shared central themes to: cyber operations are dangerous; nuclear operations are dangerous; and mixing cyber and nuclear operations makes both more dangerous. Yet, neither author clearly defines the term *cyber threat* nor even *risk*. They do not consider the customary model of military risk as a function of the consequences for a given event and the probability of its occurrence. Including such context would help the authors add sorely needed objective priority to their musings. Finally, like the *2018 Nuclear Posture Review*, Futter and Lin claim to consider the global environment of US nuclear weapons but provide only cursory treatment of other nuclear powers.

For military operations, neither book mentions the evolving mission of US Strategic Command, which, in addition to its current missions of nuclear strike and integrated missile defense, was the birthplace of US Cyber Command. Futter and Lin foster the latent impression that military nuclear planners are unaware of the challenges and complexities hawked in their books—a great disservice to those leaders who made the current multibillion-dollar upgrade of the nuclear enterprise possible.

In summary, Futter and Lin do not fulfill their self-assigned goals. Both books are too convoluted for casual readers and too imprecise for an informed audience. Of the two works, *Hacking the Bomb* is the better by far. Prospective readers would do well to read the last chapter of either book first to decide if the authors' destinations are worth the arduous journeys through their prose.

Book Reviews

NUCLEAR CONSIDERATIONS

Negotiating the New START Treaty

by Rose Gottemoeller

Reviewed by Lieutenant Colonel Seth A. Johnston, PhD,
chief of the Defense Threat Reduction Agency – Europe, US Army foreign area
officer, and visiting professor of political science at Universität Heidelberg

N*egotiating the New START Treaty* is an instant classic. This firsthand account by the treaty's chief US negotiator is at once a memoir, case study in international negotiation, primer on arms control, guidebook for domestic government process and politics, and compendium of lessons for national security leaders at all levels. Its author, Rose Gottemoeller, writes with the authority and perspective of a deeply informed and groundbreaking stateswoman who later served as Under Secretary of State for Arms Control and International Security, then Deputy Secretary General of NATO. Its pages exemplify clear and engaging writing, illuminating a complex topic with relatable personal reflection and humor. Its timeliness cannot be overstated, as Russia issues nuclear threats in the course of its war in Ukraine, and the treaty will expire in just over three years. I would highly recommend this book to arms control specialists and general readers alike.



Your reviewer has known the author and her family for the better part of three decades. But you may judge the fairness of this review insofar as its conclusions reinforce the wide-ranging acclaim the book has already attracted. Its cover alone features strong endorsements from six of the most highly respected and senior international security practitioners, including three former cabinet secretaries. Henry Kissinger calls the treaty “the most significant arms control agreement of recent decades.” The book also earned the 2021 Douglas Dillon Award for a Book of Distinction on the Practice of American Diplomacy.

Negotiating the New START Treaty follows a chronological structure, with most of the action focusing on the twelve-month period beginning April 2009, when the US and Russian presidents agreed in London to begin negotiations for a successor to the Strategic Arms Reduction Treaty (START), and ending with their signing the new treaty in Prague in April 2010. Encounters in Rome, Geneva, and Moscow during this period are the essence of the work's focus on negotiation. The book also contains three other important sections. Chapters on

the Senate ratification process in Washington after the treaty's signing are essential to the overall story of how the New START Treaty came into force, as well as the larger strategic and political context in which the treaty was considered. A final chapter on "Lessons Learned" explicitly aims to be "food for thought for future negotiators" and could serve as a standalone reference for practitioners (171). The opening prologue and introductory chapter provide important framing facts about arms control and US-Russian relations, as well as the author's individual career experience in both areas. That individual history not only serves to underscore the author's expertise, but also aims to "inspire new negotiators to enter the game" and "maintain a clear-eyed sense of where U.S. national interest lies" (xxii).

Several themes and arguments throughout *Negotiating the New START Treaty* are especially relevant to senior members of the defense community.

First, the New START Treaty is one of a diminishing number of arms control agreements. Many of the Cold War-era arms control agreements negotiated with the Soviet Union have either lapsed or been withdrawn. The urgency to complete New START more quickly than previous agreements owed to the demise of the original START treaty in 2009. The Anti-Ballistic Missile Treaty, Intermediate-Range Nuclear Forces Treaty, Open Skies Treaty, and Conventional Armed Forces in Europe Treaty are among those from which countries have withdrawn formally or suspended participation. The war in Ukraine and COVID-19 pandemic have frustrated implementation of those that remain. Despite all that, Russia and the United States agreed to a one-time five-year extension of the New START Treaty in 2021, such that it will remain in force until February 4, 2026. Such facts contribute to the notion of New START as the "Gold Standard Treaty" (vii).

Second, Gottemoeller argues consistently in this book for a vision of arms control not as something to do for its own sake but rather as a means to serve the national interest and strengthen national security. This view is increasingly prominent, as both the 2022 National Security Strategy and NATO's 2022 Strategic Concept describe arms control in terms of its connection to effective deterrence and defense.

Third, arms control negotiation requires interagency participation and defense expertise. For expertise on US weapons systems and capabilities, there is no substitute for the actual operators of those systems. For expertise on implementation and verification, experienced arms control inspectors "knew what had worked and what had not in previous nuclear arms control regimes" and "how to make the most of the time that would be available on inspections" (177). To demonstrate a coherent and coordinated interagency position, the book repeatedly features the importance of the so-called backstopping process for developing instructions.

Fourth, related to the above, knowledge of how to negotiate arms control agreements has atrophied as their number has dwindled. This dynamic has increased the value of expertise where it remains and argues for efforts to preserve that expertise and sustain relevant capabilities for the future. Most relevant expertise, whether technical or weapons related, language skills, or procedural and political understanding, takes time to develop. The original START treaty was negotiated over a decade, compared to a year for New START. Shorter negotiation timelines further increase the value of preexisting expertise.

Fifth, *Negotiating the New START Treaty* teaches ample lessons on leadership. Some lessons, such as detailed reflections on entertaining for Thanksgiving (75–78) and Easter (135–38), may reflect norms or practices specific to a diplomatic environment. But the underlying issues in those lessons—morale, motivation, leader engagement, and team cohesion—are widely applicable. Other lessons, such as “define your security objective and stick with it” (171), should resonate directly with national security professionals in any environment. Throughout the book, Gottemoeller commonly attributes successes to others or to the team, while treating setbacks either as her own responsibility or as lessons that can be learned without naming names. *Negotiating the New START Treaty* is therefore not a memoir of gossip or score settling but rather of conveying practical knowledge and wisdom. This constructive, results-oriented emphasis makes *Negotiating the New START Treaty* itself an honorable public service.

Arms Control for the Third Nuclear Age: Between Disarmament and Armageddon

by David A. Cooper

Reviewed by Amy F. Woolf, nuclear weapons policy specialist,
Foreign Affairs, Defense, and Trade Division, Congressional Research Service,
Library of Congress

David A. Cooper, in *Arms Control for the Third Nuclear Age*, argues “the transition to a fundamentally different nuclear landscape will require significant adjustments to long-standing post-Cold War approaches to U.S. nuclear policy and diplomacy” (6). Cooper distinguishes between Cold War arms control built on a “mutual deterrence paradigm” designed to mitigate nuclear risks and post-Cold War arms control based on a “denuclearization paradigm” designed to bolster disarmament and nonproliferation (6). He argues the United States should return to the former model because the



“post-Cold War system of multilateral nonproliferation and bilateral disarmament arrangements was never designed to manage a great-power nuclear arms race” (26).

Cooper notes, as nuclear deterrence theory developed in the late 1950s and 1960s, arms control was a “tough-minded and pragmatic national security tool” (40) designed to manage and reduce incentives for nuclear threat (41). The goal was to find and preserve a “stable strategic nuclear balance” (51), which required maintaining first strike stability, crisis stability, and escalation stability (54). The United States and Soviet Union needed forces that could survive and retaliate after a nuclear attack; thus, arms control measures should favor forces better suited for a retaliatory strike rather than a first strike (54).

Cooper demonstrates this approach with an overview of the US-Soviet/Russian arms control process in what he admits “is not a history in any proper sense” (78). He aims, instead, to “show how classic arms control theory evolved through real-world experience” (78) and to demonstrate Cold War “nuclear arms control was pursued . . . with strategic stability as its topmost goal” (76). The treaties supported deterrence by ensuring the United States could maintain a secure retaliatory force (79). He highlights the 1972 Anti-Ballistic Missile Treaty’s limitation of systems able to intercept second strike missiles and the 1991 Strategic Arms Reduction Treaty’s (START) limitation of systems vulnerable to preemptive attack and therefore more useful for a first strike.

Cooper asserts arms control makes several lessons evident—such as the premise the United States should “arms race toward arms control” by building up its forces to provide incentives for adversaries to negotiate limits (108). He also argues this history shows the comparative ease of negotiating preemptive controls on weapons in development rather than cutting deployed systems (88). Although analysts often cite these lessons in arms control assessments, neither is fully supported by the facts.

Cooper’s understanding of the relationship between arms control theory and Cold War-era agreements would benefit from a fulsome review of arms control history. His analysis contains numerous errors about these agreements: he misunderstands the Congressional debates for some, offers faulty summaries of the provisions in others, and identifies inaccurate negotiation goals for many. These faults appear to stem from his reliance on single-source interviews rather than official documents or detailed reviews of the negotiating process. In one case, he claims the 1979 Strategic Arms Limitation Treaty (SALT II) failed in the Senate because members were concerned about the US ability to verify Soviet compliance. SALT II failed for a number of reasons—key among them the campaign by critics who highlighted concerns about the Soviet advantage in large, multiple-warhead land-based missiles. These concerns, which evolved into the

notorious “window of vulnerability,” advised the Reagan-era proposals for START, and their absence from Cooper’s review of SALT II is a surprise.

Cooper argues the links between deterrence, stability, and arms control receded in the 1990s when “Washington [pivoted] . . . to a denuclearization paradigm built on the tandem pillars of nonproliferation and disarmament” (118). He finds evidence of this in the program cancellations and deep reductions supported by the Bush administration and in the Clinton administration’s effort to implement further reductions through the START II and potential START III treaty. Yet, he never mentions that the demise of the Warsaw Pact and collapse of the Soviet Union had sharply reduced the numbers of targets the United States would seek to destroy in a conflict; thus, the United States could eliminate thousands of warheads without undermining deterrence or stability. Military planning—not a theory of arms control—produced the changes he cites in the US nuclear force posture.

Cooper notes the emerging arms race is technological—not numerical—and asymmetric with multiple countries pursuing a range of new capabilities (163). Consequently, he argues, strategic stability “is at real and imminent risk” (163). In this vein, Cooper identifies emerging technologies likely to undermine stability—in particular, hypersonic glide vehicles capable of carrying nuclear warheads to intercontinental range—and evaluates arms control measures capable of addressing these weapon types.

Cooper argues the United States should invest in destabilizing technologies—thus arms racing toward arms control—and pursue limits to constrain them early, as success would be more difficult after their deployment. This contradictory advice is inconsistent with the history of US-Soviet arms control. US-Soviet treaties have addressed weapons not yet deployed in great numbers, and the two nations agreed to limit these weapons only when they lacked military capabilities that would justify the costs of their deployment. Arms control did not impede the deployment of weapons the parties considered essential to national security. Thus, military requirements informed US and Soviet negotiating positions. In addition, a proposal for the United States “to procure weapons without military requirements to “arms race toward arms control” runs counter to the weapons acquisition process and represents a potential diversion of defense funding from high priority programs.

Cooper’s central thesis of arms control’s ability to serve national security by bolstering deterrence and helping to maintain strategic stability is sound. Looking back, he sees evidence of deterrence theories and models of strategic stability affecting the terms of agreements signed during the Cold War. Yet, he fails to recognize the role military planning and targeting requirements played in determining the size and structure of the US nuclear arsenal and

in crafting acceptable arms control proposals. Although political leaders can cite theories of deterrence when describing why the United States chose its force structure and arms control positions, history shows these theories played a far smaller role than Cooper portrays. Recognizing the improbability of arms control limiting weapons nations view as essential to their national security would provide Cooper a stronger tool to assess whether arms control can mitigate emerging threats to strategic stability.

RUSSIA

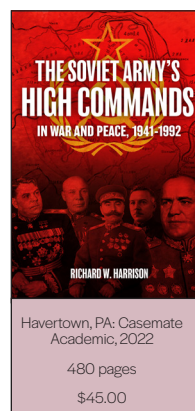
The Soviet Army's High Commands in War and Peace, 1941–1992

by Richard W. Harrison

Reviewed by Dr. Robert Hamilton, research professor, Eurasian Studies,
Strategic Studies Institute, US Army War College

Richard W. Harrison's book *The Soviet Army's High Commands in War and Peace* chronicles the development and operational record of the High Commands, a peculiar formation in the Soviet Army that sat—often uneasily—between fronts comprised of several armies, and the supreme political-military authority in Moscow. The first thing readers if this book might ask is whether it needed to be written. By the author's own admission, the role of the High Commands in the Second World War was limited in scope and mostly undistinguished in achievement, and the post-war High Commands never saw combat. Notable wartime commanders such as Giorgi Zhukov and Aleksandr Vasilevsky give short shrift to the High Commands in their memoirs. Fortunately, the book's title is modest: it is about far more than the High Commands.

The book tackles the development of Red Army doctrine and strategy, the problems of military geography (matching forces to terrain and enemy), command-and-control arrangements, and civil-military relations in the Soviet Union. Extensive primary source research allows Harrison to delve deeply into the topics he covers. The book provides a fascinating look inside the Red Army as it fought a war for national survival and as it later navigated the Cold War, where it faced less immediate but no less existential threats. As a bonus,



Harrison intersperses dozens of short biographies of major Soviet military figures throughout the book.

Harrison lays the foundation for his examination of the High Commands with the first two chapters. Chapter 1 examines the development of Russian thinking on military geography, doctrine, and strategy against the backdrops of World War I, the Russo-Polish War, and the Russian Civil War. Harrison notes Russia's extended borders and multiplicity of threats have conditioned the Russian military mind "to think in broad strategic terms, involving the movement of large armies over broad fronts" (1). The arrangement and control of these armies bedeviled Soviet planners, who worked to establish a common doctrinal lexicon to define and differentiate the terms *theater of war*, *theater of military activities*, *front*, and *strategic direction*.

Chapter 2 reviews how the Red Army applied these theoretical concepts in its system of strategic command and control. Joseph Stalin's government formed a State Defense Committee to run the war against Germany. While this concentrated immense power in the hands of a small group, it gave the Soviet war effort focus and agility it would have lacked otherwise. A State Defense Committee decree of July 10, 1941—shortly after Nazi Germany attacked the Soviet Union—mandated the establishment of the first three High Commands: Northwestern, Western, and Southwestern. Harrison notes the "enormous scope of the conflict and the deep inroads made by the German armored spearheads increased considerably the problems of troop control" for Soviet leadership (76). The Soviet Union created the High Commands as "intermediate control [mechanisms] between the fronts and the central military apparatus" to relieve the center of some of its operational and organizational functions.

Chapters 3 through 7 examine the performance of the High Commands in World War II. Each High Command united several fronts, and each front controlled several Soviet armies. Aside from the Far Eastern High Command—formed in 1945 to prosecute the Soviet Union's war on Japan—the record of the High Commands lacks distinction. The four High Commands formed to fight Nazi Germany—the Northwestern, Western, Southwestern, and North Caucasus—struggled and mostly failed to stem the German onslaught. Harrison attributes some of their failures to their inheritance of a "disastrous . . . strategic situation," but he notes even their rare successes would have been possible with a competent front command in place of the High Command (322). The Far Eastern command inherited a much more positive strategic situation. It reaped the advantages of lessons learned over four years of war against a formidable opponent, faced a depleted enemy, and suffered less "trivial interference from the center" (351). As an added benefit, Vasilevsky, its commander, enjoyed Stalin's trust and empowered his own subordinate commanders.

A clear theme of micromanagement from Moscow emerges from Harrison's examination of the High Commands in the western theater. Sometimes this micromanagement manifested as direct communication from the Stavka (the high command of the Soviet military) with front commands or even armies, leaving the High Command out of the picture. Other times, micromanagement took the form of Stalin himself admonishing a High Command and exhorting it to fight with more grit and zeal. Given the fact that every senior Red Army officer had lived through the purges of 1937–38, this personal attention from Stalin was unwelcome, to say the least.

Harrison concludes his book by tracing the postwar arc of the High Commands. Their association with Stalin, who had a “weakness” for them, resulted in their dissolution after Stalin's death in 1953 (351). In the 1970s, when “the possibility of a major conventional war involving broad fronts and several strategic directions simultaneously” began to dominate Soviet military thought again, a debate over reviving them began (371). The accession of Marshal Nikolai Ogarkov, who had served in the Far Eastern High Command from 1949–53, settled that debate in the High Commands' favor: starting in 1979, one High Command in the east and two in the west existed until the collapse of the Soviet Union.

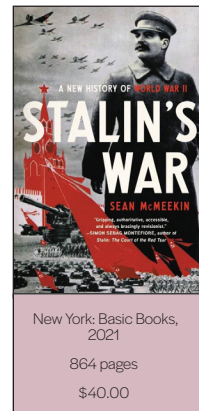
The book's lively and colorful but precise style suits its highly technical and theoretical subject matter. Livelier and more variegated language might have resulted in inaccuracies; more precise language would have made the book too dry for all but the most dedicated readers. Although the book does contain some maps, its detailed descriptions of the many campaigns the Red Army fought, especially from its founding through the end of World War II, will often leave readers wishing it had more maps—a minor flaw in an otherwise excellent book. Although not for the casual reader, *The Soviet Army's High Commands in War and Peace* provides an invaluable resource for anyone interested in the Soviet military.

Stalin's War: A New History of World War II

by Sean McMeekin

Reviewed by Dr. Reina Pennington,
Charles A. Dana Professor of History, Norwich University

S*talin's War* displays little that is new and much that is reminiscent of Cold War Soviet-bashing. The history of the Second World War and in particular the Eastern Front has already been carefully reappraised by authors utilizing the wealth of newly declassified materials and archival sources that only became available in the post-Soviet years—sources and analyses that are not used in *Stalin's War*. Sean McMeekin, a respected scholar of the First World War, not only displays a lack of expertise in tackling the Second World War, but also abandons scholarly conventions such as objectivity and reasoned argument. Instead, we are presented with an ideological work that is more diatribe than monograph.



The title is a statement of the author's argument that the Second World War "was not Hitler's war at all" but Joseph Stalin's war (2). The author spends 670 pages bashing the Soviet Union. Even the photographs amount to a tirade. Of 50 photographs in the book, 18 show American or British equipment used by the Soviets, with only six photos of Soviet-produced equipment; 12 photos show Soviet invasions and atrocities while one shows Soviet defensive actions; and two photos show German atrocities.

In McMeekin's view, the Western Allies were bullied by Stalin. McMeekin continually suggests that the Lend-Lease Act was the main factor in the Soviet military victory. He even suggests that the United States and United Kingdom should have attacked the Soviet Union rather than aiding it. Far from being a new interpretation of history, this idea simply dusts off the tired conspiracy theories of the Cold War.

There are more errors, exaggerations, and counterfactuals in this book than I can begin to delineate in this brief space, some of which have been examined in more lengthy reviews. One of those reviewers, Omer Bartov, sums up *Stalin's War* as riddled with "bizarre assertions and outlandish speculations, held together under a well-weathered ideological umbrella masquerading as a daring new

interpretation of the past” (Times Literary Supplement 6174, July 30, 2021). I cannot put it any better than that.

Chapter 24, “Lend-Lease and Stalingrad,” exemplifies the weaknesses of this work. The chapter opens with a line about the “stupendous” amount of goods that “Stalin’s agents were able to requisition” from the United States before Stalingrad and goes on to state that “the Russians had blown through the first \$1 billion already” (403). Lend-Lease aircraft amounted to roughly 12 percent of what the Soviets produced during the entire war, and most arrived after Stalingrad, so it is hard to conclude that Lend-Lease aircraft were a major factor in 1942. In the book *When Titans Clashed* (University of Kansas Press, 1995), David M. Glantz notes that “Lend-Lease aid did not arrive in sufficient quantities to make the difference between defeat and victory in 1941–1942” (Glantz, 285). The same chapter concludes with the statement that “it is an imperishable historical fact that Anglo-American capitalism helped win the battle of Stalingrad” (432). Given that the Red Army was tying down the vast majority of the Wehrmacht from 1941 to 1944, it would be just as accurate to say that “it is an imperishable historical fact that Soviet communism helped win the battle of North Africa”—or D-Day, or any battle in Europe throughout the war, for that matter.

There is no context of the big picture of Lend-Lease: of roughly 50 billion dollars spent by the United States, 63 percent went to the United Kingdom and only 23 percent to the USSR. Since the United Kingdom received nearly three times as much Lend-Lease aid as the Soviet Union, it is incongruous to portray Stalin as a greedy bully with “exorbitant military and war-industrial needs” (404–5). It is also absurd to describe Lend-Lease as “unreciprocated American generosity,” (publisher’s blurb) given the horrendous price paid in blood by the Soviet people in absorbing the main efforts of the Wehrmacht. Millions of German soldiers and dozens of divisions were eliminated that the United States might otherwise have had to face.

John Barber and Mark Harrison in *The Soviet Home Front, 1941–1945* (Longman, 1991) provide a far more balanced and accurate view of Lend-Lease.

All this was supplied free of charge to the Soviet Union, but it was never an act of charity. Both the British and Americans understood that the main thing was to encompass the defeat of Germany . . . the only people engaged in direct combat with the German ground forces were Russians, and it was in the western Allies’ own interests to help them (189).

Stalin was a reprehensible dictator responsible for the deaths of millions. Soviet-American relations were difficult at best. How does one treat this subject with proper objectivity? Many authors have done so. Serhii Plokhy’s excellent *Forgotten Bastards of the Eastern Front* (Oxford University Press, 2019) offers an in-depth, balanced treatment of Americans and Soviets involved

in *Operation Frantic*. Mark Stoler offers a superior critical analysis of diplomatic relations in *Allies in War* (Bloomsbury Academic, 2007) and *Allies and Adversaries* (University of North Carolina Press, 2000).

I cannot recommend this book. Readers should turn instead to Evan Mawdsley's *World War II* (second edition, Cambridge University Press, 2020), to Michael Jones for credible popular history, and to anything written by Robert M. Citino, C. J. Dick, David Stahel, and, of course, the inimitable David Glantz.

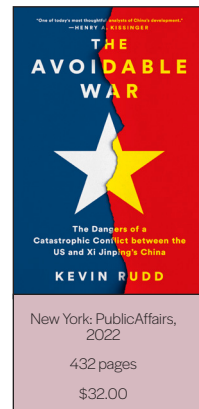
CHINA

The Avoidable War: The Dangers of a Catastrophic Conflict between the US and Xi Jinping's China

by Kevin Rudd

Reviewed by Dr. Andrew Scobell, distinguished fellow,
United States Institute of Peace

This is a mistitled book. The volume holds much promise and great insights, but readers may be disappointed because the contents do not match the cover. Kevin Rudd, the author, is a high-profile influencer and prominent former government official with a significant academic background in Chinese studies and extensive real-world experience with China. Rudd studied China and Chinese at the university level and went to have a distinguished public service career in his native Australia where he rose to the pinnacle of power—first as foreign minister and later as prime minister. He is currently president of the Asia Society and based in New York. The book's title is an attention grabber, raising reader expectations that the volume will focus on the specter of war between the United States and China and concentrate on how the two sides might avert such a frightening conflagration.



On balance, the book is well worth a gander. Rudd's central argument is the "best chance of avoiding war is to better understand the other side's strategic thinking and to conceptualize a world where both the [United States] and China are able to competitively coexist" (18). In this reviewer's judgment, the volume has three key takeaways. First, Xi Jinping will likely remain China's senior leader "well into the 2030s," and he has an ambitious set of goals—"ten concentric

circles of interests”—placing his country on a potential collision course with the United States (11–12). Second, as a result of Xi’s ambitions, the 2020s will be, in Rudd’s view, “the decade of living dangerously” for the United States and China (331). Third, despite the very real threat of war, the two countries can avert military conflict if both make concerted efforts to understand the other’s interests and priorities and choose the path of what Rudd dubs “managed strategic competition” (13ff).

While all three key takeaways are worth delving into, the latter two require less page turning—each is contained in a single chapter—but more reader reflection. In Chapter 16, Rudd usefully sketches out ten scenarios for the future, most of which involve either direct conflict or military confrontation between China and the United States. These scenarios underscore three insights regarding the potential for conflict often overlooked in the current overarching rubric embraced inside the Beltway of long-term China-United States competition. The first insight is war between the United States and China, though increasingly conceivable, is not inevitable—at least not with the kinds of conventional military campaigns studied in US institutions of professional military education. The conflict could start in or be confined to the non-kinetic realm of cyberspace or other gray zones. Second, any war is not likely to be instigated by the two countries in a vacuum or to unfold as a two-player contest. Other countries and actors have agency and can spark or complicate a war for one or both of the main protagonists. Third, Taiwan is not the only potential location or trigger for a China-United States military conflict. Although the Taiwan Strait is the most plausible scenario for a war and Taiwan has long been the most contentious issue in China-United States relations, other flashpoints and hot button issues could escalate and bring Washington and Beijing to the brink of avoidable war.

While readers are treated to a thoughtful and fluid discourse about China, the volume does not zero in on a China-United States military conflict—how it might start, how it might be fought and how it might end—nor does it give much attention to how the two sides might avoid it until 330 pages in. Indeed, much of the book—11 of 17 chapters—concentrates on providing the reader with a cogent and absorbing account of how China’s senior-most leader sees the world. Moreover, given the author’s wealth of life and work experience in China, and, most relevantly—given the true focus of the book—his multiple interactions and conversations with Xi over the years, readers will look in vain for citations and sources for Rudd’s insights and observations. This is unfortunate, since one is left to wonder whether a particular judgment or comment is the author’s “best guess” expert opinion based upon years of experience or grounded in a specific primary or secondary source.

Rudd insists he did not set out to write an academic tome, and hence, has deliberately eschewed footnotes or even a bibliography in an effort to reach

a wider audience. Yet, the “intelligent general reader” is precisely the person likely to hunger for more and wonder where to look for authoritative and accessible writings on a host of China-related topics (17). It is a pity Rudd did not decide to tack on a shortlist of sources or recommended readings at the end of each chapter.

Nevertheless, there is so much to like about and learn from this book. Readers almost certainly will be left wanting more—but will probably be unsure of where to look for it.

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Antulio J. Echevarria II, Editor in Chief, US Army War College Press

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