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NAVAL WAR COLLEGE REVIEW

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Cover

A graphic conceptualization of integrating quantum technology into the future Navy and naval warfare is represented by two legacy warships and a stylized molecule superimposed over streams of binary code. In "NATO and Emerging Technologies: The Alliance's Shifting Approach to Military Innovation," Stephen Herzog and Dominika Kunertova explore how NATO's traditional schemes for developing, adopting, integrating, and standardizing innovative military technologies during the Cold War have begun to change (and must evolve further) in the twenty-first century to address both how the commercial and industrial base for new technologies has expanded beyond traditional defense contractors, and the radical nature of emerging and disruptive technologies such as artificial intelligence and quantum computing.

Source: U.S. Navy illustration by Naval Information Warfare Center Pacific.

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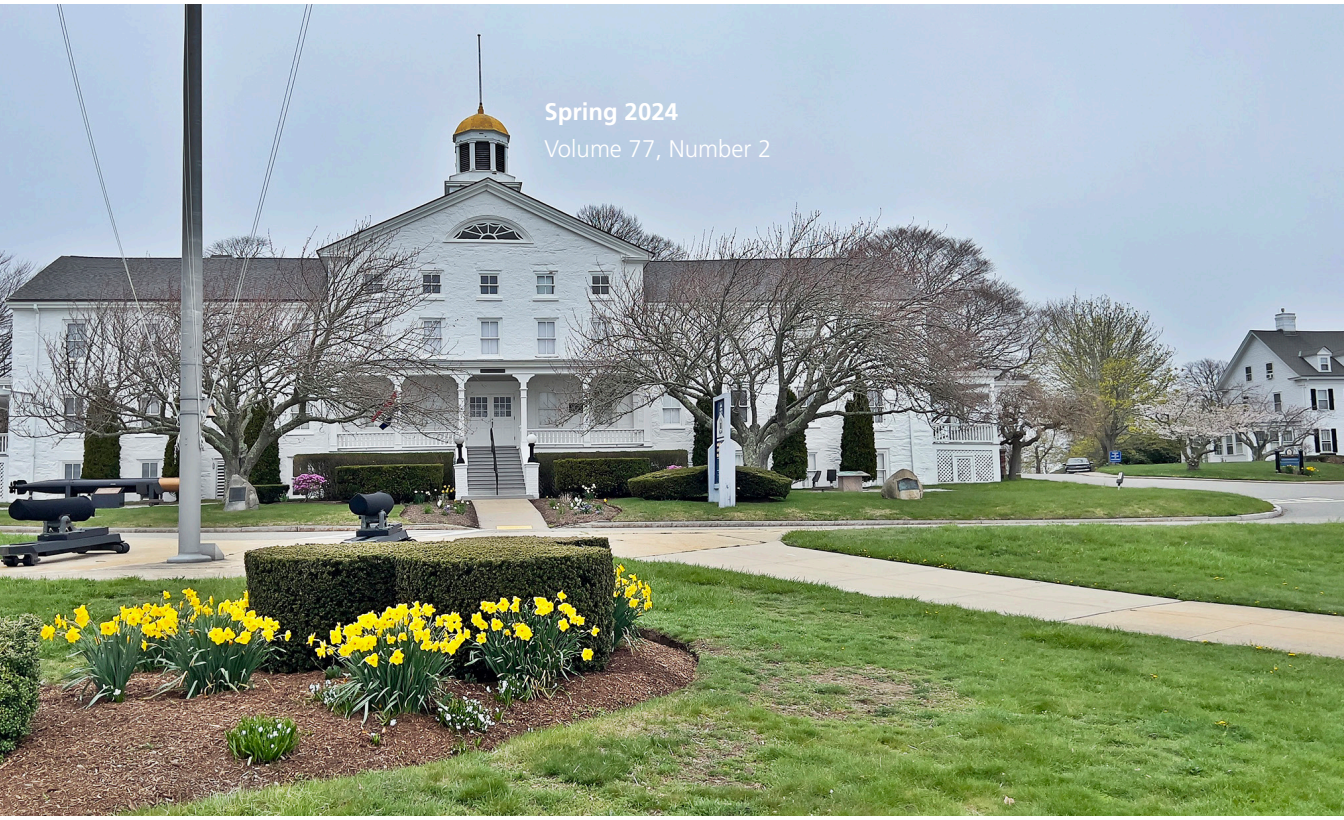

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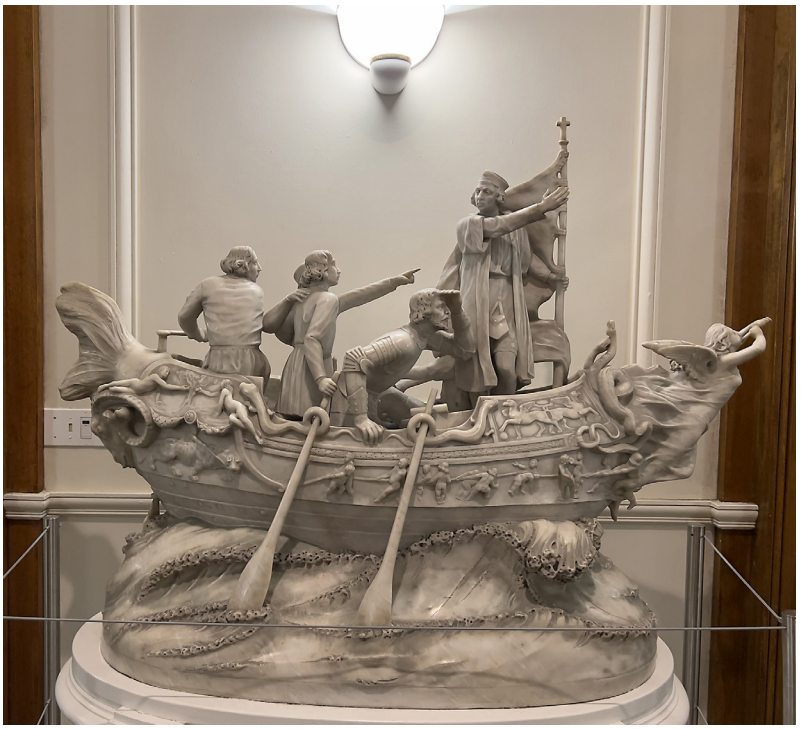

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FROM THE EDITORS

Long-time *Review* readers will notice this editors' letter is longer than normal. We are introducing not only this issue's articles but also important developments in the Naval War College Press and the future of the *Review*. We want this letter to renew scholarly conversation on what clearly is an era in which the sea—and thus navies—will play an outsize and dynamic role in world politics, the global economy, and the future of the planet.

Rear Admiral Darryl "D-Day" Walker, the new President of the Naval War College, is only one of the recent changes for the Press team. Captain Michael O'Hara, formerly chair of the College's War Gaming Department, has stood up as interim dean of the Center for Naval Warfare Studies, where the Press resides within the College. Steven Stashwick, formerly an associate editor in the Press, has taken over as managing editor. Outside his work for the Press, Steve has long operational and staff experience as both an active and reserve naval officer. His own writing and research focus on Sino-U.S. competition, East Asian naval developments, U.S. defense policy, and the strategic impacts of climate change. Jon Caverley has been appointed interim editor in chief. He is a professor in the Strategic and Operational Research Department, where he was the inaugural director of its Bernard Brodie Strategy Group. A political scientist with wide research interests, he most recently has published on the operational value of Taiwan and the role played by gender and veteran status in influencing security policy. Much of his directed research supports future fleet efforts in the Office of the Chief of Naval Operations.

Our new team has set substantive and procedural goals for the *Review*. Substantively, we seek to renew the *Review*'s intellectual focus on encouraging, improving, and disseminating the world's best research on subjects relevant to the mission of the U.S. Naval War College. We publish across a wide range of subjects and disciplines, with a special attention to history, but we prioritize work supporting the strategic guidance conveyed in the College's "sharpened" mission statement described in Rear Admiral Peter Garvin's farewell letter. These subjects broadly include but are not limited to force design, high-end conflict, deterrence, emerging technology, and logistics. We execute our mission with editorial independence, through a combination of an active editorial board with a global

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reputation, a rigorous double-blind peer-review process, and an editorial team with open minds and high standards.

The Press prides itself on being a venue for work that is always scholarly but not necessarily or exclusively academic. We seek a wide range of authors with excellent ideas and research, and we possess the editorial talent to work with any promising submission to maximize its intellectual impact. Given the Navy's global orientation, the nature of the maritime world, and the College's status as an international standard setter for professional naval education, we seek a global audience and authorship. Finally, we measure our impact not just in citations and academic engagement, but by placement of *Review* articles on syllabi both within and beyond other war colleges, as well as the delivery of actionable insight to policy makers.

Measured improvements in our editorial process may be the most essential component in executing our renewed mission. The Press currently is hiring multiple associate editors after a significant period of being understaffed. This new team will revise the editorial practices to better serve our authors, reviewers, and readers. This includes modernizing and speeding up our submission and refereeing system, setting high standards for reviewer and editor feedback (regardless of publication decision), posting accepted articles online in a timely manner, resuming a predictable *Review* publication schedule, and publicizing work to the fleet, staffs, and the wider public.

This issue's articles cover a wide range of the subject matter on which the *Review* team will focus going forward: our traditional topics of history and international law with application to contemporary problems, the underresearched problem of contested logistics in wartime, the increased salience of China's People's Liberation Army Navy, and the rapidly developing challenges in artificial intelligence and other emerging and disruptive technologies.

Tobias Kollakowski's "China's Naval Diplomacy in the Baltic Sea at the Beginning of the Twenty-First Century" draws on analysis relevant to both of the U.S. Navy's two priority theaters to demonstrate the globalized nature of maritime security competition. Chinese naval activity in the Baltic may not appear substantial or significant to U.S. observers, but given its distance from China and the small size of European fleets, these engagements amount to a significant mutual investment of scarce resources. Kollakowski finds that while the People's Liberation Army Navy's operations were designed to send *cooperative* signals to European actors (including but not limited to Russia), such information was lost within the broader, more adversarial relationship between China and non-Russian Europe. The piece powerfully illustrates how naval diplomacy can only succeed when it is integrated with the larger foreign policy of a state.

Diplomacy among allies often is as challenging as relations with competitors and equally essential. "NATO and Emerging Technologies: The Alliance's Shifting Approach to Military Innovation," by Stephen Herzog and Dominika Kunertova, examines the alliance's approach to emerging and disruptive technologies (EDTs). It is an underappreciated fact that while European members have significantly increased military spending on operations and weapons production since Russia's 2022 invasion of Ukraine, NATO still lags the United States, China, and even countries such as South Korea on research and development spending on both defense and commercial innovation. Herzog and Kunertova note the bureaucratic inertia that stymies NATO cooperation on EDTs. They also acknowledge that the management of these types of dual-use technologies often has a more direct impact on the dyadic relations between member states and China, further complicating coordination among members.

Erik Sand examines one largely forgotten but still venerable mission in "Fighting to Supply the Fight," providing a framework for scholars and policy makers to begin grappling with a new era of contested logistics. While Russia's invasion of Ukraine forced militaries to revisit complacent assumptions about supply lines and inventories, Sand observes that a major conflict in the western Pacific would make the Ukraine war look like a milk run. Sand advances a framework of three approaches that encompass—but go well beyond—the tired trade-off between efficiency and effectiveness. Sand emphasizes the particular importance of his third approach, "Forecast and Push." While Milan Vego is correct in his article later in this issue that history is an invaluable resource for understanding wartime logistics, Sand believes this should be complemented by investments in synthetic data generation and processing, wargaming simulations, and logistics exercises to develop forecasts to begin planning the distribution of limited matériel in war.

In "A Special Operations Approach to Lawfare," Justin Malzac brings the overused term "lawfare" back to the basics by applying elements of special operations doctrine to its practice. In the same way that U.S. Special Operations Command emphasizes the military preparation of the environment in advance of a conflict, Malzac discusses the potential for a *legal* analogue in which the state seeks to "shift customary and treaty law in favor of the operational activities that the state desires to pursue." Malzac then leverages other special operations practices such as "placement and access" and "by, with, and through" to emphasize the need to work with international partners well in advance of conflict.

"The Study and Utility of Naval History," by Milan Vego, explores the continued importance of studying naval history for naval professionals, a field the *Review* works hard to represent. He also adds a note of caution that there are many poor uses of history. After all, while Vego observes that "almost all great

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war-fighting admirals in the modern era were known as lifelong students of history," we do not know how many mediocre officers study this same canon. History's careful use nonetheless remains an essential tool as naval officers assess a domain that, while rapidly changing, has precedents, often forgotten, in the past.

These articles support the renewed mission and focus of the *Review* but were very much developed and nurtured by our previous, long-standing leadership: Professor Carnes Lord, who retired last fall after a lifetime of service in government and for seventeen years the director of the Press and editor of the *Review*; and Rob Ayer, who came to the Press after a full career as a professor at the U.S. Coast Guard Academy and served here as the managing editor for nearly a decade, where he navigated more than his fair share of severe challenges faced by the College, the publishing industry, and the nation. The incoming editors, the Press, and the College owe a tremendous debt of gratitude to them.

The editorial team is grateful to be entrusted as temporary custodians of this institution, and we seek feedback from both longtime and new stakeholders as we develop the Press for a uniquely consequential period of competition at sea. Please do not hesitate to reach out to the editor in chief or managing editor.

Rear Admiral Pete Garvin is the fifty-eighth President of the U.S. Naval War College and a career patrol and reconnaissance pilot. He graduated, with merit, from the U.S. Naval Academy in 1989, with a bachelor of science in aerospace engineering. Garvin attended the National War College, graduating in 2005 with a master of science in national security strategy. He is also a 2015 alumnus of the Massachusetts Institute of Technology Seminar XXI. His previous commands include the "Fighting Tigers" of VP-8, Patrol and Reconnaissance Wing (CPRW) 10, Navy Recruiting Command, Patrol and Reconnaissance Group, and, most recently, Naval Education and Training Command.

PRESIDENT'S FORUM

Preparing for the Future

AS THIS ISSUE of the *Naval War College Review* hits the streets, we look back with pride on our June 2024 graduation ceremony in which nearly eight hundred resident and nonresident students earned degrees or diplomas documenting the completion of their rigorous Professional Military Education programs. These students, representing our Navy and joint and interagency partners, as well as the maritime services of more than sixty other nations, challenged their experiences and preconceived notions and are leaving Newport as better leaders and warfighters for it.

This fall, we will pause to recognize the 140th anniversary of our College, and I would like to take this opportunity to share our recently sharpened mission statement:

> The mission of the U.S. Naval War College is to *educate* tomorrow's leaders, *inform* today's decision makers, and *engage* with allies and partners on all matters of naval power in order to preserve the peace, respond in crisis, and win decisively in war.

We will achieve this mission by delivering an education that integrates rigorous and relevant curricula with world-class research; engaging in cutting-edge analysis of concepts, plans, and mature and emerging technologies; and conducting outreach and engagement with naval, joint, interagency, and international partners and other stakeholders to enhance interoperability, build partner capability and capacity, and foster a network of enduring relationships.

During my tenure as President, I have come to more fully appreciate the degree to which this institution is an adaptive organization, constantly evolving to best serve our students and the national-security enterprise as a whole. Over many decades, we have validated the efficacy of our three core courses:

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Strategy and Policy, National Security Affairs, and Joint Military Operations. These curricula are revised and incrementally refined to incorporate topics reflecting current affairs and trends in the national and global military environments—all while maintaining a focus on the enduring nature and changing character of war. These core courses, in conjunction with our outstanding electives program, are the *foundation* for what we do here in Newport. But more is required.

We also convene two other mandatory courses that round out and enrich the educational experience our students engage in during their ten-month academic year. Our *Leadership in the Profession of Arms* course, launched in 2018, provides students with the opportunity to focus internally as leaders, reflect on past performance, examine personal strengths and weaknesses, develop new competencies, and strengthen their personal character to enhance their ability to lead in complex and dynamic environments. The course takes students through a self-learning journey that combines educational rigor and professional relevance. In so doing, it enhances their ability to self-assess their knowledge, skills, and abilities, improves their ability to apply critical thinking to the problems that they encounter, and strengthens the character traits needed by our nation's future military and national-security leaders.

Launching this coming academic year, our new *Perspectives on Modern War* course will ask our students to analyze the issues that joint, combined, and interagency leaders face. They will take lessons from the core curriculum and apply them to emerging challenges in the international security environment. Content from lectures, guest speakers, symposia, seminars, reading assignments, and wargaming results will be synthesized to enable students to answer the most critical war-fighting questions of the day. The course is structured such that students participate in a learning community or cohort that will stay together through the whole academic year rather than change groups every trimester, as happens in their other courses. This will strengthen the relationships built among the students and serve as another intersection for the sharing of ideas and experiences.

Our education initiatives are only part of what we do here at the College. In April 2024, we traveled to Goa, India, for a regional alumni symposium. Along with the Indian Naval War College, we co-hosted a first-of-its-kind Indo-U.S. Naval War College Conference. In May, the College hosted the tenth annual Women, Peace, and Security symposium, followed by the Andrew C. Cushing International Law Conference. Then in June we conducted the seventy-third Current Strategy Forum, with the theme "America's Seapower and Maritime Statecraft." Additionally, our Center on Irregular Warfare and Armed Groups

hosted a timely and relevant conference entitled "Exploring Our Maritime Strategies—II," which fostered enhanced collaboration among military educational institutions, civilian academics, and battlefield practitioners. These conferences and symposia are critical to our ability to educate, inform, and engage as outlined in our mission statement.

Though we have accomplished much, we have more to do. Looking forward, we have several more initiatives on the horizon. As the result of an extremely generous donation to the College from the Naval War College Foundation, we will soon achieve initial operational capability of a new deterrence studies institute. Scholars working for this institute will expand our deterrence research, addressing the changing landscape of nuclear deterrence and strategic escalation control. As part of the institute's mandate, we envision the creation of an interdisciplinary fellowship program that harnesses the fresh perspectives of young academic researchers as well as notables in the field. We have already hired two new scholars in the Center for Naval Warfare Studies, and we plan to hire two additional scholars in the new fiscal year. Upon his return from sabbatical in the fall, Dr. Phil Haun, our previous dean of academics, will serve as the institute's first director.

As some of you may know, we are well into a multiyear, once-in-a-generation infrastructure revitalization effort that will set us up for continued success for decades to come. Hooper and Schonland Halls are slated for demolition in fiscal year 2025 and fiscal year 2026, respectively, providing new space for future endeavors. We will soon begin the transition of office and classroom spaces in support of renovations to Conolly and Hewitt Halls. We have also received the results of a feasibility study that we commissioned as part of a broader campus revitalization effort. The effort includes a proposal for an updated research and wargaming building, notionally called the Future Warfighting Center, that will have the size and technical capacity to meet the growing fleet demand for war gaming across all levels of classification. The feasibility study also included a planned Museum, Archives, and International Forum to be placed along the base fence line for greater public access. The feasibility study concluded that these spaces are viable, and we will now begin the effort to secure funding to make this vision a reality.

I must now close this President's Forum with some bittersweet news. I am departing the College for a new assignment as president of the National Defense University in Washington, DC. My wife and I are sad to leave our many friends and colleagues, but we will always recall with fondness this amazing tour, and we are both excited about the future of the Naval War College.

It somewhat softens the blow to know that the College will be in good hands under the leadership of Rear Admiral Darryl "D-Day" Walker, a fantastic officer who will bring his immense passion, energy, and drive to the presidency. As an

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alumnus, he knows the importance of all that we do. I am certain that the entire extended family of the College will welcome D-Day back to Newport.

PETER A. GARVIN
Rear Admiral, U.S. Navy
President, U.S. Naval War College

Lieutenant Commander Dr. Tobias Kollakowski, Federal German Navy Reserve, is a research fellow at the German Institute for Defence and Strategic Studies.

CHINA'S NAVAL DIPLOMACY IN THE BALTIC SEA AT THE BEGINNING OF THE TWENTY-FIRST CENTURY

A Lost Window of Opportunity

Tobias Kollakowski

The Baltic Sea returned to the stage of great-power competition in the second decade of the twenty-first century.[1] A marginal sea whose littoral states included NATO and European Union (EU) member states, Russia, and non-NATO members Sweden and Finland alike, the Baltic Sea witnessed a series of controversial naval exercises, exertions of political influence, and economic projects involving both littoral and extraregional actors.

One of those actors was the People's Republic of China (PRC). China's rise as a world power coincided with an unprecedented rise of its profile in the Baltic Sea region, a rise that covered the entire spectrum of human interactions, including the economic, political, and cultural domains.[2] Sparked by China's global geoeconomic development project the Belt and Road Initiative, concern has been growing about China's rising overseas influence and expanding force posture vis-à-vis Europe.[3] Arguing for a stronger emphasis on the normative dimension of NATO, political science scholars Zinaida Bechná and Bradley Thayer highlight the potential threats posed by a rising China to NATO cohesion, as European capitals, in general, seek to stay on positive terms with Beijing despite deteriorating U.S.-China relations. In this context, China might utilize its economic might to fracture the transatlantic alliance through diplomatic and economic means. China's expanding activities in Europe thus have been the object of extensive examination recently, with particular emphasis on their economic dimension.[4]

This article contributes to the debate over Chinese interactions with the Baltic Sea region by discussing the presence of China's People's Liberation Army Navy (PLAN) in Baltic waters as well as the PRC's use of naval diplomacy to develop relations

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with regional stakeholders. It departs from existing scholarship on Chinese naval activities in northern European waters by focusing on the ends, means, and ways of Chinese naval diplomacy rather than providing a threat analysis from a Western or NATO perspective.

Just as different perceptions exist of the PRC as a foreign policy stakeholder, there are conflicting frameworks for interpreting PLAN activities, including in the Baltic Sea. Two extremes of the debate are particularly noteworthy. One perspective—often held by U.S. authors—emphasizes PRC ambitions to dominate different regions of the world, and elaborates on an assertive and aggressive PRC and views the PLAN as a force on track to carry out operations that "will include activities designed to coerce, intimidate, and ultimately even defeat at sea the United States, our allies, and our friends."[5] Another discourse—mostly of Chinese origin—stresses China's positive attitude toward an open and inclusive security architecture as well as Beijing's support for international security, peacekeeping, and stability and interprets PLAN overseas deployments as essential to acting as a responsible great power and promoting world peace.[6]

According to the pessimistic analysts, cooperative rhetoric from an autocratic China should have fallen on deaf ears and prevented constructive interaction between the PLAN and the militaries of the European states; European states should have perceived China's naval presence expanding to the Baltic Sea as competitive and confrontational. According to the optimistic analysts, China's ostensible commitment to peace, security, and stability should have been more credible to European states and led to opportunities for deeper military-to-military cooperation to promote common interests on a global level.[7] Consequently, strong cooperation between European militaries and the PLAN should have developed.

Unsurprisingly, both of these extreme positions in the debate only partly explain the complex and contradictory interests that shaped the Baltic littoral states in their interaction with China and the PLAN. To address this problem, this article examines the evolving patterns of naval relations between China and selected Baltic littoral states and explores their underlying motivators. This approach suggests that interregional naval dynamics were shaped by a major dissonance: the tension between the cooperative *ways* in which naval relations were applied as diplomatic means and ultimate policy *aims* that guided them but were highly competitive.

A proper appreciation of the naval dynamics in the Baltic Sea during the 2010s draws attention to the potential that existed for the development of Sino-European relations, including in the security field. This article argues that Chinese naval diplomacy in the Baltic Sea during the 2010s was distinctively *cooperative* in character. Furthermore, it shows that military leadership of various European states demonstrated open-mindedness toward utilizing this potential

to develop security relations. However, the direction of the PRC's foreign and domestic policy and its ambitions to shape the global order, which were decisively *competitive* and in conflict with Western norms and values, precluded prosperous relations, despite Beijing's best diplomatic efforts.

Evidence to support these claims is drawn from a broad range of U.S., Chinese, German, Russian, and Finnish sources, and from interviews with politicians, military leaders, and diplomats from Baltic littoral and European states that observed and guided the developing relations with their Chinese counterparts from a naval or military perspective. The article first introduces authoritative concepts about naval diplomacy that are commonly included in naval theory. These concepts provide the theoretical framework for the examination of the PLAN's presence in the Baltic Sea. The next section briefly establishes the nature of PLAN deployments to the Baltic, the composition of naval forces involved, and the impressions the Chinese warships conveyed.

Subsequently, the article examines how China carried out its naval diplomacy and shows that while competitive signals likely have targeted the United States and NATO as an organization, the *ways* that China applied naval diplomacy bilaterally vis-à-vis the Baltic littoral countries were collaborative in nature. This section carries out a more detailed examination of the cases of Finland, Latvia, Russia, and Germany. These four countries represent the spectrum of political affiliations that were present in the Baltic Sea region during the period under consideration: Germany and Latvia were both NATO and EU member states, Finland was an EU member state, and Russia was a member of neither NATO nor the EU.[8] Chinese naval vessels repeatedly called at ports of three of these states—Germany, Russia, and Finland—which demonstrated a level of commitment by the PLAN at the time.

But subsequent to this spurt, beginning in the 2020s, relations between Europe and China became more strained than they had been for decades. If Beijing was sincerely interested in fostering relations, why were its efforts in cooperative diplomacy not more successful? The last sections address this question. Having elaborated on the use of naval diplomacy by China to develop relations with Baltic littoral countries, the article goes on to show how, except for Russia, these countries' relations with the PRC significantly deteriorated, including in the naval domain. It concludes by arguing that despite astute diplomacy and grand ambitions, the Communist Party of China (CPC) under General Secretary Xi Jinping ultimately obstructed the development of relations.

While the research focus of this article is on the naval domain, it is important to note that Beijing's naval diplomacy did not occur in isolation but was only one component of a much broader effort. Thus, to contextualize China's naval

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diplomacy in the Baltic Sea properly, this article also considers Sino-European relations and the bilateral relations between the PRC and the respective Baltic littoral countries of interest. Also important are policy issues relevant to understanding the international situation during the period under examination and the CPC's ambitions to shape the global order. The research design leaves little space to present any of these subtopics in depth, and they are addressed only as far as necessary to understand the context in which naval diplomacy took place. To preserve focus, this article does not examine nondiplomatic objectives of the PLAN presence in European waters, such as intelligence gathering. While a comparison between PLAN naval diplomacy in the Baltic Sea and PLAN diplomatic efforts elsewhere would be of great academic interest, such a comparative approach is beyond the scope here.[9] Similarly, China's commercial maritime activities, which often also involve ways in which the Chinese party-state safeguards its political interests that have been the subject of academic debate, largely will be left undiscussed.[10]

NAVAL DIPLOMACY

Naval diplomacy is an essential component of the modern academic discourse on sea power theory because of the important role that navies have always played as diplomatic instruments in backing a state's policy with hard power during times of peace and of war and in between.[11] The ability to deploy naval forces for prolonged time periods in proximity to the territory of another state without producing a political commitment, the need to infringe on the territorial sovereignty of another state, or dependence on some host nation's support makes navies especially useful diplomatic tools.[12] While serving the policy objectives of navies' respective states, naval diplomacy can take more-competitive (often called "gunboat diplomacy") or more-cooperative forms, with varying shades of gray.[13] During the second half of the twentieth century, hard-power competition between the Western and Communist blocs, including on the oceans, was fierce. However, as Geoffrey Till points out, given the absence of high-intensity warfare between the blocs, classical works on naval war and strategy proved insufficient to provide an explanatory framework for the then-ongoing naval contest.[14] In fact, the objectives of naval forces during this period were, in the words of Soviet navy chief Sergey Gorshkov, to "achieve political ends without resorting to armed struggle, merely by putting on pressure with one's own potential might and threatening to start military operations."[15] These dynamics motivated several important conceptual contributions to naval diplomacy during the Cold War.

James Cable's seminal monograph, *Gunboat Diplomacy 1919–1979: Political Applications of Limited Naval Force*, provides a theoretical categorization of the ways that naval force is utilized to achieve political goals. Cable distinguishes

among definitive (aimed at achieving a fait accompli), purposeful (aimed at changing another nation's policy), catalytic (aimed at shaping events), and expressive (aimed at emphasizing attitudes) uses of naval force.[16] Given that Chinese stakes in the Baltic Sea—unlike in the East or South China Sea—were not high, as, for example, the territorial integrity of China (as perceived by Beijing) was not in question, Cable's more conflict-laden categories, which are often associated with tense political circumstances, are not applicable to the arguments in this article.[17]

On the more cooperative side of the diplomatic spectrum, Till draws attention to collaborative naval diplomacy, which he defines as "a range of activity expressly intended to secure foreign policy objectives not by threatening potential adversaries but by influencing the behaviour of allies and potentially friendly bystanders."[18] This article adopts Till's definition of cooperative naval diplomacy, adding the condition that any influence on the behavior of other states and decision makers is achieved through efforts "done . . . together with other" stakeholders and not against their will, following one of the *Cambridge Dictionary*'s definitions of "cooperative."[19] For the central argument presented in this article, it is important to note that collaborative naval diplomacy, as it is understood here, is characterized by cooperative *ways*. This does not necessarily presuppose that policy *ends* overlap, and it implies that, though cooperative in nature and means, cooperative naval diplomacy "does not require that states confront no conflicts of interest," thus reflecting a realist understanding of this particular term as outlined in *The Oxford Companion to Politics of the World*.[20] In this sense "working together . . . for a common purpose or goal" is not a prerequisite for the concept of cooperative naval diplomacy as it is applied here.[21]

Chinese naval diplomacy in the Baltic Sea during the 2010s was distinctively cooperative *in character. . . . However, the direction of the PRC's foreign and domestic policy and its ambitions to shape the global order, which were decisively* competitive *and in conflict with Western norms and values, precluded prosperous relations, despite Beijing's best diplomatic efforts.*

Cooperative naval diplomacy in its most advanced form—naval coalition building—may involve complex bi- and multinational exercises and institutional integration, as is the case with NATO.[22] Beijing's wariness of becoming entangled in formal alliances, however, limits naval coalition building with the PLAN.[23] The PRC's relationship with Pakistan, Beijing's "all-weather" strategic partner, may be interpreted as the exception that proves the rule, given its decades-long nature and the deep level of support provided by a wide range of state institutions.[24] Subsequently, fairly complex Sino-Pakistani exercises, such as the 2020 SEA GUARDIANS

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naval exercise, might qualify as naval coalition building.[25] Still, the contrast with formal alliances such as NATO or the U.S.-Japan alliance is significant.

Ken Booth elaborates on the intricate relationship between foreign policy and naval diplomacy and introduces a wide range of concepts that relate to the "thinkable uses of modern naval power" in a field of study heavily focused on the "unthinkable use of the most destructive weapons we have." He goes on to detail the many practical functions naval diplomacy can fulfill. Functions that are particularly relevant for this article include the use of naval diplomacy to reassure and strengthen relationships and "establish rights and interests in near or distant regions, impress onlookers with the country's technical competence or diplomatic skill, bolster the strength and confidence of allies . . . or third parties[,] . . . encourage or dissuade states in relation to particular policies, signal intentions or expectations, . . . create a different politico-military environment[,] . . . gain access to new countries."[26]

Ultimately, as Cable argues, one needs to be cautious not to overinterpret port visits, as "most naval visits do not convey any specific message, let alone imply any exercise of pressure."[27] This assessment provides another explanation why this article refrained from examining isolated cases of Chinese visits to port cities such as Copenhagen or Gdynia that occurred during the 2010s.

CHINESE NAVAL PRESENCE IN NORTHERN EUROPEAN WATERS

China's rise as a naval power has attracted considerable academic attention.[28] For an interpretation of Chinese naval presence in the Baltic Sea at the beginning of the twenty-first century this context is particularly relevant. The PLAN could carry out naval activities in a marginal sea as geographically remote from East Asia as the Baltic Sea only after acquiring a sufficiently capable blue-water naval force. Following a significant buildup of surface combatants and major replenishment vessels at the beginning of the twenty-first century, warships have since been carrying the Chinese naval ensign to ever-more-distant maritime regions.

Northern Europe is one of these new PLAN deployment destinations. Having sailed through northern European waters in 2001—crossing the North Sea and making port stops in England and in the German port of Wilhelmshaven—Chinese warships entered the Baltic Sea for the first time in 2007, when the Luyang I–class destroyer *Guangzhou* (168) and the Fuchi-class replenishment ship *Weishan Hu* (887) sailed to Saint Petersburg.[29] While in transit, the PLAN warships took part in maneuvers with several Western navies, including the Spanish, French, and British, although none of these exercises took place in the Baltic Sea. The activities largely were of low complexity, such as search-and-rescue drills, formation steaming, flight (helicopter) operations, communication drills, and an air-defense map exercise.[30]

The first Chinese naval vessels arrived in northern European waters as the PLAN was gaining valuable experience with overseas deployments and other blue-water activities. Port calls in various European ports and exercises and interactions with different European navies (and other service branches)—both east and west—also reflected a Chinese foreign policy under the Hu-Wen administration (2002–13) that, despite taking a more active role in international affairs, still exercised restraint, continued the PRC's tradition of low-profile policies, and corresponded well with Hu Jintao's "China's peaceful development" policy slogan that aimed to reassure the world that China was not an aggressive, expansionist great power on the rise.[31]

Over the following decade, China's naval presence in the Baltic Sea increased significantly (see table). There are several intriguing aspects to these PLAN peacetime deployments. One concerns time; as shown in the illustration, from 2015 to 2019, the PLAN deployed warships annually to the Baltic Sea. Thus, while falling short of a permanent naval presence, for a period, Chinese naval deployments to the Baltic Sea were routine. Given the enormous distances to the Chinese fleets' home bases, this by itself was an astonishing achievement that only a few navies in the world were capable of sustaining.

Theory also places emphasis on the composition of the naval forces deployed for diplomatic purposes. The spectrum between a sailing-training vessel and a carrier strike group is wide. The size, age, and capabilities of the force affect

CHINESE NAVAL PRESENCE IN PORTS OF BALTIC LITTORAL STATES, 2015–19

Year	Naval Vessels	Activities
2015	Yuzhao-class amphibious transport dock *Changbai Shan* (989); Jiangkai II–class guided-missile frigate *Yuncheng* (571); Fuchi-class replenishment ship *Chao Hu* (890)	Port visit to Hamburg
2015	Luyang II–class guided-missile destroyer *Jinan* (152); Jiangkai II–class guided-missile frigate *Yiyang* (548); Fuchi-class replenishment ship *Qiandao Hu* (886)	Port visits to Copenhagen, Helsinki, Stockholm
2016	Jiangkai II–class guided-missile frigate *Xiangtan* (531)	Participation in the Kiel Week
2017	Luyang III–class guided-missile destroyer *Hefei* (174); Jiangkai II–class guided-missile frigate *Yuncheng* (571); Fuchi-class replenishment ship *Luoma Hu* (964)	Participation in JOINT SEA 2017; participation in Russian Navy Day parade (Saint Petersburg); port visits to Helsinki, Riga
2018	Jiangkai II–class guided-missile frigate *Binzhou* (515)	Participation in the Kiel Week; port visit to Gdynia
2019	Luyang II–class guided-missile destroyer *Xi'an* (153)	Participation in the Russian Navy Day parade (Saint Petersburg)

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nuances of the diplomatic messages a state wishes to convey. Display of relational power matters in naval diplomacy; as Till points out, "International politics is about perception, of how strong and resolute you seem in the eyes of others."[32] Even more significant, as Booth argues, demonstrations of unimpressive naval force can be counterproductive to the reputation of the state deploying the respective naval assets.[33]

Applying these theoretical notions to the case of Chinese naval diplomacy in the Baltic Sea, however, provides results that are ambiguous. On the one hand, the forces the PLAN deployed to the Baltic Sea were significant, particularly taking the limited naval force postures of regional littoral states into consideration. In 2019, the biggest western Baltic littoral state navy, the German navy, operated no more than eleven frigates in total, while the PLAN task groups vising the region included three guided-missile destroyers and five guided-missile frigates.[34]

On the other hand, the PLAN's deployment of several task groups should not be overemphasized. When sailing that far from home waters and, where applicable, far from sea zones adjacent to partner territory, deploying task-group-sized formations is a standard practice. Such deployments benefit from the cohesion of the task group and generally consist of at least one replenishment vessel, which significantly simplifies logistical support. It is not a way of operating that a third party would primarily interpret in political terms.[35] Furthermore, given that the PLAN's task forces operating off the Horn of Africa regularly detached individual warships to the Baltic Sea or sailed there as a complete force following mission handover, the composition of China's naval presence in the Baltic was determined by the size and composition of the PLAN's antipiracy contingents.[36]

Another aspect of Booth's functions of naval diplomacy, however—to "impress onlookers with the country's technical competence"—undeniably was fulfilled. After decades during which Chinese industrial products often had a reputation for low quality, the port visit of the Yuzhao-class amphibious transport dock *Changbai Shan* to Hamburg, in particular, left a positive, lasting impression on observers that Chinese naval shipbuilding had made significant improvements and that the PLAN was operating state-of-the-art warships.[37] Thus, PLAN visits to the Baltic Sea were definitely also enhancing China's prestige overseas.

CHINESE NAVAL DIPLOMACY TOWARD EUROPE AND THE BALTIC SEA REGION

Having established *what* China's naval presence in the Baltic Sea looked like, now *how* and *for which purposes* China utilized naval diplomacy in the Baltic Sea as an instrument of its foreign policy are examined.

The ways that China utilized naval forces for diplomatic purposes in the Baltic Sea were distinctive to the region and differed from Beijing's approach to other

maritime theaters, such as the South China Sea. As China's actions in maritime Southeast Asia have been the object of thorough research over the past decade, Chinese use of conventional and unconventional armed force in that region to intimidate, coerce, compel, and deter has been well publicized.[38] In Southeast Asia the competitive character of naval diplomacy was the outcome of high-politics policy issues deemed nonnegotiable—for example, the preservation of territorial integrity. According to the 2019 Chinese white paper, *China's National Defense in the New Era*, to safeguard this objective, Chinese state agencies made "no promise to renounce the use of force, and reserve the option of taking all necessary measures."[39]

China's objectives with respect to Europe, on the other hand, were more about cultivating support for Chinese positions, which incentivized cooperative naval diplomacy for the deployments.[40] There is a possible competitive exception to this cooperative interpretation vis-à-vis the U.S. Navy. Sebastian Bruns argues that the participation in 2015 of the *San Antonio*–class amphibious transport dock *San Antonio* in addition to two *Ticonderoga*-class cruisers at BALTOPS, a multinational regional exercise, represented a major shift in U.S. naval presence toward northern Europe.[41] By deploying an amphibious transport dock in addition to regular deployments of task groups composed of major surface combatants of its own, China demonstrated the capability and willingness to match the U.S. Navy in this far-distant marginal sea on a near-equal footing. Several other authors also have interpreted China's motivations for sending its warships into NATO's backyard and participating in the Sino-Russian joint naval exercise Joint Sea 2017 as counterreactions to U.S. and certain NATO member states' freedom of navigation deployments to the South China Sea.[42]

But in general, from the middle of the first decade of the century onward various Chinese scholars (including, supposedly, some within the People's Liberation Army [PLA]) displayed a positive assessment of Europe and the potential for Sino-European relations, and Beijing awarded Sino-European relations a high priority.[43] As Luo Zheng argues:

> Since the founding of New China, particularly since the 18th CPC National Congress [in 2012], following Xi Jinping's call for a new development of international military exchanges, the Chinese [military] has comprehensively managed relations and made efforts to create a favorable external environment. . . . China is also actively developing military relations with European countries, striving to build a China-European partnership of peace, growth, reform and civilization.[44]

This assessment was equally applicable to the naval dimension in Europe. In the 2010s, many European political and military leaders were open-minded about engagement with China and particularly open to interaction in the naval domain. In this context, some European warships that were deployed to the Horn of Africa

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as part of international efforts to counter piracy conducted low-level exercises with PLAN warships.[45] Italian scholar Andrea Ghiselli has studied China's naval participation in peacekeeping and confidence- and trust-building measures and changes in Chinese official documents. Ghiselli goes as far as to argue that "the PLAN is en route to becoming what Till has called a 'post-modern' navy."[46] According to Till, a "post-modern" navy, among others, has a focus "on international rather than national security" and gives emphasis to "protection of good order at sea."[47]

Given China's buildup of power projection capabilities (e.g., the PLAN aircraft carrier and amphibious warship programs), gunboat diplomacy in the South China Sea, and amphibious assault exercises carried out to exercise significant pressure on Taiwan—all characteristics of a "modern" rather than a "post-modern navy" as Till defines them—Ghiselli's conceptualization does not appear convincing for understanding the PLAN. However, while his thesis of the "post-modern" navy is controversial, Ghiselli does make important observations: outside East and Southeast Asian sea zones over which the PRC claims sovereignty, the argument that Beijing primarily used naval deployments as cooperative means in the 2010s cannot be easily discarded. Examples include the escort of Syrian chemical weapons in accordance with UN Security Council resolutions in the Mediterranean, antipiracy efforts at the Horn of Africa, and humanitarian deployments of the Chinese Anwei-class hospital ship *Daishan Dao*. Furthermore, as a former deputy commander of EU Naval Force (NAVFOR) Somalia points out, around the turn of the first decade of the twenty-first century, Chinese representatives to SHADE (Shared Awareness and Deconfliction—a Combined Maritime Forces [CMF]–initiated platform for exchange of information and coordination) signaled that China had an interest in joining the multinational operational command formats at the Horn of Africa (which were CMF and thus, to a large degree, Western dominated) on the condition that China was to receive one leadership function within the existing command-and-control structure.[48] Similarly, leadership personnel of EU NAVFOR Somalia were interested in improving coordination and cooperation with China's naval escort task groups operating at the Horn of Africa.[49]

Equally important, European leaders appeared receptive to these overtures at the time. As Geoffrey Gresh argues: "Most European or NATO allies do not view China the same way that they view Russia. In fact, during JOINT SEA 2017, Italy hosted the PLAN in its own joint exercise in the Tyrrhenian Sea. . . . Many of the European officers I spoke with view China's regional and naval rise as an encouraging opportunity for cooperation, and one that can be shaped and influenced in a positive direction, which cannot be said for Russia, as most pointed out. They also see positive trade benefits to be gained."[50] These observations were true not only for European officers stationed in Italy: even as late as 2018, Allied Maritime Command, NATO's maritime component command at Northwood (U.K.), had developed an idea for a low-level exercise involving one of NATO's standing

NATO maritime groups and the PLAN's Jiangkai II–class frigate *Binzhou*, which was in transit to the Baltic Sea. Owing to the complexity of carrying out exercise serials between multinational NATO units and a non-NATO vessel, both on a political and on a practical level, time constraints prevented these plans from being realized.[51]

But China was more interested in fostering bilateral relations with individual states than in engaging with supranational organizations such as NATO or the EU.[52] With its naval diplomacy vis-à-vis Finland, Latvia, Russia, and Germany, China deliberately engaged stakeholders that demonstrated open-mindedness and made intelligent use of naval diplomacy and cooperative activities with the goal of promoting closer bilateral relations.

Finland

Chinese task groups visited Helsinki in 2015 and in 2017. On the latter occasion, the 174th PLAN task group—consisting of the Luyang III–class destroyer *Hefei* (174), the Fuchi-class replenishment ship *Luoma Hu*, and the Jiangkai II–class frigate *Yuncheng*—arrived in Helsinki on 1 August 2017 for a port visit that lasted several days. There can be little doubt that the arrival date—PLA Day—was not a coincidence, as it provided an occasion to host a significant reception to celebrate the ninetieth anniversary of the PLA's founding with more than two hundred guests, including Rear Admiral Yu Manjiang, commander of the task group; Finnish minister of defense Jussi Niinistö; the deputy chief of staff of the Finnish Defense Forces; the chief of its naval staff; and the mayor of Helsinki.[53] In addition to sections of the event that dealt with domestic PLA developments—for example, China's military modernization and "political army building" (*zhengzhi jian jun*)—bilateral topics also were addressed. Niinistö, who had hosted a visit by Chinese minister of defense Chang Wanquan in 2015—about two months before the arrival of the first Chinese task group to Helsinki—and had visited China in 2016, stressed the importance of deepening professional exchanges and cooperation between the two militaries in the future.[54]

Particularly noteworthy for the argument presented here were the naval-related messages that China aimed to convey. Before the 174th PLAN task group had arrived, a reception was organized by the Chinese embassy in Helsinki. There, Chinese representatives gave presentations to locally based diplomats on China's recent fleet buildup and Beijing's blue-water ambitions. The key messages that Beijing had aimed to transmit were that China desires to make the world a better place, that the PRC contributes to global advance through mutual cooperation, and that all Baltic littoral states possess a common interest in cooperation with China. At the end of the reception the military attaché staffs in Helsinki then were invited to the PLA Day reception hosted by the soon-to-visit task group. At this reception, too, presentations about Chinese naval expansion were given and

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Chinese representatives emphasized that the ultimate purpose of China's actions were to foster peaceful cooperation on the oceans.[55]

Apart from high-level diplomatic exchanges, China also made ample use of the resources—warships, sailors, and expatriates—available in port. Both in 2015 and in 2017, large crowds of Chinese expatriates saluted the arrival of the Chinese warships, while the port visit demonstrated the well-organized interplay among PLA military personnel, embassy staff, and pro-Beijing organizations, such as the Finland Association for Peaceful Reunification of China and the Chinese Friendship Association.[56] The Chinese task group held deck receptions and a ship's open day and performed a grand flag-raising ceremony to celebrate PLA Day.[57]

In Southeast Asia the competitive character of naval diplomacy was the outcome of high-politics policy issues deemed nonnegotiable—for example, the preservation of territorial integrity. . . . China's objectives with respect to Europe, on the other hand, were more about cultivating support for Chinese positions, which incentivized cooperative naval diplomacy for the deployments.

On the Finnish side, the naval academy—Merisotakoulu—and coastal defense forces engaged with the visiting PLAN forces military to military, Finnish liaison officers received a temporary office on board the flagship, *Hefei*, a cultural program was offered, and Chinese sailors and Finnish troops played a soccer game.[58] According to Admiral Yu, the days of interaction were intended to "carry out exchanges with the Finnish military in various forms and rich in content, hoping to expand the areas of exchanges between the navies of the two countries and promote the development of exchanges and cooperation between the two countries to a higher level."[59]

Chinese military and political leaders possibly were optimistic about the prospects for expanding the relationship with Helsinki because they may have perceived that Finland, as a non–NATO member state at the time, was comparatively open to Chinese courtesies. Xi Jinping visited Finland less than four months before the 174th task group arrived; he praised the "enduring friendship" between Helsinki and Beijing and the two countries released a joint declaration, "Establishing and Promoting the Future-Oriented New-Type Cooperative Partnership."[60] As Matti Puranen, senior researcher at the Finnish National Defense University, and Jukka Aukia, senior analyst at the European Centre of Excellence for Countering Hybrid Threats in Helsinki, point out, Sino-Finnish relations throughout the post–Cold War era had been characterized by "pragmatic positivity"—somewhat in contrast with the Chinese relationship with Finland's neighbor Sweden.[61] Considering this political background, theory on naval diplomacy can provide further valuable interpretations.

Certainly, periodic port visits by individual Chinese warships or even task forces were irrelevant to the regional military balance of power. But it would be a mistake to dismiss their value as political leverage entirely. Referring to the USSR's warships in far-distant regions during the Cold War that would have been vulnerable to NATO's naval superiority during conflict escalation, Booth argues that influence should not be assessed from a Western perspective but from the point of view of the local state and that "even small naval presence might have enormous influence potential," because nonaligned states could be predisposed to influence for political, historical, or economic reasons and thus to see a visiting Soviet warship as "a token of support, as a symbol of a changing power balance, or as a promise of an alternative source of security."[62]

In application of Booth's argument to China's naval presence in the Baltic Sea, Chinese potential influence should not be calculated against NATO's relative military strength in the region but rather interpreted from the perspective of the littoral states. The case of Finland, a state that shares similarities with Booth's example of a Cold War–era nonaligned state, demonstrates this point. Finland's increasingly strained relationship with Russia is one of the reasons that Finland pursued closer defense cooperation with Sweden and Norway.[63] Nevertheless, in terms of great-power competition, the deterrence value even of both countries' combined militaries was limited, because they remain relatively small and are nonnuclear powers. Furthermore, during the 2010s, NATO membership was not yet a viable option for Finland. Consequently, as a small, neutral state that pursued "small state realism," Finland was particularly predisposed to China's repeated port visits to Helsinki and the Asian great power's naval presence in the Baltic Sea.[64] Finland's reaction to the Sino-Russian exercise Joint Sea 2017 supports this interpretation. As David Scott points out, while other EU member states, including Estonia, Lithuania, and Poland, expressed strong concerns about the exercise, Finland stayed noticeably silent.[65] Similarly, Gresh recapitulates:

> China's PLAN deployments signal its growing geoeconomic interests and maritime investments, as well as the [Belt and Road Initiative's] extensive reach into the far western edge of Eurasia. Much of the Baltic region appears to have welcomed China's growing investments with open arms. For many of the smaller states, China's involvement has helped balance against an increasingly imposing Russia. In April 2017, Finland was pleased to host President Xi Jinping, marking the hundred-year anniversary of its independence [from Russia].[66]

Latvia

Latvia fits Booth's function of "encourag[ing] . . . states in relation to particular policies" particularly well. As Bartosz Kowalski points out, during the 2010s matters of political compliance with China on (what Beijing considered to be)

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internal affairs severely impacted the relations between the Baltic States and the PRC.[67]

On the one hand, Estonia and Lithuania were faced with worsening political and foreign economic relations with China after the two states' governments welcomed the Dalai Lama in 2011 and 2013, respectively. Latvia, on the other hand, had decided to take the issue of human rights off the bilateral agenda. Furthermore, Latvia had demonstrated pragmatic policies toward various economic projects. In November 2016, Altum, a Latvian state-owned financial institution, and the Industrial Commercial Bank of China signed a memorandum of intent to launch an investment fund to finance infrastructure projects, and in 2017, a cooperation memorandum was signed between the ports of Riga and Lianyungang. China rewarded Latvia's decision by promoting cooperation with Riga in the context of the Belt and Road Initiative and fostering political relations. For example, Latvia was chosen to host the 2016 16 + 1 summit, one of China's most important initiatives in Sino-European relations.[68] This approach fell in line with Beijing's style of utilizing the format as an instrument to engage states sympathetic to Beijing's agenda.[69]

It was against this political background that the 174th task group visited Riga on 5 August 2017, the first visit by Chinese warships to Latvia ever.[70] The program looked very similar to what the PLAN did in Helsinki. Again, PLA personnel, diplomats, and representatives of Chinese-funded institutions and overseas Chinese worked closely together, and Admiral Yu underscored that the visit aimed to consolidate Sino-Latvian military-to-military relations. Chinese warships held receptions, offered cultural events (including a performance of Peking opera), and welcomed Latvian soldiers on board the vessels. PLA sailors interacted with the Latvian military on formal, cultural, and athletic levels.[71] As in Helsinki, the timing of the port visit in the aftermath of developments considered positive by Beijing appears intended to reinforce and reward the improving Sino-Latvian relations.

More generally, it demonstrated the benefits of closer cooperation with China and adherence to Chinese principles in conducting international relations. As in the case of Finland, there were also certain aspects that made Latvia particularly amenable to Chinese influence. In addition to economic incentives such as provision of infrastructure for Chinese trade, Riga was interested in diversifying international cooperation as relations with Moscow grew continuously more tense, as Latvian authors Otto Tabuns and Marta Mitko point out.[72] Against this background, Latvian foreign minister Edgars Rinkevics stated that "regardless of differences in the European and Chinese mindset, we have found common touchpoints or common denominators on the issues such as climate change, Iran, North Korea, and Afghanistan," and went on to assert that "this is not about

China being a threat or an opportunity, a competitor or an ally. We cannot afford a black-and-white perspective of this kind. We must find the real balance in the relationship with China."[73]

Russia

China's cooperative naval diplomatic ties with the Russian Federation were unquestionably the most advanced in the region. PLAN interaction with the Russian navy was not limited to the Baltic Sea; the two navies carried out JOINT SEA exercises in several marginal seas adjacent to the shores of Eurasia throughout the 2010s. On the policy level, the 2015 edition of Russia's maritime doctrine declared that "an important component of the national maritime policy in the Pacific region is the development of friendly relations with China."[74] Against this background, it was consequential that the PLAN's interaction with the Russian navy was more developed in comparison with that with other European navies in both quantitative and qualitative terms. In contrast with the port visits, cultural exchanges, and diplomatic activities that had characterized engagement with the other Baltic littoral countries, the Sino-Russian exercise JOINT SEA 2017 in which the 174th task group participated involved high-intensity combat scenarios including three-dimensional warfare.[75]

From a diplomatic viewpoint, the ability to conduct highly complex and demanding bilateral exercise scenarios—a feature rarely found outside a formal alliance whose members constantly train on common procedures and interoperability—proved to be a powerful asset. Demonstrating the navy's war-fighting capabilities provided substance to China's credibility as a global great power and underpinned the PLAN's collaborative value. In combination with a constant political rapprochement between Putin's Russia and Xi's China, Sino-Russian naval interaction during this period might even qualify for "naval coalition building," if the limitations outlined in the introductory section are taken into consideration.

In addition to the cooperative value Sino-Russian naval activities in the Baltic Sea brought to the bilateral relationship, JOINT SEA 2017 also has attracted attention for the signals it conveyed toward third parties, especially NATO. As both JOINT SEA 2017 and the concurrent dispatch of a second Chinese naval task force to Istanbul were taking place simultaneously with or shortly after NATO naval exercises in the same region, Sebastian Bruns and Sarah Kirchberger interpret these Chinese-Russian activities principally as a signal to NATO.[76] Although all the Chinese regional engagement discussed here occurred in European waters, the interpretation of the PRC's activities with Russia differed from that of its Latvian and Finnish engagement because these signals were set against different political backgrounds. Chinese and Russian foreign policy interests overlap in their opposition to U.S. hegemony and the dominance of the Western-led international order.[77] The use of naval force under these circumstances corresponds

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to Cable's concept of "expressive force." Referring to the dispatch of the battleship USS *Missouri* to Istanbul in 1946 as a way of demonstrating U.S. political support for Turkey at a moment when the USSR was demanding territorial concessions, Cable's category of "expressive force" involves using warships to support and accentuate political attitudes and statements.[78] Under this interpretation, the deployment of two naval task forces to sea zones adjacent to Russia and coincidental with NATO exercises communicated China's political support for Russia at a moment when Moscow was under pressure from NATO. In terms of Booth's logic, Beijing bolstered Moscow's strength and confidence at a moment when Western leaders such as Barack Obama and Angela Merkel claimed that Russia was politically isolated following its annexation of Crimea and its warring against Ukraine in the Donbas.[79]

While this demonstration of PRC expressive force once again fits very well with the concept of cooperative naval diplomacy as far as relations with Moscow were concerned, it created a problematic dichotomy with the European states. How could PLAN deployments simultaneously signal support for Russia in its struggle against NATO and interest in developing naval relations with NATO member states? How could China use naval means in activities that could be interpreted as supporting a serious challenge to the Western-led international order and at the same time convincingly convey the intention of developing closer relations with EU member states? China ultimately was unable to solve this contradiction.

Germany

A particularly noteworthy case of Chinese naval diplomacy was the German navy and its longstanding chief, Vice Admiral Andreas Krause (October 2014–March 2021). When a Chinese task group (see table) spent a five-day-long port visit in Hamburg in 2015, Rear Admiral Zhang Chuanshu, commander of the task group, underscored the close political relationship between Beijing and Berlin. The year before, when Xi visited Berlin, Germany and China had agreed to establish a "comprehensive strategic partnership" that "aimed for regular consultations on regional and global political and security issues."[80] Similarly, Captain Michael Setzer, head of the Bundeswehr's (German military's) regional command for Hamburg, stated: "The visit will foster mutual cultivation of friendly relations and international understanding." During the weeklong stay Chinese soldiers visited Bundeswehr facilities and held talks with the German navy about training and experience in counterpiracy operations. Both sides also took advantage of this occasion to carry out meetings with representatives from the business, political, cultural, and society sectors, both in Hamburg's town hall and on board the Chinese flagship. As Setzer remarked, there were "many opportunities for

civil-military dialogue."[81] The previous chief of the German navy, Vice Admiral Axel Schimpf (2010–14), however, had not prioritized relations with the PLAN, and the meeting that had been arranged between the chiefs of the navies for 2015 had been canceled.[82]

During the subsequent years, China made wise use of naval diplomacy to rekindle bilateral navy-to-navy relationships. When the Jiangkai II–class frigate *Xiangtan* called in Kiel for the 2016 Kiel Week, Krause, the new navy chief, was asked to deliver a welcome speech on board the Chinese warship. When the German navy declined this invitation, because it conflicted with the chief's own reception, the Chinese rescheduled their reception on board *Xiangtan* and again approached the German navy headquarters with the request that Krause open the event, which this time was accepted. On board *Xiangtan*, Admiral Krause was received by the PRC's top diplomatic echelon. Shortly after the end of the Kiel Week, Krause received an invitation to China, marking the beginning of a comparatively intensive personal relationship between him and the political and military leadership of the PLAN for the remainder of the decade.[83] For example, following Krause's trip to Qingdao to take part in the celebrations for the seventieth anniversary of the foundation of the PLAN in 2019, Admiral Qin Shengxiang, the political commissar of the PLAN (2017–22), traveled to Germany. There, Qin visited naval facilities in Wilhelmshaven and Flensburg, where his objective was to learn about training programs that the PLAN might adapt or adopt to improve the PLAN's operational capability.[84]

Although particularly successful in establishing and maintaining a relationship with Krause, China's approach was not unique to Germany. As Wuthnow and Baughman show, there was a general preference in the PRC's military and naval diplomacy to carry out senior-leader exchanges with major navies—including European ones—aimed at developing relationships of strategic importance.[85]

The German navy chief's relationship with China also was not an isolated case within the Bundeswehr. At the time, the German military carried out a range of cooperative measures with the PLA, including medical training cooperation, education programs, and combined security-policy seminars for prospective leadership personnel of the Bundeswehr and the PLA.[86] As far as Chinese naval deployments to the Baltic Sea were concerned, Krause elaborated:

> I consider the Chinese Navy's regular voyages to the Baltic Sea to be completely normal for a global trading power. . . . The Chinese have the right to visit us, just as we have the right to visit them. . . . Germany and China maintain a large number of global relationships. Against this background, military exchanges also make sense. . . . I consider it [the Chinese naval presence in the Baltic Sea] to be completely legitimate, I think it's appropriate, I think it's basically a positive sign. . . . We see an improvement in relations but starting from a low level. . . . As long as China adheres

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> to the rules-based order, there is no reason to change the relationship with China. . . . China's behavior in East Asia and in Europe are two very different animals. . . . We need them [China], among other things, economically. . . . Accordingly, military superiors must observe the political goals.[87]

In sum, during the second half of the 2010s, the Chinese made ample use of naval diplomacy to foster relations with Germany, a NATO member state that (at the time) was comparatively amenable to developing military-to-military relations with China. However, the Jiangkai II–class frigate *Binzhou*, visiting Kiel in 2018, would be the last Chinese warship to call on a German port. While it is true that restrictions on port calls, which were implemented when the COVID-19 pandemic broke out, affected all navies (including the PLAN), pandemic-related decisions were only part of the explanation.[88]

A MARITIME ROAD TO SUCCESS? THE LIMITS OF BEIJING'S DIPLOMATIC EFFORTS

As the decade ended, attitudes in the West toward China had decisively shifted. In 2022, NATO's strategic concept mentioned China for the first time, underlining that Beijing's "ambitions and coercive policies challenge our interests, security and values."[89] During his 2023 visit to Korea, NATO secretary general Jens Stoltenberg pointed out that China was not an "adversary," but also stated that China, among others, did not share the alliance's values and was challenging NATO's interests by applying coercion and trying to gain control of critical infrastructure.[90] Similarly to NATO, the EU also adopted a more critical stance toward the PRC; its 2019 communiqué "EU-China—a Strategic Outlook," recognized the PRC simultaneously as a "cooperation partner," a "negotiating partner," an "economic competitor," and a "systemic rival."[91] While the relationship and position of the Anglosphere (especially the United States and United Kingdom) toward China had long been deteriorating and critical, as Jagannath Panda argues, by the end of the 2010s, relations between Europe and China increasingly diverged.[92]

Except for the Sino-Russian relationship, which continued to develop (including intensive use of naval diplomacy) and reached a level of "friendship" that "has no limits" in 2022, this negative shift also was apparent in the other Baltic states.[93] At the turn of the twenty-first century's third decade, Latvian security services increasingly warned about threats of Chinese origin; Beijing's close relationship with Moscow was perceived much more critically; and, in August 2022, Latvia left China's 16 + 1 summit.[94] Contrary to expectations, Sino-Finnish defense cooperation also failed to grow, remaining static for the last years of the 2010s.[95] In more recent years, reports by Finnish authorities have become much more critical of China, and Finland has adopted the EU's categorizations of China as an

"economic competitor and a systemic rival," and suspended its extradition agreement with Hong Kong in 2020. These developments led Puranen and Aukia to question whether the Sino-Finnish "exemplary model relationship" would stand the test of Xi's "new era" of assertive foreign policy.[96] On 4 April 2023, Finland acceded to full membership in NATO, radically changing the country's geopolitical reality and diminishing the salience of its previous strategic culture of "small state realism." And as a member of an alliance that since 2021 has defined Chinese behavior as a challenge to "the rules-based international order and to areas relevant to Alliance security," Finland's susceptibility to Chinese cooperative diplomatic efforts likely also has been reduced.[97]

As the political perception of China was undergoing a decisive shift and China's ambitions to challenge the existing rules-based international order (e.g., with regard to the law of the sea) became a source of growing concern, bilateral relations with the European Baltic littoral states and the EU and NATO also deteriorated significantly, and mutual interest in security cooperation faded.

Even in Germany, which had been characterized by a particularly positive attitude toward the PRC among European states, the previous political and policy affinity began to change by the turn of the century's third decade. Nowhere was this reversal more visible than in the navy-to-navy relationship. Already by the late 2010s, contact between Bundeswehr representatives, including German embassy personnel, and the PLA was significantly reduced; German military attaché staff no longer participated in attaché excursions, visits to military units, or observations of maneuvers, and there was no more discussion of expanding navy-to-navy cooperation on diplomatic channels.[98] In 2020, the German government adopted *Policy Guidelines for the Indo-Pacific,* which, among others, established a policy framework for German naval and military activities in the Indo-Pacific region, including the *Brandenburg*-class frigate *Bayern*'s Indo-Pacific deployment in 2021–22.[99] The policy declared Germany's commitment to promoting human rights and the rule of law, dedication to strengthening fair and sustainable trade relations, and decisive opposition to hegemonic tendencies.[100] Though not all these issues specifically targeted the PRC, most were directly or indirectly related to China and its increasingly worrisome behavior.

The same year, Vice Admiral Kay-Achim Schönbach (2021–22) succeeded Vice Admiral Krause as chief of the German navy. In his first keynote address, Schönbach cited China's arms buildup as one of the reasons why the German navy had to expand its capabilities. According to Schönbach, the PRC obviously was concerned not only about "trade routes or making a visible contribution to conflict management, but above all about power projection."[101] After 2020,

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cooperative activity between the Bundeswehr and the PLA was drastically scaled back, and in 2021 Germany's request for a port visit of *Bayern* to Shanghai was denied.[102]

In January 2022, Germany's navy chief made a very disputed statement when he suggested that China was a greater threat than Russia, and that the latter might even be a sort of partner against the former. In a controversial comment at the Institute for Defence Studies and Analyses in India, one that subsequently cost Schönbach his position, he elaborated: "Is Russia really interested in having a small, tiny strip of Ukrainian soil to integrate into [its] country? No, this is nonsense. . . . It is easy to even give [Putin] the respect he really demands and probably also deserves. Russia is an old country. Russia is an important country. Even we, India [and] Germany, we need Russia. Because we need Russia against China."[103]

Schönbach's remarks contradicted Berlin's positions on both China and Russia, but it illuminated the drastic turn in Sino-German naval relations. Undoubtedly, Schönbach's comments were detached from reality—most obviously with regard to Russia's interests vis-à-vis Ukraine just a month before Putin's full-scale invasion. However, arguing for a political rapprochement with the Kremlin to deal with an alleged threat posed by Beijing demonstrates the complete turnaround that had occurred in the admiralty building in Rostock over the course of less than two years.

How and why did this change occur? Why had Chinese naval diplomacy failed to foster relations with European Baltic littoral states (though not only with them) and to contribute to a lasting improvement in the relationship between the PLA and the respective states and their navies? To answer this question requires a look beyond the level of practical diplomacy and examination of the larger policy aims that Chinese leadership was trying to achieve.

THE POLICY DIMENSION: COOPERATIVE PRACTICES BUT CONFLICTING AIMS

Booth argues that "ship visits are supportive of a general foreign policy posture, rather than being independently effective."[104] Thus, Chinese naval diplomacy in a European sea needs to be interpreted in the context of Beijing's policy aims vis-à-vis Europe.

There is broad academic consensus that, following China's rapid economic development and increasing international influence, a key feature of its foreign policy was to win acceptance for China's rise as a world power and to portray the country as a responsible global stakeholder.[105] From this perspective, Europe, after many decades of being a "distant neighborhood," played a significant role in China's strategic calculation.[106] Scholars also have pointed out that strengthening

the relationship with European countries and the EU is a function of the Chinese government's efforts to oppose U.S. unilateralism and of Beijing's desire to create a more multipolar global order.[107]

In a manner consistent with the realist school of international relations, China's aspiration to diminish relative U.S. influence incentivized it to pursue collaborative naval diplomacy vis-à-vis the European states. In contrast to the cooperative manner in which China utilized its naval diplomacy and the collaborative spirit in which Chinese naval leaders communicated their intentions, the ultimate goals of this diplomacy were decisively competitive.

As one of its strategic objectives, the CPC aims to expand China's global influence and to construct "a community with a shared future for mankind [人类命运共同体] and advance the reform of the global governance system," as Xi stated at the Nineteenth National Congress of the CPC.[108] One of the central features of this Sino-centric community that Beijing has been attempting to promote through economic and political influence is that it opposes and resists liberal norms and values shared by the global West and like-minded countries.[109] This "world safe for autocracy" created significant policy overlap with other authoritarian countries, such as Iran or Russia.[110] Against this backdrop, the 2022 Sino-Russian joint statement detailed that "Russia and China stand against attempts by external forces to undermine security and stability in their common adjacent regions, intend to counter interference by outside forces in the internal affairs of sovereign countries," and "call for the establishment of a new kind of relationships [*sic*] between world powers on the basis of mutual respect, peaceful coexistence and mutually beneficial cooperation."[111]

This developing strategic condominium between Beijing and Moscow, as Jessica Larsen argues, was a grave concern for the Baltic States, including Latvia.[112] Even in the absence of the Moscow factor, there would have been little space for the interests of small countries such as Finland in the type of global community the PRC was advocating. This was particularly true with respect to China's "core interests," as Puranen and Aukia argue.[113]

Important aspects of Chinese foreign policy interests vis-à-vis Europe also (or really) were about safeguarding China's interests as they related to the country's domestic affairs. This included, for example, policies aimed at diplomatically isolating Taiwan, excluding the Dalai Lama from public discourse, and preventing the intrusion of (what the CPC considered to be) destabilizing influences or "false ideological trends" as outlined in the leaked CPC's 2013 Document no. 9.[114] Europe, or the EU respectively, was of special Chinese concern in this regard because of the EU's role as a civilian or normative power committed to, and promoting, ideals such as democracy, the rule of law, institution building, and universal human rights.[115]

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While it is true that these differences over norms and values already existed at the beginning of the cooperative period under examination here, following the mid-2010s China pursued its interests increasingly assertively. China's oppression of its Uighur population, the suppression of democratic rights and freedoms in Hong Kong (especially after the introduction of the Hong Kong national security law in 2020), Beijing's unwillingness to compromise on one-sided trading and investment conditions, interference in internal affairs of Western states as far as China's core interests or dissident voices were concerned, economic blackmail, and its so-called wolf warrior diplomacy against states and politicians that, for example, critically questioned the human rights situation in Xinjiang or the origins of the COVID-19 virus or matters of digital security were just some of the issues that decisively damaged Beijing's relations with Europe.[116] As Annegret Kramp-Karrenbauer, German minister of defense (2019–21), argues, "I describe the inhuman treatment of the Uighurs in China as a violation of elementary human rights. . . . And China clearly has the ambition to shape the world order in its own way and to coerce the weaker to comply with a certain behavior."[117] This, of course, was the opposite of the image of a globally active but peaceful and responsible great power that China's political narratives, which had accompanied the PLAN's deployments to the Baltic Sea (see subsection on Finland), intended to convey.

China's policy choices also had a direct impact on German naval leadership's perspective on Sino-German defense relations. Like his predecessor, Schönbach was worried about illegal Chinese activities in the maritime domain and was concerned that if they were left unopposed, they could become customary international law. Unlike Krause, however, Schönbach did not differentiate between Chinese behavior in Asia and Europe. Since his appointment as deputy head of the Directorate-General for Strategy and Operations within the German Ministry of Defense, Schönbach had traveled several times to Asia. Through personal interaction with representatives from countries as diverse as the Philippines, Singapore, Vietnam, Malaysia, and Japan, he had been able to develop a firsthand view on China's increasing pressure on the region.[118]

As the political perception of China was undergoing a decisive shift and China's ambitions to challenge the existing rules-based international order (e.g., with regard to the law of the sea) became a source of growing concern, bilateral relations with the European Baltic littoral states and the EU and NATO also deteriorated significantly, and mutual interest in security cooperation faded. Taking the argument even further: even if there still had been potential for collaboration between the navies, no (naval) diplomacy—no matter how good—ever could have bridged these contradictions.[119] Cooperative diplomacy, after all, only is a tool of statecraft, and the chance for success—interpreted in this article as China succeeding in strengthening its international defense relations—is limited by the

policy aims and the attitude toward the international system of the respective governments. As Henry Kissinger points out: "For in a revolutionary international order, each power will seem to its opponent to lack precisely these qualities [good faith and willingness to come to an agreement]. Diplomats can still meet but they cannot persuade, for they have ceased to speak the same language."[120]

As a consequence of China's rise as an economic and military great power, Chinese policy interests have expanded to areas as remote as the Baltic Sea region. Since the beginning of the twenty-first century, numerous PLAN deployments to the region have demonstrated to the Baltic's littoral states and China's main competitor, the United States, that the PLAN is capable and willing to deploy (considering the local distribution of power) forces of a respectable quantity and of state-of-the-art technology to far seas.

Often, these deployments went beyond the simple purpose of "showing the flag," and were carried out in support of specific Chinese defense policy objectives. China utilized cooperative naval diplomacy to influence European states to develop bilateral relations, while at the same time to support China's strategic partner Russia against U.S. and NATO pressure. In these deployments, as demonstrated by the 174th PLAN task group, China also took full advantage of the multifaceted functions of a naval presence, which allows "the same maritime force" to "find itself engaged in more than one sort of activity simultaneously."[121] Consequently, during the second decade of the twenty-first century, Beijing's ambassadors in blue quickly evolved to become a significant instrument of China's diplomatic tool kit in its relations with the Baltic Sea region.

Simultaneously, China's ultimate policy aims were decisively competitive and conflicted with European and Western norms and values, and ultimately undermined the success of China's naval diplomatic efforts outside the Russian Federation. The end of the decade saw not only an end of PLAN deployments to the Baltic Sea but also the deterioration of bilateral relations with Beijing, particularly in the security domain. There is a certain tragedy inherent in this development. Interviews with protagonists cited in this article and government declarations show that, for a short period, there was a sincere interest on both sides to deepen cooperation, including in the naval domain, and, more generally, concerning security issues. Successfully expanding on that cooperation (which would have required a different political environment) would have been beneficial for China, because a strong relationship with Europe would have strengthened the position of the PRC as a responsible world power on an equal footing with the United States. If China's leadership had chosen a different policy path and willingness to cooperate had continued, it would have been advantageous for Europe as well, because a robust relationship with China would have benefited the European

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states with regard to stability and security and, not least, might even have had a moderating influence on Moscow's policies.

Ultimately, genuine cooperation would have been beneficial for humankind as a whole. Naval task groups of a PRC exercising restraint in its foreign policy and a NATO alliance consisting of the United States and its allies that had engaged in naval diplomacy and had conducted (low level) exercises together would have sent out a promising signal that falling into "Thucydides's Trap" was far from inevitable.[122] This window of opportunity has closed for the foreseeable future, even if the naval ensign of the PLAN were to return to the Baltic Sea, and nothing short of a complete reversal of Beijing's foreign and domestic policy could open it again.

NOTES

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NATO AND EMERGING TECHNOLOGIES

The Alliance's Shifting Approach to Military Innovation

Stephen Herzog and Dominika Kunertova

NATO has endured for over seventy-five years, facing the challenges of the Cold War and a difficult transition to counterinsurgency operations after September 11, 2001. Now, the Atlantic Alliance confronts a new set of threats. Revitalized great-power competition and the diffusion of technology undoubtedly will test the adaptability of this thirty-two-nation collective defense organization. Novel technologies hardly are a foreign concept to the world's most powerful military alliance. In its recent history, NATO has helped member countries develop and adopt capabilities ranging from ballistic missile defense to military unmanned aerial vehicles (UAVs), or drones. Many emerging and disruptive technologies (EDTs) of the current era, however, are qualitatively distinct from NATO's previous experiences and therefore pose different challenges.

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Unlike that of earlier innovations in NATO's portfolio related to improved radar or nuclear weapons, the eventual military utility of nascent EDTs such as artificial intelligence (AI) often is less tangible or apparent. Researchers warn that the performance of AI may soon surpass that of humans in many basic activities such as writing essays and driving vehicles.[1] Recent public fixation with the ChatGPT large language model program points to the vast interest and intrigue surrounding future applications of AI. Meanwhile, quantum computers are beginning to solve complex mathematical problems at speeds far beyond the capacity

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of humans. Such technologies may be used to decrypt cybersecurity protocols, vastly improve navigation systems, and design and fabricate components for weapons of mass destruction.[2] They also likely will accelerate decision-making speeds and enhance precision-weapon targeting.[3] While militaries have yet to realize the full potential of these technologies, it is not difficult to imagine how EDTs will shape the global strategic environment and future wartime paradigms.[4]

Emerging technologies offer Russia and China tools to contest the liberal international order that the United States and its NATO allies seek to uphold. Their contestation includes Russia's ongoing war against Ukraine and China's plans to project power regionally by enlarging its nuclear arsenal.[5] It is telling that Russian president Vladimir Putin has stated that the country that wins the AI race "will be the ruler of the world."[6] Moscow is pursuing "weaponized AI without any internationally imposed restrictions," with a particular interest in lethal autonomous weapon systems (LAWS).[7] China's leadership has similar views and is attempting to indigenize its semiconductor production—crucial for powering AI software—as the United States tries to restrict Chinese access to foreign technology.[8] Among Beijing's key military objectives are improved intelligence and surveillance, as well as better missile guidance and tracking.[9]

How are these dynamics affecting NATO? The alliance's member countries have heterogeneous levels of investment and interest in EDTs. This complicates efforts to promote alliance-wide innovation, adoption, and standardization for defense purposes. The reality is that the United States spends several times more on emerging technology annually than Europe—collectively—in both the public and private spheres.[10] Washington's initiatives to weaponize EDTs primarily are aimed at countering Beijing, which Capitol Hill and Pentagon decision-makers view as America's foremost military competitor. Many European countries have, however, been hesitant to support the United States in its competition with China and to help secure militarily relevant dual-use technologies.

While NATO increasingly has operated beyond Europe in recent years, Russia's 2022 invasion of Ukraine was a reminder of the alliance's most proximate threat. These changing geopolitical circumstances present an opportunity for the United States to engage the European allies in technological burden sharing. In its plans to deal with an overtly hostile Russia, NATO could serve as a forum to close growing technology and perception gaps between the United States and Europe in various EDT domains.

NATO has shown its potential to be a vehicle for upstream military innovation throughout its history. There are value-added benefits that the alliance could provide to its member countries such as technical expertise sharing, joint industrial development, and organization-wide strategic planning and threat assessment, to name a few. To their credit, NATO leaders have put forward several high-level

policy documents to guide these discussions. This is a useful starting point, but the hard work is just beginning. Adapting the alliance to global EDT competition will require transformations in the structure of private-public partnerships and human-capital development. Greater European involvement in these processes would also help sensitize American partners to the importance of EDTs in their downstream military procurement activities.

In this article, we therefore chronicle NATO's shifting approach to military innovation and highlight the challenges lying ahead. We analyze recent key alliance documents on EDTs that remain understudied in the academic and policy literature. Our analysis is complemented by interviews we conducted with high-level officials in Brussels who are involved intimately in the day-to-day work of adapting NATO to the age of EDTs. Our article thus examines NATO's efforts to address new threats, develop partnerships, and foster EDT innovation, adoption, and standardization. Ultimately, we conclude that the Atlantic Alliance has the potential to be a leading forum for military applications of emerging technologies, but getting there would entail overhauling many established bureaucratic practices. Inertia is a daunting, but surmountable, hurdle.

GREAT-POWER COMPETITION, ALLIANCE POLITICS, AND EMERGING TECHNOLOGIES COLLIDE

NATO's security context changed dramatically across 2021 and 2022. The last coalition troops left Afghanistan in August 2021, ending nearly two decades of out-of-area military operations, the largest undertaken by NATO countries. This signaled a return to focusing on the territorial defense of Europe as great-power competition unfolded. The logic underlying this decision seemed vindicated when the Kremlin began its unprovoked, full-scale invasion to conquer neighboring Ukraine on 24 February 2022. Putin's war marked a new period of economic and political closeness between Moscow and Beijing, key dissenters from the U.S.-backed liberal international order. China has also continued its quest for regional hegemony in East Asia, upping its threats to Taiwan's sovereignty and making efforts to "modernize, expand, and diversify its nuclear arsenal."[11] It is no wonder there is increasing interest in preparing the alliance for great-power competition.[12]

The new strategic concept adopted by NATO at the June 2022 Madrid Summit directly addresses these new security realities.[13] Three central points are notable for great-power competition and EDTs. First, the concept is unambiguous on Russia: "The Russian Federation is the most significant and direct threat to Allies' security and to peace and stability in the Euro-Atlantic area."[14] Second, for the first time, the Atlantic Alliance specifically highlighted China as a threat. The reasons for this include its global ambitions, partnership with Russia, and efforts "to control key technological and industrial sectors, critical infrastructure,

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and strategic materials and supply chains."[15] Third, the strategic concept warns of adversary nations' use of EDTs. It reflects a recognition that NATO needs to "promote innovation and increase our investments in emerging and disruptive technologies to retain our interoperability and military edge."[16]

Russia presents an immediate threat on NATO's doorstep and leverages EDTs in pursuit of its political and military objectives. When announcing his invasion of Ukraine, Putin issued nuclear threats to deter NATO's intervention in the conflict.[17] Moscow also suspended its participation in the New Strategic Arms Reduction Treaty with Washington and used nuclear-capable (but conventionally armed) and purportedly hypersonic Kinzhal missiles against Ukraine. Furthermore, the Duma withdrew its ratification of the Comprehensive Nuclear-Test-Ban Treaty. The Russian military actively is leveraging machine learning and autonomous systems in its "nuclear command, control, and communications . . . and warfighting capabilities."[18] These developments improve the precision of Russia's nuclear targeting and the ability of its missiles—many aimed at North American and European capitals—to evade air defenses.[19] Meanwhile, Russia has unleashed drone warfare on Ukraine and its population using both indigenous systems and units procured from China and Iran.[20] Some drone types, like the Kalashnikov KUB-BLA UAV, depend on AI algorithms to autonomously identify targets.[21] While Russia's investment in EDTs lags behind the United States and China, it is apparent that the Kremlin has an interest in coupling AI with its existing military capabilities, such as drones, where the "Russians are well aware that swarm technology, powered by artificial intelligence, is seen as a significant force multiplier."[22]

The longer-term challenge to the liberal international order, however, emanates from Beijing, not Moscow. Chinese posturing is not limited to expanding its nuclear arsenal or military drills to intimidate Taiwan and its Western backers. China's rush to secure semiconductors and its sprawling industrial espionage programs aim to close military capability gaps with the United States.[23] For several years now, Chinese defense documents have identified the United States as the country's main adversary and have pointed to military technology as a potential equalizer.[24] Under the Chinese military-civil fusion national strategy, there is little distinction between private and government entities; all EDT investment and development can be used to enhance and project military power. The resulting range of initiatives is vast: "intelligent and autonomous unmanned systems; AI-enabled data fusion, information processing, and intelligence analysis; wargaming, simulation, and training; defense, offense, and command in information warfare; and intelligent support to command decision-making."[25]

Intra-alliance divisions present an obstacle to protecting NATO from potential Russian and Chinese aggression with EDTs. Regarding Russian hostilities, the

June 2022 Madrid Summit Declaration was unequivocal: "NATO will continue to protect our populations and defend every inch of Allied territory at all times."[26] But trade in dual-use technologies, especially those with unclear end states, is more divisive. Because of geographic proximity, Europeans long have had comparatively more economic integration with Russia than their American and Canadian allies have had with Moscow. The European Union (EU) was Russia's largest trading partner, and Russia was the EU's fifth-largest, before the war in Ukraine, with considerable trade in energy and machinery.[27] Several European states, such as Germany, initially encountered resistance to sanctions from home-grown firms engaged in information technology transactions with Russia.

There is even less alliance consensus on China, despite the rhetoric of NATO's new strategic concept. Part of this has to do with Europe's distance from China, and part stems from trade ties. The EU's March 2022 Strategic Compass document demonstrates the complexity of relations with China: "China is a partner for cooperation, an economic competitor, and a systemic rival."[28] On the one hand, most of NATO's eastern European allies are squarely with the United States and United Kingdom in viewing China as a competitor and rival. On the other hand, Paris and Berlin have deep economic partnerships with Beijing. Nowhere was this clearer than in French president Emmanuel Macron's controversial remarks to journalists after visiting China in April 2023. Macron spoke of preventing Europe from becoming "America's followers" and not getting "caught up in crises that are not ours," such as the Taiwan standoff.[29] His statements were praised by leaders in Beijing, who encourage European strategic autonomy to erode NATO cohesion and prevent broader Western involvement in the Indo-Pacific.[30] Another example of division is over whether to allow Chinese telecommunications giant Huawei to provide infrastructure for 5G mobile Internet networks in Europe, which will eventually be replaced with AI-enabled 6G.[31] Some states have signed contracts with Huawei, and others have banned it—fearing the introduction of "choke points of vulnerability" given China's military-civil fusion strategy.[32]

Great-power competition in the realm of EDTs creates new mission space for NATO as a collective defense organization. The alliance needs to protect its intellectual property and critical resources while also finding ways to inspire military innovations to be adopted and standardized. This is no easy set of tasks; it will require significant restructuring of some of the ways the alliance has pursued business for generations.

The traditional Western military-industrial complex may excel at designing main battle tanks, field artillery, and jet fighter aircraft, but it is not optimized for EDTs. Transatlantic defense industry stalwarts such as Airbus, BAE Systems, Boeing, Lockheed Martin, and Raytheon have rushed to invest in AI, machine

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learning, and quantum technologies. Yet this has often been done in partnership with information technology companies that have considerable processing power and expertise, because large defense contractors are not attracting "whiz kid" coders like information technology firms. For this reason, one senior NATO official told us that the tightly controlled military-industrial complex was being replaced with something new.[33] These thoughts reflect the idea that the top-down approach to procurement requires adaptation. Military innovation in EDT domains means securing access to the firms with the right talent, corporate culture, and environment to facilitate creativity.

One proverbial elephant in the room is that young professionals who flock to Silicon Valley and other innovation hubs usually are not excited to work on military projects. In October 2022, a group of robotics manufacturers, including industry leader Boston Dynamics, pledged not to weaponize their products for LAWS or other purposes.[34] This trend has led to numerous warnings that the West will eventually fall behind Russia and China in the EDT race. A *Financial Times* commentary calling for European defense innovation was particularly blunt, stating, "Democracy won't defend itself with the next grocery-delivery app."[35] The stigma effect is all too real for NATO and the Boston Dynamics pledge spurred officials to think about how to improve their reputation in the private sector.[36] The same concern applies to the alliance's own personnel recruiting and that of member countries' ministries of defense. These bodies need tech-savvy staffers to assess military needs and shape procurement decisions.

European states have also shown markedly less interest than the United States in EDT-driven military innovation. Defense spending in Europe since the 2008 financial crisis is both uncoordinated and reduced from previous levels.[37] As a result, Washington has taken the lead in directing the alliance's path forward on emerging technologies. Although recent strategic documents suggest that China poses a threat to NATO, there are fractures in the alliance over whether to back the U.S. strategic pivot to Asia. Much of U.S. defense planning in the EDT realm is directed at containing and countering China. European investment in military innovation and technological burden sharing would thus serve two purposes: responding to Russian EDT efforts, and educating Europe's leaders about the dangers posed by commercial relationships with certain Chinese technology firms.

NATO ADAPTS TO THE NEW TECHNOLOGICAL ENVIRONMENT

It would not be fair to say that the Atlantic Alliance has stood by idly as threats to the European continent have evolved. Though its member countries have their own militaries, there is a role for NATO in the context of multipolar competition with strong technological dimensions. It was always difficult to forge a strategic

partnership with Moscow. In the case of China, the alliance is entering uncharted waters without an organization-wide playbook. EDT-driven innovation is fast becoming one of the main elements of NATO's ongoing adaptation to Russian and Chinese subversion of the rules-based international order.[38] The alliance's response is organized around three principal motivations.

First, new technologies can compensate for negative demographic trends.[39] While the United States has a relatively young and growing population, declining European fertility rates and aging patterns pose challenges to fielding operational forces.[40] The force-multiplying effect of EDTs can aid alliance troops. These technologies can convey advantages of speed, precision, and autonomy to keep soldiers out of harm's way, improving the efficiency of military missions. Energy-efficient emerging technologies also may reduce greenhouse gas emissions of military deployments as the security implications of climate change loom large.[41]

Second, steering the dynamics of defense innovation will allow the allies to set EDT safety standards and ethical codes. Analysts fear that if autocracies are the first movers in domains such as AI, the risks of accidents and unethical use will increase dramatically.[42] By contrast, the view among experts in Brussels is that investment in military innovation by NATO member countries will shape the responsible use of technologies toward liberal democratic values and human rights.[43] The alliance is therefore striving to formulate normative principles for EDT governance.

And third, technological leadership has acquired geostrategic significance. Such considerations feature prominently in U.S., Chinese, and Russian discourses alike.[44] NATO leaders publicly declared in 2021 that the alliance needed to master EDTs to avoid vulnerabilities and that "malicious use" undermines their security.[45] This empowered the statement that increased EDT innovation would "help to ensure, individually and collectively, our technological edge now and in the future."[46] The notion of "technological edge" alongside allied force interoperability has always been central to NATO's defense and deterrence posture.

NATO's history and structure make it well positioned to adapt to EDTs. It remains the only organization providing a daily forum for European and North American political leaders to coordinate on security. In addition to its core principle of collective defense, the alliance reduces transaction costs of cooperation and improves information sharing.[47] NATO is reputed for setting military standards in technical and operational areas to maintain allied force interoperability. Beneath these strategic concept–level tasks, NATO institutionalizes iterated civil and military cooperation among member countries. Its lesser-known contribution to collective defense lies in developing and adopting new technologies. NATO creates a framework for aggregating its members' military technology developments.[48] In the past, the alliance spearheaded multinational development

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of precision-guided munitions and helicopters, to name a few initiatives, and the safety of an allied defense marketplace is why the American F-16 Fighting Falcon fighter and German Leopard 2 tank are used so widely by European militaries. In the future, the transatlantic defense economy inevitably will feature more development and trade in computer software and dual-use technologies.[49]

Put simply, the diffusion of technology can spur military innovation. According to the literature, innovation usually encompasses changes in how troops function in the field, with improved military effectiveness.[50] Innovation may range from adaptations of existing technology or tactics to major changes in the conduct of warfare that alter the core competencies of organizations and soldiers alike.[51] In line with these definitions, mature EDTs are expected to offer militaries improved communications, navigation, targeting, and more. But upstream innovation also requires an actor's downstream capacity to adopt and ultimately put new technologies to use.[52] Indeed, the development and fielding of a new military system can be hindered by resource constraints and integrative deficiencies such as inflexible command, obsolete doctrine, and insufficient training. NATO's efforts to ensure interoperability have been pivotal to overcoming these barriers in the past.

Research suggests that a country's participation in NATO and the external threats presented by Russia and China should encourage its military innovation.[53] For smaller states in particular, the alliance will play a large role in these activities as strategic competition increasingly involves EDTs.[54] NATO's strides to innovate in several converging domains may help its smaller members close capability gaps and find their technology niche. Yet studies on alliance management are mostly silent on industrial policy.[55] NATO has in recent years, however, become more involved in joint procurement and multinational capability development projects. Beyond providing defense expertise for members' innovation efforts, NATO has endeavored to build strong ties among political leaders, military authorities, and armaments manufacturers. There is also a growing recognition that dialogue on EDTs and forums for funding technology will require further involvement of private-sector and academic experts.[56]

This approach parts ways with decades of NATO practice regarding military innovation. The alliance initially engaged with technology to produce platforms for specific applications. Its Cold War innovation strategy was to develop weapon systems that were technically superior to those of the Soviets—largely facilitated by the U.S. defense industry.[57] After the collapse of the Soviet Union, NATO technology discussions lost their competitive narrative. Instead, the allies primarily focused on defensive applications. The predominant threats of the 1990s and early 2000s were not, after all, great powers. The fight against terrorism included concerns about the acquisition of weapons of mass destruction as well as the use of improvised explosive devices. Leaders also worried about new vulnerabilities

for the European continent as "rogue states," especially Iran and North Korea, sought ballistic and cruise missiles.

Until the early 2010s, there even was an appetite within NATO for technical cooperation with Russia. One potential area of collaboration considered was missile defense to defend against potential attacks from Iran and North Korea. After Russia annexed Crimea in 2014, this dialogue collapsed.[58] Aside from treaty-mandated arms control verification between Washington and Moscow, most science and technology cooperation stalled. Dialogue on military technology issues with Russia within NATO's Euro-Atlantic Partnership became nearly impossible. When NATO-Russia ties looked like they could not get worse, Putin launched his full-scale invasion of Ukraine in 2022, and the remaining vestiges of technology cooperation for arms control, business, and scientific exploration came to an abrupt end.

There is a common thread in NATO's history of technological competition and cooperation with Russia—the alliance's model of military innovation focused on specific platforms, capabilities, and partnerships with the traditional military-industrial complex. The changing strategic context discussed in the last section demonstrates why NATO, as an organization, realized this approach was no longer viable in the 2020s.

Now, the innovation model is technology driven and relies on the private sector.[59] This is what officials believe is necessary for great-power competition with Russia and China. During the Cold War, militaries exported technologies into the commercial sector. In turn, commercial companies did not shy away from defense contracts, then regarded as more lucrative than consumer markets. These contracts also presented future possible sales of technology derivatives with civilian and consumer applications. Today's innovation process is different, as it is occurring in the laboratories of large technology firms and in start-up garages. Meanwhile, defense companies are spending less on in-house research and development.[60] The result inverts the innovation pyramid, and militaries are importing technology primarily developed for the commercial sector. Even the advanced weapons and aerospace technologies that are still safely the province of established defense contractors are quickly being integrated with EDTs.

Military and political leaders at NATO Headquarters in Brussels seem to be aware of problems created by global strategic competition and the commercial roots of new military technologies. For instance, nondemocratic rivals may strike deals with Western firms so that they can eventually weaponize technologies that have indeterminate outputs or ambiguous military applications. In many cases, young software developers and their managers may be unaware of the implications of such transactions. The armed forces of NATO members always have attempted to leverage technological advances and their industrial bases. But the

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promises and perils of EDTs are relatively new to the alliance's high-level political documents and strategic communications, which indicates that policy makers are just beginning to pay attention to these technologies. The rise of EDTs entails imperatives for competition alongside the protection of certain human-capital resources and dual-use commercial sectors.[61]

In reality, despite this lack of high-level attention, NATO has been monitoring EDTs for over a decade, principally to counter asymmetric adversaries.[62] New challenges related to technology innovation arrived in the 2010s, including the digitization of NATO's command structure and the development of a joint intelligence, surveillance, and reconnaissance architecture. Over the past decade, NATO established its own organizational fleet of ground surveillance UAVs and designated cyber and space as operational domains.[63]

The technologies themselves, however, did not receive high-level political attention until several years later. NATO's 2010 strategic concept contained a single passing reference to "ensur[ing] that the Alliance is at the front edge in assessing the security impact of emerging technologies, and that military planning takes the potential threats into account."[64] The document did not highlight specific technologies or make recommendations about NATO's own military innovation. By 2022, things had changed monumentally. The strategic concept adopted in June 2022 explicitly highlights EDTs as a key arena for NATO, given global competition. Furthermore, it acknowledges technological primacy as a condition for battlefield success and commits its member countries to innovating and investing in EDTs.[65]

The breadth and depth of the 2022 strategic concept's engagement with emerging technologies should not have surprised close followers of NATO.[66] The alliance's interest in EDTs became more concrete in 2019 with the approval of a road map to structure its work across seven key technology areas (as described in the road map): AI, autonomy, biotechnology, data, hypersonic, quantum, and space. NATO officials also have identified electronics and electromagnetics, energy and propulsion, information and communication systems, and novel materials and technology as worthy of increased attention.[67] The 2019 road map represented the first effort to engage directly with technologies in terms of innovation rather than assessment and defense, which likely explains the (perhaps overly) broad nature of some of the designated technology areas.

The road map paved the way for further attention to EDTs. Technological innovation was no longer just the purview of working-level specialists within NATO; it had gained high-level visibility in the North Atlantic Council and NATO senior committees, which approved a comprehensive EDT strategy in February 2021.[68] The strategy laid out political goals and specified a two-pillar approach. First, NATO member countries pledged to foster innovation by supporting EDT research and development. Second, the alliance warned of the need

for strong national export controls and soft regulatory norms to protect innovators and technology against misuse.[69]

At the June 2021 Brussels Summit, NATO introduced steps to adjust its top-down model of military innovation. Over the past seventy-five years, the alliance has developed close working relations with the defense industry, evidenced by its high-profile NATO Industry Forum and the NATO Industry Advisory Group. These venues do not allow for truly interactive engagement with commercial firms, however. But in Brussels, national leaders sought to reverse this trend by creating conditions for bottom-up developments on EDTs within the NATO technology ecosystem. The centerpiece was a new civil-military technology innovation partnership called the Defense Innovation Accelerator for the North Atlantic (DIANA). Additionally, twenty-three member countries agreed to establish a €1 billion NATO Innovation Fund to support start-ups working on dual-use EDTs over a fifteen-year period.[70]

DIANA aims to attract start-up, software-oriented firms whose programmers have no prior experience working with the defense sector. This accelerator will let private companies compete to provide innovative solutions to problems faced by NATO. In exchange, the alliance offers financial grants, mentorship in working on defense projects, and access to end users on both sides of the Atlantic. DIANA is developing into an EDT industry complex within NATO. It has offices in Canada and the United Kingdom, a regional hub in Estonia, and over one hundred accredited testing centers for use by innovators.[71] Some NATO officials hope DIANA will serve as a national blueprint for member countries.[72]

In the long run, NATO must address a bias prevalent among civilian researchers that defense research is unethical. Because NATO has faced difficulty establishing credibility in the eyes of the private sector in the past, the alliance's evolving approach to military innovation involves discussions of responsible-use principles based on liberal democratic values and respect for human rights. Soft-norm regulatory frameworks such as these allow military actors to signal values to private-sector companies. The goal is to convey to private firms that NATO is an ethical and trustworthy organization and to show the world it intends to shape responsible technology governance.[73] As of April 2024, NATO has published four informal codes for propagating soft norms. They pertain to the responsible uses of AI, autonomous systems, quantum technologies, and biotechnologies and human enhancement. The organization also established its Data and Artificial Intelligence Review Board to begin working on a "NATO Responsible Artificial Intelligence certification standard."[74]

Officials understand NATO's EDT strategy, codes of conduct, and investments in innovation as vital elements in maintaining collective defense.[75] Involvement in the emerging technology race has become part and parcel of NATO's core

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mission. Given our interviews with senior-level officials working on EDTs and our close reading of strategy documents, we identify four functions that enable NATO's changing way of promoting military innovation in EDTs:

1. *Generating* in-house expertise for identifying and developing EDTs as well as addressing threats posed by technological developments
2. *Enabling* technology adoption and integration via standardization and individual or joint procurement support
3. *Networking* with—and investing in—innovators to secure access to the private sector while safeguarding sensitive technologies from adversarial influences
4. *Regulating* military applications of technology through establishing value-based principles of responsible use to shape technology governance

Crucially, NATO provides the necessary political and strategic context for its member countries' EDT engagement. The alliance is adapting to provide resources for understanding the technological availability, technical feasibility, and military utility of new systems. It also fosters cooperation among scientific and technical communities across NATO countries to build trust, share knowledge, and develop expertise they can take home. Coordinated testing and operationalization of EDTs have also produced new NATO standardization agreements on emerging technologies in areas such as aerial and ground robotics.[76] The intent is to further enable the adoption of EDTs at the national level.

Framed in terms of either governance or competition, technology now shapes global politics. NATO is developing tools not only to navigate the era of EDTs but also to actively influence technological progress. Adapting an alliance created in the aftermath of the Second World War to define future capabilities based on digital technologies is no easy feat. However, the more serious challenges lie in maintaining NATO's technological edge and interoperability among member countries. Uneven development could undermine cohesion and the allies' ability to work together.

EMERGING BLIND SPOTS

This new era that combines great-power competition and EDTs is very different from previous periods of NATO military innovation. Emerging technologies are *capability agnostic*, *privatized*, and *multidomain.* In this section, we show how these dynamics present a series of challenges to the Atlantic Alliance in developing and adopting EDTs.

The technology landscape of the past revolved around discrete platforms to provide specific capabilities, fabricated by the traditional military-industrial complex. But extracting benefits from today's technology-driven innovation

requires well-defined requirements and informed policy guidance. Stated differently, the armed forces are buying solutions, not technology.[77] Meanwhile, the power to shape and control military innovation has moved to the private sector, requiring a new interactive cycle beyond legacy procurement processes and traditional defense contractors. NATO has to inform commercial innovators about military needs and then bring awareness back to the armed forces. The alliance cannot leverage advantages in emerging technologies without cultivating relationships with new defense and nondefense partners from the private sector.

The military revolution just over the horizon may bring not one but potentially many "Sputnik moments" across technology domains. The Soviet Union's launch of the first satellite into space in 1957 shook NATO's presumption of possessing a qualitative technological advantage over its adversary. The launch also carried military ramifications; allies' capitals would soon become vulnerable to Soviet ballistic missile developments. The alliance reacted by interpreting article 2 of the North Atlantic Treaty pertaining to "economic collaboration" to apply to peaceful science and technology fields.[78] In 1958, the allies created the NATO Science Committee, which eventually led to today's Science for Peace and Security Program. Global media resurrected the Sputnik metaphor most recently in 2021 in response to China's test of an orbital hypersonic glider.[79] Avoiding Sputnik moments can be difficult when the fast pace of innovation sharply contrasts with the slow pace of military procurement. The difference in the timescale of innovation cycles between the commercial sector (months) and the military (years) can hamper countries' ability to harness new technology. Hence, recent scholarship has concluded that NATO needs a "common strategic culture of innovation."[80]

NATO's EDT strategy discussed in the previous section does appear—at least rhetorically—to address these shifting dynamics. The practical implementation of these policies is not without challenges. From our research, we can identify five:

1. The emerging state of technologies makes concrete military deliverables a moving target.
2. Low rates of technology literacy create space for politicizing EDTs.
3. Staffers with technical expertise are difficult for military organizations to recruit and retain.
4. New technology-driven innovation may clash with preexisting capabilities and industrial partnerships.
5. Monitoring compliance with certifications and codes of conduct relies on delegation to national authorities.

First, the characteristics of emerging technologies are still evolving, and military outputs are not always immediately apparent. The resultant military

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innovation timeline becomes cyclical rather than linear.[81] The alliance may find it difficult to specify requirements for defense without limiting a technology's potential, something that may prove unpopular with innovators. An inability to visualize fully the component or system at the end of the pipeline can complicate assessment and peer-review processes. Personnel working on DIANA and NATO Innovation Fund activities may be pressed to create evaluation metrics that resemble more closely those of civilian scientific bodies than those of a military organization. This risks some technologies evolving in such a way that they may not ultimately become adoptable by the armed forces.

Budgetary constraints for funding capability-agnostic technologies present another predictable limitation. DIANA is known internally as NATO's analogue of the U.S. Defense Advanced Research Projects Agency (DARPA) because of its focus on military applications of EDTs. While DARPA has an annual budget of over U.S.$4 billion, DIANA's budget is only €50 million.[82] This almost symbolic financial incentive may help with idea incubation but likely will be insufficient to fund a start-up whose existence depends on a sole product. Ideally, national authorities would provide further financial assistance to promising entrepreneurs. Similarly, the NATO Innovation Fund depends on the €1 billion pledge over fifteen years made by twenty-three member countries. Though funds are limited, NATO innovation initiatives already have competition. In May 2022, the European Defence Agency inaugurated its Hub for EU Defence Innovation to support cooperation and manage networks of organizations and researchers.[83] NATO and the EU need to leverage their respective institutional strengths and memberships better to avoid duplicating efforts. Intelligence sharing among the members and between both organizations—a historical bone of contention due in large part to Turkey-Cyprus tensions—would help protect the European industrial base against exploitation by rival actors.

Second, improving technological literacy within the alliance could help to avoid the hype and politicization of EDTs. At first glance, NATO is prepared to lead discussions about EDTs across its structures and member countries. It is already assisting countries in this regard and supporting national research and development strategies. However, it is fast becoming clear that NATO needs "translators" to facilitate knowledge sharing between political leaders and engineers, and between military technicians and soldiers.[84] These groups have different day-to-day responsibilities, timelines, and interactions with technology. When Sputnik moments occur, EDT developments need to be placed in an appropriate technical context before leaders react and speak to the media.

As an alliance, an issue for NATO is how to manage its political leaders' expectations regarding EDTs. Preconceived notions of ever-more-sophisticated emerging technologies can lead to turning a blind eye to more-rudimentary ones.

The war in Ukraine is making military applications of EDTs—such as off-the-shelf commercial drones—less abstract and more basic than media speculation of technical marvels suggests.[85]

NATO has the capacity to produce its own technology foresight. Its Science and Technology Organization (STO) provides leaders with advice on notable technological areas and assesses the impact of EDTs on defense and security. The STO has provided an in-depth examination of the transformative and revolutionary potential of EDTs over the next two decades.[86] The organization also raises awareness that individual types of EDTs are unlikely to have impacts on their own. Instead, their major effects on military competition and international order will come in clusters such as data-AI-autonomy or space–hypersonic technology–materials.

The STO paradoxically was not involved in drafting NATO's 2019 EDT road map, which initiated the alliance's posture on emerging technologies. Without the participation of the STO, NATO's discussions lacked real technical expertise.[87] Items that are not technologies per se were included on the list of relevant EDTs, such as data, space, and autonomy. Yet in the past decade, nearly half the STO studies dealt with technologies now labeled EDTs, including drones and hypersonic capabilities.[88] The alliance's defense planning addressed both. NATO thus is rebranding its existing work and taking account of where its expertise lies. The 2021 EDT strategy aims to streamline these processes.

The general lack of European interest and investment in military innovation is producing an intra-alliance technology gap between the United States and Europe. We have discussed the political implications of heterogeneous EDT investment, but there are operational effects as well. Without revitalized European spending on military innovation, the gap will grow as the United States pursues its defense-innovation offset strategy, popularly known as the "third offset."[89] The situation risks making practical transatlantic cooperation between allied forces more difficult, if not impossible.[90] NATO initiatives to foster EDT innovation unintentionally could hurt interoperability if other members do not close this technological gap between the United States and the rest of the alliance. The alliance may also serve as a forum to coordinate positions when European countries are struggling to agree on a coherent approach toward China. NATO could offer its members strong leadership on EDTs and a reliable market for technology trade to present a credible alternative to Beijing. The latest U.S. National Defense Science and Technology Strategy places explicit emphasis on collaborating with allies and developing interoperable technology.[91] Whether this will appeal as a template for the alliance remains to be seen.

Calls for greater technological burden sharing have been part of NATO dialogue for decades. Military technology cooperation among the allies has always

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been a key element of the alliance's fabric, but "achieving rationalization, standardization, and interoperability of Allied weapons has proved to be an elusive goal."[92] In the strategic competition for EDT supremacy between the United States and China, a new layer to the transatlantic bargain is beginning to include technology decoupling from China (or the more politic "de-risking").[93] The balancing act between U.S. technological leadership and recent calls for European technology sovereignty may thus harm Atlantic Alliance cohesion.

Third, NATO and its member countries face shortages of bona fide technical experts in EDT domains. Establishing and implementing the 2021 EDT strategy thus became a collective learning exercise involving roughly 25 percent of NATO personnel.[94] These discussions provided on-the-job learning, which was especially important for delegations from small countries without the capacity to do policy making on EDTs. However, NATO has cannibalized its staff owing to its EDT expertise shortage, taking key experts away from other areas of the organization. The situation raises the question: Who innovates the innovator? While harnessing innovation is never straightforward, militaries are usually resistant to the new and prone to preserve old ideas and practices for the sake of stability.[95] But in the case of EDTs, military innovation necessitates institutional change.

The alliance has tried to solve its human-capital problem with a top-down approach, one that does not yet appear to be working successfully. NATO leadership has issued several high-level political statements and set up senior internal (NATO Innovation Board) and external boards (NATO Advisory Group on EDTs, NATO 2030 Reflection Group). The objective is to adapt the alliance to technology-driven military innovation dynamics and draw in private-sector partners. At present, the initiatives may be too far removed from the daily activities of NATO's staff. For the alliance to innovate itself, forming external advisory groups may not be enough to nurture changes in established practices and culture.[96] Attracting human talent with the technical skills to assess EDTs, related global events, and military needs is central to NATO's ability to inspire technological innovation and adoption.

Fourth, institutional path dependence may hinder EDT adoption. NATO has designed DIANA to obtain new technology know-how quickly, but downstream integration of technology into its command structure and various members' national militaries is another task. This challenge is multifaceted and involves overcoming reliance on legacy systems, reforming lengthy acquisition processes, deconflicting new initiatives with preexisting industrial partnerships, integrating new technologies into extant systems and mind-sets, and restructuring armed forces. Oftentimes making a new technology work for the military is more difficult than the dynamics of the innovation pipeline itself. Deeper engagement with

the private sector would be a start in changing the alliance's approach to adopting novel technology. Structural changes to the organization such as promoting budgetary flexibility and hiring technical acquisition officers could also prove useful for military innovation.[97]

The technology problem is systemic and recurrent. In the 1980s, European countries encountered procurement difficulties and developmental delays with then-emerging technologies, including sensors for tactical reconnaissance capabilities, and microchips and microcomputers for missile guidance and fire-control systems.[98] These issues were compounded by standardization procedures and incompatibilities between U.S. and European defense systems.[99] Matching existing standards and system interoperability requirements with EDTs entails considerable intellectual labor. This includes both greater vertical technical-tactical interoperability and the integration of EDTs into practical training and exercises. Militaries cannot incorporate modern technologies into antiquated planning and mind-sets effectively. Importantly, technology hype and dogma can present setbacks to NATO if the alliance is not prepared to balance innovation with appropriate feasibility criteria. Decision makers typically understand innovation in terms of improving military combat readiness and effectiveness. But innovation also can hinder the achievement of both battlefield and political objectives, especially alongside growing security commitments and shrinking resources.[100]

Fifth, NATO is an intergovernmental organization with neither the capacity nor mandate to monitor technology adoption and enforce compliance with its standards. Stated differently, upstream innovation and downstream adoption processes are distinct. Take the NATO AI strategy, for example.[101] The allies' defense ministers collectively endorsed it in 2021 and the strategy is now backed by a NATO Responsible AI User certification. The success of NATO policy making on AI, however, depends entirely on national implementation and the efforts of member country authorities. This is true in terms of the strategy's guidance on informed decision-making and on developing interoperable systems. That said, policy and industrial stakeholders may hope to garner NATO support for national innovation efforts, which could encourage compliance.[102]

Publishing ethical codes for soft norms in technology governance that the organization cannot enforce could have mixed effects. As we discussed above, doing so signals to the international community and prospective private-sector partners. At the same time, being among the first actors to publish such principles may cost NATO in terms of strategic advantage and military effectiveness. Russia and China are unlikely to have such constraints. And if some member countries opt to ignore NATO's purported normative values, it hurts the credibility of the organization as a whole.

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IS NATO READY FOR THE LOOMING MILITARY REVOLUTION?

The Atlantic Alliance faces significant challenges at the intersection of great-power competition with Russia and China and emerging technologies. NATO is a seventy-five-year-old military organization that needs a push from above to change. Our research suggests that the evolving strategic context and prevailing beliefs in technological edge and solutionism prompted decision makers to address the long process of adapting to the new era of defense innovation. NATO leadership has created a new set of tools to encourage bottom-up innovation to find its way into hierarchical structures long veiled by a classified military culture. If this new approach succeeds, it will be because the alliance cultivated relationships with private industry, overcame hurdles to adopting new systems, and set the tone for dual-use technology regulation.

Our contribution to understanding military innovation that is capability agnostic, privatized, and multidomain is both conceptual and empirical, illustrating how military innovation and technology may come together within contemporary security alliances. Military innovation in the age of EDTs requires institutional change. The main determinants appear to be threefold. First, EDTs necessitate civil-military innovation involving both political leaders and commercial innovators. Second, innovation requires strategic and cultural shifts within organizations due to the security environment and the pace and scope of technological advances. Third, NATO's approach to technology-driven military innovation can be explained through temporal sequencing. The alliance's leadership took steps to create conditions for bottom-up innovation with new infrastructure and financial incentives. The intent is for the private sector to innovate solutions to NATO-defined problems. This interactive and inclusive model parts ways with the rather one-dimensional top-down approach of NATO's past. Future studies are needed to evaluate its implementation and performance.

Our interviews with key officials and close reading of alliance documents also provide further insights into how NATO is likely to interact with EDTs in the future. We identified NATO's approach to managing technology based on the four functions of generating, enabling, networking, and regulating. Likewise, we noted many potential political and technical bumps in the road. These include issues related to adoption challenges, intra-alliance capability gaps, protection of critical resources and human capital, and divisions over how to approach relations with China.

Russia's 2022 invasion of Ukraine revealed deep bonds of unification among NATO's member countries. The alliance has a history and structural base that should enable it to adapt to the age of EDTs, but we have highlighted significant obstacles standing in the way of NATO immediately reaping the benefits of such

innovations. In the coming years, broad questions of EDT export controls and arms control are also likely to gain further prominence.[103] These will be difficult conversations, given the challenges posed by U.S.-China-Russia great-power competition and formulating anticipatory bans on emerging military technologies.[104] One thing is clear: to fully embrace the new era of defense innovation, NATO will have to innovate itself.

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FIGHTING TO SUPPLY THE FIGHT

Assessing Approaches for Overcoming Contested Logistics

Erik Sand

The U.S. Navy, along with the rest of the U.S. armed forces, places significant emphasis on preparing for a potential war with China in the western Pacific. If deterrence fails, supporting any necessary military operations will be the greatest logistical challenge the United States has faced in decades. The Navy is beginning to reckon with those challenges, but a lack of explicit frameworks for understanding the response options hampers alignment of effort and effective investment.[1] This article outlines some of the challenges of conducting contested logistics and defines a framework composed of three distinct approaches to overcoming these challenges: More Is More, Efficient to Be Effective, and Forecast and Push. It analyzes each approach and, without dismissing the first two, recommends emphasizing Forecast and Push.

THE LOGISTICAL CHALLENGE OF MODERN WARFARE

As the ongoing war in Ukraine reminds us, intense conflict uses resources intensively. The conflict's artillery ammunition consumption is illustrative. In the spring of 2023, Ukraine fired 110,000 rounds of 155 mm ammunition per month and claimed it could have used five times that many.[2] Though plans are in place to increase production, as of March 2023, the United States was only producing 14,000 155 mm artillery shells per month—less than 15 percent of Ukraine's monthly consumption at the time.[3] Consumption-production mismatches also exist

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for Javelin antitank missiles, Guided Multiple Launch Rocket System (GMLRS) missiles, and Stinger and Patriot antiair missiles.[4]

While Ukraine demonstrates the logistical intensity of modern warfare, a potential conflict with China is a better metric for the logistical demands the Navy and joint force need to be able to meet. The 2022 National Defense Strategy declared the effort of the People's Republic of China (PRC) to "refashion the Indo-Pacific region" to be the "most comprehensive and serious challenge to U.S. National Security."[5] While the United States is not formally committed to the defense of Taiwan, the Department of Defense has called such a situation the "pacing scenario."[6]

Any armed conflict between the United States and China easily could produce the most intense combat seen in decades. Recent unclassified war games suggested that should the United States and its allies find themselves defending Taiwan, the first two weeks of combat could involve hundreds of ships and aircraft. In these war games, the United States and Japan lost an average of 382 aircraft and China lost 155. At sea, the United States and Japan lost an average of 43 ships and China lost 138. The United States has not seen similar air losses since the Vietnam War; similar ship losses have not occurred since the Second World War.[7]

A conflict of such intensity between China and the United States likely would require far more resources than the war in Ukraine. While the war in Ukraine mostly has been a ground and missile affair, war in the western Pacific would heavily feature ships and aircraft in addition to the ground combat that might occur if People's Liberation Army (PLA) forces successfully landed on Taiwan or elsewhere. Ships and aircraft usually fight with missiles rather than artillery rounds. While rates of fire might be lower, the weapons themselves are more costly, produced at lower rates, and more difficult to transport and reload.[8] Additionally, air and sea operations usually demand significantly more fuel than ground operations.[9] Finally, the substantial intratheater distances in the Pacific create an additional drain on the fuel and food needed to supply the crews of ships and aircraft as they transit to and around the combat zone.

Unlike Russia in the Ukraine conflict, the PRC will have greater opportunity to contest and disrupt the U.S. and allied logistics flow. High politics, geography, and weapons technology all play a role. Politics has constrained Russian attacks on Ukrainian supply lines through NATO countries, because the Russians do not want to bring NATO into the war. In a direct war between China and the United States, equivalent forbearance is unlikely—after all the United States would already be in the war. Pacific geography is more difficult as well. Both inter- and intratheater distances are great and those distances increase the transportation assets required and the time from order placement to delivery. Increased lead times and transportation requirements make recovering from disruptions more

difficult. Longer supply lines also increase the space that could be vulnerable to an enemy attack. Finally, the PRC's investments in long-range antiship and land-attack cruise and ballistic missiles launched from ships, shore, and aircraft mean these weapons will be able to target logistics forces, supply depots, and maintenance facilities—just as they will be able to target operational forces and airfields. These weapons can range up to 4,000 km from the Chinese mainland.[10] If PLA Navy submarines were successful in breaking out of the First Island Chain, the entire supply line to the United States could be vulnerable—unless the submarines were quickly found and destroyed.

Severely limited communications would further exacerbate logistical challenges. Degraded communications could result from enemy action or the Navy's own protective measures. For example, USN forces may need to implement emissions control (or EMCON) procedures, whereby they limit their own use of radios and other electromagnetic emitters to prevent their detection by the enemy. Limited communications will impede sending requisitions, coordination of rendezvous, and damage and casualty reporting.

The Navy's logistics system will face challenges keeping the fleet and joint force supplied and supported across great distances at the speed and scale that modern great-power war will require. The Navy's peacetime logistics system seeks cost efficiency, but these cost efficiencies mean the Navy has little spare capacity to meet wartime demand and losses (and lacks a coherent plan for intratheater logistics to deliver what spare capacity exists in any case).[11]

WHY FRAMEWORKS MATTER

The Defense Department's leadership recognizes these problems and logistics challenges. The Army, Marine Corps, Defense Logistics Agency, and U.S. Transportation Command all have made contested logistics a public priority.[12] The Navy has been less public but similarly is increasing its attention to the issue. The Naval History and Heritage Command published a history of logistics in the Pacific theater in the Second World War and the Naval War College is exploring ways to reinvigorate its logistics curriculum.[13] While these efforts are to be applauded, conversations about how to tackle the Navy's logistics challenges remain muddled. Logistics long has featured a tension between effectiveness and efficiency. Indeed, the official history of the Defense Logistics Agency even is titled *Effectiveness and Efficiency*.[14] Still, the slipperiness of concepts such as "effective" and "efficient"—which at varying times even have meant the same thing in the Navy!—exacerbates the challenge of producing conceptual clarity.[15]

Such clarity matters for successful policy making. Concepts are most useful when they sharpen differences among options. When they do so, they help decision makers set and communicate priorities. They make clear where to invest

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resources and when resources might be better invested elsewhere. Tacit frameworks already exist. When frameworks are not explicit, leaders tend to talk past each other—especially when the concepts under discussion are similar. In these cases, individuals proposing different ideas may believe they agree when they do not. Implementers may inadvertently shape their efforts in the wrong direction owing to misunderstanding. Both situations can result in waste.

DEFINING CONTESTED LOGISTICS

Defining what makes a logistics system effective is the first step in building a framework. An "effective" logistics system must meet two criteria. First, operators should not face unexpected limitations on their operations due to logistical constraints. Some logistical constraints on operations always exist: setting aside investments to increase capacity, the defense industrial base can only produce weapons at a given rate, a ship can only carry so many tons of cargo, it can only move so fast, and so forth. Still, an effective logistics system delivers what it promises to deliver when it promised to deliver it, even under contested conditions. Second, senior commanders should not be overwhelmed with logistics decisions to the detriment of focus on operational issues. When resources are in short supply, subordinate commanders compete for priority access. Senior commanders must adjudicate the allotment of resources between subordinates. An effective logistics system provides a combination of sufficient resources and decision-making capacity so that senior commanders are not overwhelmed adjudicating subordinates' competition for limited logistics resources.

The fundamental challenge that all logistics systems seek to alleviate is scarcity. Scarcity of resources constrains operational commanders' choices and forces decisions about where to allocate existing resources. Scarcity can be general, in which case insufficient resources exist within the logistics system to support the desired operations. Scarcity also can be local, where sufficient resources exist in the logistics systems overall to meet current demand but insufficient resources are located where they need to be to support a given situation. In some situations, a commander can overcome local scarcity, even under conditions of general scarcity, by concentrating resources in support of the priority effort while further underresourcing less important efforts.

When the enemy attacks the logistics system, logistics becomes contested. Even when uncontested, alleviating local scarcity is challenging. Constraints imposed by production capacities, transportation, poor coordination, and friction must be minimized. Ineffective organizations, unclear authorities, and inexperience can exacerbate friction and cause delays and local shortages even without general scarcity. When logistics is contested, enemy attacks exacerbate these problems. Attacks can destroy or limit the availability of supplies, destroy transportation, or

interfere with communications and manipulate information. Protection reduces the effectiveness of enemy attacks but contains its own trade-offs. Units assigned to protect logistics are not available for other operations. Protection procedures can also increase friction in the logistics systems. For example, if ships are sailing in convoy, they must wait for all the ships in the convoy to gather at their departure point before they depart, and they can only travel at the speed of the slowest ship in the group. The point is not that protection is bad—friction and losses would be worse without it—but that even with adequate protection, an effective contested logistics system will take greater planning and resources to produce the same result than would an effective uncontested logistics system.

THREE APPROACHES TO EFFECTIVE LOGISTICS

In any contested logistics scenario, protection will be an important way to reduce the effects of enemy action, and effective organizations will be required to reduce friction. But even before contestation or friction occur the Navy will need to decide how to tackle the challenge of providing sufficient logistical support for the fleet and in support of the joint force. Within the Navy's discussion on how to respond to local scarcity in a contested logistics environment, three approaches coexist. I call them "More Is More," "Efficient to Be Effective," and "Forecast and Push." These approaches attempt to solve logistics problems in different ways, carry different risks, and require different investments.

More Is More

The More Is More approach solves logistics problems through surplus. It seeks to reduce general scarcity to obviate the need for prioritization and eliminate local scarcity. If uncertainty exists about the point of an enemy attack, it sends supplies to all potential points of attack. If the enemy attacks supply lines, it sends more supplies so that even after losses sufficient supplies still reach their destination. The fundamental requirement for this system's success is excessive quantities of all required items and modes of transport. Following this approach would prioritize investments in stockpiles, industrial base capacity, and modes of conveyance. Executed perfectly, this approach minimizes the chances of operational failure due to logistics failure.

More Is More was the cornerstone of the logistics approach the United States took in the Second World War. For example, even at the height of the Battle of the Atlantic in 1942—fundamentally a contested logistics fight—Britain still imported 10.2 million tons of oil that year, almost twice the total petroleum available to Germany in 1940–41 (5.5 million tons) and higher than Germany's peak wartime petroleum availability (8 million tons), in 1943. In 1944, with the Battle of the Atlantic largely won, Britain imported more than 20 million tons.[16] Similarly, in the Pacific the USN cargo and transport ship force grew from 72

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in December 1941 to 257 by April 1943.[17] By the end of the war, there would be more than 1,200 fleet support, cargo, transport, and replenishment ships in the Pacific Fleet.[18]

The downside of this approach is expense and waste. Producing and transporting surplus at the scale required for great-power war is costly and this approach all but guarantees waste. Because it alleviates logistical challenges by directing excessive resources to all potential use locations, the system overdelivers relative to actual demand. Whatever resources arrive in surplus of demand at the locations to which they are delivered are likely to go to waste.

Whether American politics would be likely to sustain the spending required for such an approach—at least short of actual war—is questionable. About half of federal discretionary spending is devoted to defense, a proportion that has stayed roughly similar since the early 1990s.[19] While nominal defense spending has increased since 2015, it has fallen as a percentage of gross domestic product for all but two of the last thirteen years.[20] Moreover, the Republican Party, which traditionally has been the more likely of the two parties to advocate for more defense spending, has become conflicted.[21] The politics of the 2024 defense budget pitted Republicans against Republicans.[22] A key issue of contention in this debate was continued military aid to Ukraine.[23] A substantial portion of these spending packages, however, was designated for rebuilding U.S. weapons stockpiles after earlier transfers to Ukraine.[24] The point is not to cast recriminations but to highlight that political volatility creates uncertainty about the willingness of Congress and the American people to fund a buildup of excess weapons and supplies for a conflict that may not occur. Even requests to replenish depleted stocks, let alone build up stocks, can be caught in the politics of the moment.

Even with certain political support for adequate spending, obstacles still would exist to implementing this approach in the short term. More Is More assumes an industrial base that can supply the required surplus of weapons, munitions, and supplies, as well as surplus means of transportation. But current production constraints could prevent full implementation of the More Is More approach in the time the operational tempo required. The Second World War example illustrates the lead time that such an approach can require. The United States began its naval prewar reinvestment in shipyards and shipbuilding in 1933. It expanded on this spending and building campaign in 1934, 1938, and 1940. Nonetheless, even the dozens of logistics ships built for the Navy during this period were insufficient to meet the fleet's wartime demands, as became starkly clear during the first few weeks of the American landing on Guadalcanal in August 1942.[25]

In the middle of the twentieth century, the United States was near the peak of its industrial capability, but even then it took years of investment in shipbuilding to be able to support the expansion ordered in 1938 and 1940. It took two to three

years from when the American war mobilization began in 1940–41 until massive numbers of ships and quantities of material began to reach the fleet in 1943. Today, the American industrial base is substantially smaller. While there is much more to logistics than building ships to carry cargo, such transports provide a useful example. The United States only builds about ten oceangoing cargo ships a year beyond the ten or so warships that it builds annually.[26] Repair and maintenance periods for Navy ships, which also indicate shipyard capacity, are chronically delayed.[27] Even with full political commitment, the industrial base likely could not meet the demands of a More Is More approach at the scale required for great-power war without years of investment. In sum, while buying more to reduce general scarcity is necessary to some extent, buying so much more as to eliminate local scarcity seems unlikely to be feasible in a strategically relevant time frame.

Efficient to Be Effective

The Efficient to Be Effective approach solves logistics problems with precise information, nimble decisions, and rapid transportation. It aims to alleviate local scarcity even in conditions of general scarcity by concentrating available resources at the place and time of greatest need as determined by near-real-time information. Working as designed, an Efficient to Be Effective approach provides its greatest marginal advantage in situations requiring reaction—in an extreme example, if requirements were well-known in advance, they could be planned for, and adjustment would not be required. In this approach, efficiency is not about reducing costs but about making the best use of existing resources. Operational units provide logisticians with detailed information about supplies on hand and expected demand. In turn, logisticians couple this information with real-time operational information to prioritize requirements and precisely allocate (and reallocate) available resources to the highest need. The fundamental requirements for success are an exquisite logistics information collection and dissemination system, an agile logistics command and control system to make decisions with that information, and sufficient transportation resources to redistribute supplies as required. Following this approach would require investing in communications systems, speedy transportation options, and significant streamlining of command and control. Functioning as designed, this approach minimizes the chance of logistics failure for a given level of resources.

The downside of this approach is its fragility. It relies on copious amounts of timely, accurate information and speedy decision-making. It also requires sufficient transportation that can move with enough speed to reposition supplies from their location to the point of highest priority in time to make a difference. Implementing such a system will be challenging in wartime. Even without enemy action, ensuring the accurate and timely collection of large amounts of information across a theater is difficult. In wartime, enemy action

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or self-imposed communications restrictions may make the collection of such information impossible.

Moreover, military bureaucracies often struggle with speedy decisions, especially when relatively senior commanders are in competition for resources. During the Guadalcanal campaign in World War II, Admiral Kelly Turner, the amphibious task force commander, noted that planning and delivering logistics "absorbed the effort of the staff and of half the ships of this command almost to the exclusion of other operational study and activity."[28] Since the allocation of resources may very well determine the success or failure of operations, subordinate commanders will seek to ensure their commands receive logistical priority and likely will appeal resource allocations as high as they are able. This resource competition easily could slow decisions if the right processes do not exist to manage it. While information-sharing technology may help, it can only do so much to solve this problem, which is fundamentally about the human organization and process for delegating authority and quickly making those high-level decisions that cannot be delegated.

Even if we assume perfect information and instantaneous decision-making, in a geographically expansive theater such as the Pacific the transportation of supplies will take significant time. While time-speed-distance considerations affect all three approaches, these considerations are particularly important for the Efficient to Be Effective approach to overcome, because its advantages derive from being able quickly to reallocate resources to where they are needed most.

Finally, though an Efficient to Be Effective system seeks to avoid local scarcity even under conditions of general scarcity through nimble reaction, the most efficient system operating perfectly can still only do so much. This approach cannot overcome fundamental scarcity. An exquisite data-sharing system will provide little combat advantage if it informs commanders that they have exhausted the global supply of antiship missiles on the second day of the fight. While such a system can help compensate for general scarcity, decision makers must recognize it can only do so much.

Forecast and Push

The Forecast and Push approach seeks to prevent logistics problems using predictive data analytics. Like the Efficient to Be Effective approach, it seeks to alleviate local scarcity under conditions of general scarcity through prioritization and concentration, but it does so by attempting to "get ahead" of the problem rather than reacting. This approach models future demand for logistics and pushes resources to the commands and locations that it forecasts will need them most without requests from those customers.[29] This approach uses fewer resources than either alternative approach. Unlike More Is More, it does not seek to overcome general scarcity, and it requires fewer transportation resources than

Efficient to Be Effective, because it is proactive, not reactive. It will also function better than Efficient to Be Effective in a communications-denied environment, because it can function without real-time data. Its predictive effort seeks to reduce the impact of the tyranny of distance by shipping resources before they are needed. The fundamental requirement for such an approach to succeed is preconflict data and models of sufficient accuracy that the wartime forecasts will be useful. Following this approach would require investments in data analytics and modeling and collecting data to feed the models. The data required for the models would likely be a combination of real-world data and detailed synthetic data generated through war games, exercises, or other operational models.

The downside of this approach is that it has the greatest risk of logistics failure when functioning as designed. This system would send resources to the place it thinks they will be needed most but must wait to see if its forecasts were correct. If the forecasts are wrong, this approach provides few options for recovery. Moreover, it is a distinct possibility that the forecasts would be wrong given the reliance models would necessarily have on synthetic data. More than seventy-five years have passed since the most recent great-power naval engagement or indeed a great-power war generally. Existing data may not train models accurately to predict logistics demand under modern conditions, and synthetic data necessarily would be best estimates subject to many (potentially erroneous) assumptions.

WEIGHING THE APPROACHES

Though distinct, these three approaches—More Is More, Efficient to Be Effective, and Forecast and Push—are not mutually exclusive. For example, the Navy could choose an Efficient to Be Effective approach while also increasing stockpiling and predictive analytics. To some extent, the military services will need to engage in a combination of all three approaches to reach the optimal outcome; Efficient to Be Effective and Forecast and Push can only do so much to overcome general scarcity. Still, resources are finite, which means any sort of strategic approach will require prioritization. As the Navy invests in its logistics system for a contested environment, clarifying which approach will "lead" could help provide coherence to its decisions and align the organization for implementation.

Without political consensus for significantly more investment—which seems unlikely for now—a More Is More approach will not be feasible. Even with such a consensus, it would take years for that investment to reach fruition, leaving a window of opportunity that an adversary might exploit. An Efficient to Be Effective approach is inherently appealing. Improved information and decision procedures will add value, but the careful choreography of logistical movements that this approach would require seems unlikely to succeed under combat conditions if implemented across the logistics enterprise.

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While a Forecast and Push system carries its own risks, making Forecast and Push the lead approach seems most likely to meaningfully improve the likelihood the Navy's logistics would survive in a contested environment. Investments in synthetic-data-generating processes (war gaming, simulations), logistics exercises, and testing wartime logistics in operational exercises could help generate data to make forecasts more accurate. Combined with some investments in resources and improvements in command and control and transportation, these models could help overcome some of the problems that the distances of the Pacific create in a more resilient manner.

Even if Forecast and Push became the overall lead approach, different maritime logistics vectors—Resupply, Refuel, Rearm, Repair, Revive—might subsidiarily emphasize other approaches. More Is More is most likely to be successful for resources that are inexpensive, plentiful, and widely available around the world. It may be the best approach for food and petroleum (aspects of the Resupply and Refuel vectors). Efficient to Be Effective will be most useful and feasible for resources that are particularly scarce, expensive, or perishable and also easy to transport quickly. The former qualities would make a More Is More approach difficult. The latter would help the Efficient to Be Effective system stay nimble. Expensive resources that can be reused may also be good candidates for Efficient to Be Effective since repeatedly moving them to the point of greatest need may provide value. Expert repair and medical teams and blood (Repair/Revive) are good examples of resources for which Efficient to Be Effective might be best. Forecast and Push is particularly useful when items are scarce and heavy (for which surface transportation might be required to move items in volume). Major munitions (e.g., missiles and torpedoes—regardless of their sophistication) likely meet this criterion (Rearm).

If the U.S. armed forces must engage against China in the western Pacific, the fighting will likely be more intense than any in memory. This high-end combat will create significant logistical demands, which will stress the current logistics system. Potential Chinese efforts to contest the delivery of logistics will only increase these stressors. While the Navy and the joint force are considering how to meet the demands of this potential situation, a lack of clear overarching frameworks to compare the options for response hamper current discussions. Three distinct approaches exist in the current discussion: More Is More, Efficient to Be Effective, and Forecast and Push. While each comes with its own risks and variation exists between logistics vectors, Forecast and Push is the approach that the Navy seems most likely to be able to realize under contested conditions given the current investment environment. Aligning investments to support the approach will improve the joint force's capacity for conducting logistics under contested

conditions. Making those investments could not only help keep U.S. forces supplied should a conflict begin but may help prevent one from starting at all.

NOTES

The opinions expressed here are the author's own and do not necessarily reflect those of the U.S. Naval War College or any other part of the U.S. government.

1. This piece addresses the Navy's institutional discussion on contested logistics, but contested logistics is not solely a Navy problem. The entire joint force will face a contested logistics problem in a potential western Pacific conflict with China, and the logistics problem will be joint. All the services will have logistical demands, many of which will be overlapping. The Navy will have a role transporting supplies and other logistical requirements across the ocean surface and in providing protection to Army surface vessels, other-service aircraft, and bases. Similarly, the Air Force will provide air transportation to all services. While discussed in Navy terms, the analysis here also applies to this joint logistics effort and to a logistics effort involving allies and partners.
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9. While rates of fuel consumption vary significantly depending on operations, the following examples are illustrative. An armor company with fourteen Bradley Fighting Vehicles spending eight hours a day conducting cross-country travel and sixteen hours of tactical idle would consume about 2,330 gallons every twenty-four hours. During 2009–15, a USN destroyer, on average, burned 570 barrels (or 23,940 gallons) of fuel per day under way. Much of this steaming occurred at the most fuel-efficient speed, so wartime fuel demand likely would be higher. While aircraft do not operate continuously, on average an F/A-18F burns about 1,100 gallons of jet fuel per flight hour, so one two-hour sortie would rival the daily consumption of a Bradley company. For Bradley fuel consumption see Michael Johnson [Capt., USA] and Brent Coryell [Lt. Col., USA], "Logistics Forecasting and Estimates in the Brigade Combat Team," *Armor*, October–December 2016, p. 21. For ship fuel consumption, see Ronald Filadelfo, William Komiss, and Jessica Oi, *Trends in Operational Fuel Use* (Washington, DC: CNA, August 2016), p. 7, available at cna.org/. For jet fuel consumption see Brett Odom, "Why Sloppy Accounting Is Destroying the US Fighter Inventory," *SOFREP*, 28 August 2016, sofrep.com/.
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A SPECIAL OPERATIONS APPROACH TO LAWFARE

Justin Malzac

In 52 BCE, the Roman statesman and orator Cicero spoke in defense of his friend Titus Annius Milo, on trial for the death of a political rival during a period of unrest, arguing that "laws are silent when arms are raised."[1] These words often have been misinterpreted and removed from their original context to suggest that law does not apply during times of war. But a more complete reading suggests that Cicero was arguing the opposite. His point was that in a situation of mortal self-defense, the law was so obvious, indeed so well established and inherent, that it need not be consulted.[2] In situations where the law is preeminently clear, the defender is free to act accordingly without a second thought. Generating this clarity of the law so as to create a "legal silence" in competition and conflict should be a strategic goal, and can be achieved through what is commonly known as "lawfare."

The idea of setting the stage for future conflict is well established in military doctrine. The concept of "preparation of the environment" (PE) is fundamental to the activities of special operations forces (SOF). Under U.S. joint doctrine, PE consists of activities "to prepare and shape the operational environment" for future military operations, and may include intelligence collection, target development, establishing human and physical infrastructure, or something as specific as setting up a safe house.[3] These preparations allow the military, especially SOF, to transition seamlessly from conditions of peace to conflict and the essential task of defeating the enemy. Forces do not have to waste time and effort at the start of combat operations

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developing new access, logistics, or intelligence, as these things have been established ahead of time. This type of preparation amplifies the effects of SOF operations, which are typically executed by smaller units and at a lower intensity than those of conventional forces, and allows SOF to respond more quickly to crises.

In much the same way, the wartime legal environment can be prepared by making certain sustained efforts prior to conflict. At the strategic level of warfare, preparation of the legal environment would consist of what is now often called *lawfare*, the state-level posturing to shift customary and treaty law in favor of the operational activities that the state desires to pursue.[4] To expand on the SOF analogy: a state can enhance its lawfare efforts by applying other core SOF operating principles, such as "placement and access" and "by, with, and through."[5] The success of SOF is largely driven by partnerships. A good lawfare strategy should be no different.[6] A SOF approach to lawfare applies these principles in the way that the state interacts with international legal structures, preparing the legal battlefield prior to—or to prevent—future conflicts.

WHAT IS LAWFARE?

International Law 101

To understand how lawfare works, we must first examine the mechanics of international law. International law functions quite differently from a state's domestic legal structures. In the absence of some supranational legislature to pass statutes that bind all states to a common code, international law is based on the consensus of sovereign states. This is often referred to as the *Lotus* principle, after a case before the Permanent Court of International Justice between France and Turkey that addressed state actions surrounding the captain of SS *Lotus*. In its ruling, the court solidified the principle that "restrictions upon the independence of States" cannot be presumed.[7] In essence, the *Lotus* principle means that international law is only binding on states that consent to being bound by it. Another way to say this is that state sovereignty is still the primary factor in international law, although "more and more, modern states are ceding their sovereign powers for the sake of global security through treaties like the *U.N. Charter*."[8]

States cede their sovereignty to international law in several ways, best described in the Statute of the International Court of Justice (ICJ). Article 38 of the statute describes the many possible sources of international law—to wit, international conventions (treaties), international custom as evidence of a general practice accepted as law (the state practice element of customary law and norms), the general principles of law recognized by civilized nations (the *opinio juris* element of customary international law), and international court decisions, which are binding on the parties involved.[9] It also suggests that other judicial decisions and the writings of highly qualified academics may be relied on as "subsidiary

means for the determination of rules of law."[10] This can be compared to the use of secondary legal authority in domestic legal cases.

Though no official hierarchy exists for sources of international law, the most recognized precedence follows the order in which the ICJ statute lists them. Treaties create clear and binding obligations on the states that join them. Therefore, a violation of the terms of a treaty by a party state is a clear violation of international law. However, the interpretation of the rules of a treaty are left to each state, and many will submit comments or reservations when they join a treaty. Additionally, originalism is not a hard rule for treaties, and states are able to change their interpretation of a treaty over time.[11] If there is no treaty governing a certain international legal question, or if not all states involved are parties to the relevant treaty, then customary international law becomes the primary focus.

Customary law and norms are established through two complementary and necessary processes: state practice and *opinio juris*.[12] The former refers to the actual actions taken by states on the international stage. The latter refers to the official statements by national governments with regard to their legal obligations toward and interpretation of the law. These may or may not coincide. When they do, the combination of conforming practice and opinion is evidence of a customary norm. In many cases, this interpretation is not given readily, especially when dealing with sensitive topics such as national security matters.[13] If a conflict arises between the rules established in a treaty and customary law, the treaty is normally dominant, since states have agreed to follow the specific language in the treaty. By signing on to a treaty, states knowingly set aside all previous legal structures.[14] Finally, if there is no relevant treaty on which to rely, and if the customary law is murky, one must rely on secondary sources to build a legal argument.

Defining Lawfare

In short, *lawfare* is a modern term describing the use of law as a tool of war (or national security objectives more generally), whether it be hot or cold.[15] When the modern usage was originally coined by Colonel Charles J. Dunlap Jr. (later the deputy judge advocate general of the Air Force and now the executive director of the Center on Law, Ethics and National Security at Duke Law School), he defined it as "a method of warfare where law is used as a means of realizing a military objective."[16] Examples offered by Dunlap included using false claims of war crimes to create legal dilemmas for a more powerful, occupying power. In the two decades since this introduction of the term, the concept of lawfare has expanded into all domains of state power beyond just military operations and encompasses all state actions that employ domestic or international law to achieve a state's objectives.[17]

Beyond Dunlap's original military-centered meaning, Zakhar Tropin provides a more comprehensive definition, suggesting *lawfare* is the "use of law aimed at delegitimising the actions of an opponent (or legitimising one's own) and to tie

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up the time and resources of the opponent and achieve advantages in military activity or in any sphere of social relations."[18] This is the meaning commonly used by academics today, and is the meaning used for this paper.[19] Tropin also cites the scholar Yevhen Magda, who incorporates lawfare under the umbrella of hybrid warfare, which he defines as "a set of prepared and promptly implemented actions of the military, diplomatic, economy-based, and informational type [i.e., DIME] that are aimed at achieving strategic objectives."[20]

Much of the contemporary lawfare activity we observe is centered on making changes to customary law, which is based on the practice and opinions of states. When a broad coalition of states share the same opinion and practice, a legal element can become a norm. However, neither practice nor opinion is static. Certain states today seek to modify customary norms by initiating new practices or publishing new interpretations of both treaty and customary rules. States can also use their representation on international boards and tribunals to assert these new interpretations of the rules. If enough states accept and practice under the new interpretations, these can become the new norms.

For the United States, lawfare at the strategic level must include national-level involvement in the evolution and employment of the law—both defensively and offensively—so that rapid U.S. or allied responses to adversarial aggression receive global legal sanction quickly, or to create political dilemmas for aggressors. One goal for this type of lawfare is to prevent authoritarian states from changing global norms and undermining the global rules-based order. A second goal is to proactively shape global norms to increase freedom of movement to defeat increasing global aggression.[21] (Domestic law also can be used to influence international events and norms, but those mechanisms are beyond the scope of this article.)[22]

The United States lacks a strategic approach to lawfare. As noted by lawfare expert Orde Kittrie, "the U.S. government has only sporadically engaged with the concept of lawfare. It has no lawfare strategy or doctrine, and no office or interagency mechanism that systematically develops or coordinates U.S. offensive lawfare or U.S. defenses against lawfare."[23] Even though much has been written on the concept of lawfare since Kittrie penned his comment in 2016, the criticism largely remains true outside a few notable but isolated exceptions that I discuss later. In general, there is no systematic, coordinated U.S. lawfare effort against competitors that are attempting to dominate the strategic legal terrain. Key global competitors such as Russia and China appear to be advancing faster than the United States.

Lawfare in Action

Russia. Russia has employed lawfare for centuries; Mark Voyger argues that "1774 should be regarded as the year of birth of Russian Lawfare," when the Russian

Empire employed the Treaty of Küçük Kaynarca to achieve certain expansionist goals against the Ottoman Empire.[24] Voyger notes that Russia has more recently employed lawfare to justify interventions in Moldova (1992), Georgia (2008), and Crimea (2014), among others. One method involves corrupting the doctrine of humanitarian intervention to justify and obscure expansionist objectives. There are multiple instances of Russia issuing passports and granting citizenship to Russian speakers in border areas, instigating local independence referenda under the guise of self-determination, then employing its military nominally to "protect" these new citizens from their own legitimate governments, all while occupying new territory.[25] This demonstrates how the Russian government manipulates the legally insufficient justifications for foreign interventions used by Western powers, particularly the United States, for Moscow's own, more imperial, purposes. It thus reveals an unintended risk of relying on such justifications.[26]

Russia is notably effective at employing nuances and loopholes in nondescript legal instruments to serve or cover its own purposes. For example, the Organization for Security and Co-operation in Europe's Vienna Document 2011 on Confidence- and Security-Building Measures places restrictions on the types of military exercises its parties can conduct and also requires them to provide a forty-two-day advance notice of those exercises.[27] Russia avoids this obligation by not "officially" planning exercises ahead of time and instead characterizes them as emergency mobilizations.[28] Additionally, Russia gets around requirements to allow outside observers at exercises exceeding thirteen thousand troops by breaking down what are de facto large-scale exercises into smaller, individually reportable portions.

Russia has also wielded its membership in international legal bodies as a political weapon. For example, before Ukraine went to the International Telecommunication Union to ask the body to block Russia from using Crimea's international dialing code, Russia increased its number of representatives on the body, thereby ensuring the request would fail.[29] Russia has since used the Russia area code in Crimea as one of many arguments that the region is lawfully part of the Russian Federation. When accused of the attempted assassination of the double agent Sergei Skripal using a chemical agent called Novichok, Russia "made a request for cooperation and the provision of documents" to the United Kingdom under the provisions of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction.[30] When the United Kingdom rejected the obvious political ploy, the Russians blamed the United Kingdom for violating the treaty in an effort to deflect the international discussion away from the unlawful assassination attempt. Russia also attempts to embed its agents and spies into international organizations, such as a military intelligence (GRU) operative who tried (but failed) to infiltrate the

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International Criminal Court (ICC), and uses military-observer access through the Organization for Security and Co-operation in Europe to conduct reconnaissance on the Ukrainian military.[31]

China. Although later to employing the strategy than Russia, China also has started using international organizations to serve its political and strategic ends. Increasingly, China prioritizes getting Chinese representatives into leadership positions of these organizations. China twice has maneuvered its candidates into leadership positions at Interpol, the international criminal police organization. The first was Meng Hongwei, who became president of Interpol in 2016 but was jailed for corruption in China two years later (though it is likely that he was removed for political reasons).[32] China has used Interpol's "red notice" system as a way to track down political dissidents abroad, and some analysts suggest that Meng's purge was in part due to his failure or refusal to support these Chinese Communist Party objectives as leader of the organization.[33] More recently, China's judge at the ICJ was one of only two to dissent (the other being the Russian judge) against a call for Russia to cease all military operations in Ukraine.[34] The position is an interesting one for a Chinese official, since China has long stressed the fundamental importance of sovereignty and nonintervention. China has also used its vast political leverage to disrupt a vote in the UN related to the release of a "damning" human rights report on Chinese atrocities in the province of Xinjiang.[35]

As Harriet Moynihan notes: "Until 15 years ago, China was a relatively quiet player on the international law scene, playing only a small role in international rule-making."[36] This is in part because China long viewed international law as a Western construct employed to Beijing's detriment.[37] China's skeptical view of international law is not entirely invalid, considering the myriad uneven treaties that were imposed on it, such as the Treaty of Nanjing, which ended the 1839–42 Opium War in favor of the British, who had instigated the conflict. However, once China realized that international law rooted in Westphalian ideas was not going away, it discovered a severe lack of comparative expertise. Today, China is reluctant to involve itself in many international arbitrations, because it feels its rivals possess dominant legal expertise.[38] But this view is changing rapidly. In 2014, the Chinese Communist Party directly called "for China to take a greater role in shaping the norms that underpin the international legal order."[39] This wide effort now includes an emphasis on international law training for lawyers, the creation of international law centers of excellence in China, and incorporation of lawfare as one of the "three warfares" that underpin Chinese military strategy today.[40]

The most well-known international law issue featuring China is the South China Sea territorial disputes. As noted by Moynihan, the area is an economically

critical region that handles "half of the world's daily merchant shipping, a third of global oil shipping, and 12 per cent of the world's total fish catch."[41] Eight countries have claim to some part of the sea. In 2012, the Philippines referred the issue of China's vast (and unlawful) territorial claims to the Permanent Court of Arbitration (PCA), as allowed by the UN Convention on the Law of the Sea (UNCLOS).[42] The court largely sided with the Philippines in a ruling that declared China's sweeping claims over the areas that overlapped with the territorial claims of other states to be invalid. China maintains to this day that the decision "seriously violates international law" and that it is "illegal, null, and void."[43]

The PCA case reveals China's preferred methods for influencing international law. China is reluctant to participate directly in these sorts of arbitration proceedings, especially if a loss would carry significant repercussions (such as the loss of territory or access).[44] Instead, China will submit matters into the record as a third party. In the South China Sea arbitration, China did not participate as a party to the dispute but did submit a "position paper" with its legal arguments.[45] China also engaged in an information-warfare campaign by encouraging academics to write articles supporting its position and by pushing its arguments in the media.[46] Perhaps to the Chinese government's surprise, the Chinese submission was interpreted by the court to reflect the official position of the state. China now routinely submits matters as a third party in an effort to shape international law judgments, such as with the issue of self-determination addressed in the *Kosovo Advisory Opinion*.[47]

The irony in the South China Sea case is that China's primary counterargument was that the Philippines did not exhaust all possible bilateral means of reconciliation.[48] This means that on the one hand China portrays itself as a defender of the even playing field against an international law construct that it asserts favors Western powers (at least when it views itself as the weaker party). On the other hand, China urges bilateral negotiation as the preferred method of resolving disputes when it is the dominant party, since this allows it to use the full measure of coercive means to get its way. Ironically, this is the very power dynamic that the arbitration processes in international legal instruments are intended to prevent. A hearing at the PCA is supposed to be an even playing field for both politically powerful and weak states—unless you are China, and what you want is inconsistent with the basic tenets of international law.

United States. As noted, the United States does not have a unified and coherent lawfare strategy. However, it has regularly engaged in activities that fall under the umbrella of lawfare. One clear example is the long history of "freedom of navigation operations" (FONOPs) conducted by the U.S. Navy.[49] These activities have been executed in response to "excessive and illegitimate maritime claims" of

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China in the South China Sea, as well as improper claims of maritime sovereignty by other states in the region.[50] As described above, China has long attempted to resist or even modify international norms relating to maritime sovereignty, as exemplified by UNCLOS. This and previous international instruments—not to mention customary law—limit a state's sovereignty to a limited stretch of sea adjacent to its landmass. UNCLOS limits this claim to only twelve nautical miles from the low-water line along the coast.[51] Moreover, all states possess the right of innocent passage within those territorial seas and transit-passage rights in international straits.[52] Freedom of navigation operations exercise the right of innocent passage as a means of stabilizing international maritime norms and preventing China and other states from establishing a customary structure of absolute maritime sovereignty in these spaces.

One of the primary U.S. entities conducting these activities is U.S. Indo-Pacific Command (INDOPACOM), a geographic combatant command of the U.S. military headed by a four-star admiral. The U.S. government has not specifically identified FONOPs as a lawfare activity. However, some elements of the government have begun actively applying the lawfare label to other activities. Last year, INDOPACOM got out in front of the greater U.S. government in lawfare, establishing what it calls a "counter-lawfare" strategy. This concept was first presented publicly at the 2022 International Military Operations and Law Conference. While the event was not specifically focused on lawfare, the official summary of the event noted: "Day 3 was highlighted by a panel on lawfare and counter-lawfare in legal operations with experts from U.S. Indo-Pacific Command, National Defense University, and NATO."[53] This event was attended by more than twenty-five U.S. allies and partners and was presented by the Office of the Staff Judge Advocate (OSJA) in concert with global lawfare experts, including preeminent lawfare scholar Jill Goldenziel.[54]

INDOPACOM's counterlawfare activities expanded quickly. Among the products developed by the OSJA are a summary of the counterlawfare concept; an OSJA lawfare journal, *Legal Vigilance Dispatch*; and so-called tactical aids (TACAIDs) that describe budding legal conflicts and present INDOPACOM's interpretation of the relevant international law.[55] One example was published in response to the Chinese high-altitude balloon that traversed U.S. territory in early 2023. The TACAID describes the Chinese legal claims relating to the balloon in detail and then refutes these claims one by one. INDOPACOM has also published bilateral legal understandings for a few international law matters.

INDOPACOM's efforts, however, are not a whole-of-government approach to lawfare, let alone a multinational one. As described in INDOPACOM's counterlawfare concept, "Counter-lawfare encompasses a range of activities centered on the law and enhancing legitimacy of *USINDOPACOM's objectives*" (emphasis

added).[56] These activities are clearly siloed within the U.S. military, and within INDOPACOM specifically. Thus, what is needed is a more holistic strategy for the United States to conduct lawfare.

SOF PRINCIPLES RELEVANT TO LAWFARE

The unconventional nature of lawfare lends itself to being explored through the lens of principles inherent in the work of special operations forces—the joint force's unconventional warriors—and that in turn suggest avenues for executing lawfare more effectively across the spectrum of conflict. Here we will introduce those relevant principles, and then later examine the ways they expand our understanding of lawfare.

Preparation of the Environment

Preparation of the environment is an umbrella term for myriad actions that might be taken prior to, and in support of, a military operation. This concept evolved from what used to be—and sometimes still is—called *preparation of the battlefield*. As noted in Joint Publication 3-05, PE activities generally are performed by selectively trained SOF personnel and, in addition to intelligence collection, may include close-target reconnaissance, infrastructure development (both physical and human terrain), and RSOI (reception, staging, onward movement, and integration) of follow-on forces.[57]

Intelligence collection historically has been one of the primary PE lines of effort, which some argue can be traced back to the human network activity during the American Revolution, such as with George Washington's employment of the extraordinarily successful Culper Ring.[58] Now, PE is fundamentally a SOF mission. As noted by Joshua Kuyers, "After September 11, 2001, then–Secretary of Defense Donald Rumsfeld pushed for a greater special operations role" in conducting PE, since "SOCOM [Special Operations Command] is one of the few Combatant Commands with global reach and capabilities" and because SOF operate using "innovative, low-cost, and small-footprint approaches."[59] By leveraging highly skilled and well-equipped operators, the military is able to maximize the effect and accuracy of the main operation supported by SOF, whether it be as small as a drone strike or as large as an invasion.

Placement and Access

In an intelligence and counterintelligence context, *placement and access* is literal, describing the information a source can acquire through the source's physical access to facilities or information. In a SOF context, placement and access concerns relationships more generally. U.S. SOF regularly deploy across the world to train with partner militaries, and even sometimes those of less friendly countries. Sometimes, this leads to intelligence and supports PE, or otherwise can be

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exploited for operational gains. In one example related to Operation JUST CAUSE, the 1989 U.S. invasion of Panama, Charles T. Cleveland, a retired senior Army Special Forces officer, recalled:

> My Panama-based Special Forces battalion went into serious preparation for supporting an invasion in the summer of 1989. Our battalion was the remnant of a continuous and, at times, robust Special Forces permanently assigned presence in Panama since the 1960s. Amid rising tensions between Noriega and the United States, we were tasked (along with others) to use our placement and access to get inside Noriega's decision cycle, to put some uncertainty into his planning, and to be prepared to support an invasion.[60]

Placement and access is now seen as a critical element of SOF operations and is viewed primarily through the lens of human networking and partnerships. The commander of SOCOM responded in 2023 to the Senate Armed Services Committee: "Against the threats of North Korea and Iran, USSOCOM's strong relationships with allied and partner forces—and irregular warfare expertise—provide placement, access, and capabilities, while messaging U.S. conviction and minimizing the risk of unintended escalation."[61] The year prior, Christopher Maier, the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict, made a similar comment, noting that over the previous twenty years, special operations forces had built "tremendous partnerships with counterparts in foreign militaries that gives us a tremendous reach globally." Assistant Secretary Maier went on to say that as the United States competes with China and Russia, U.S. SOF's mission set was capable of enabling placement and access to "unlock a lot of other joint force capabilities against near-peer adversaries that they probably can't match."[62] The concern with placement and access is so significant that SOCOM identified a need for greater diversity within the SOF community.[63] As noted by Rachel Theisen, "Adding women to Special Operations will increase organic capability. Women provide access and placement that men alone simply cannot achieve."[64]

By, With, and Through

U.S. SOF regularly leverage the partnerships they cultivate and the irregular warfare networks they have constructed in order to conduct military operations with minimal—or even zero—U.S. boots on the ground. This operating concept is commonly referred to as the "by, with, and through" (BWT) approach, defined as operations "led *by* our partners, state or nonstate, *with* enabling support from the United States or U.S.-led coalitions, and *through* U.S. authorities and partner agreements."[65] What should be added to this definition, of course, is that these efforts are taken *to meet U.S. policy objectives*. The BWT approach gained more popular recognition through the exploits of Task Force Dagger at the onset of the

2001 war in Afghanistan (depicted in the 2018 film *12 Strong*), and it continued to be employed in the theater, helping to enable the international legitimacy of coalition operations.[66] The definition provided by Joseph Votel and Eero Keravuori applies broadly to conventional operations, but historically BWT was almost exclusively a special operations approach to warfare.

During World War II, the Office of Strategic Services (the OSS, precursor to the Central Intelligence Agency [CIA]) employed local partisan forces to achieve U.S. military objectives, the earliest formal use of BWT principles as SOF employ them today. The CIA engaged in local-force BWT tactics again in the Korean War, which became the basis for the *unconventional warfare* concept that would become the core mission of Army Special Forces (a.k.a. the Green Berets). Until the post-9/11 era, employing BWT doctrine remained almost exclusively the province of SOF.[67]

The *by* and *through* elements of the BWT concept refer to operations where the partner force, as the lead element, ultimately is responsible for the operation and its consequences. With new technology—such as the Remote Advise and Assist Virtual Accompany Kits—in the SOCOM inventory, U.S. forces may not even be on the ground in the area of operations.[68] The core difference between the two seems to be whether or how much the supporting state wishes to acknowledge U.S. SOF involvement, the *through* approach generally being used to describe clandestine proxy operations. However, the *with* approach seems preferred, especially for SOF, because it generates "equitable ownership of problem sets and equal involvement in execution of solutions."[69]

The benefits of a BWT approach are numerous. Working together with partners distributes risk, allows for burden sharing of costs and personnel, and allows one side to tap into the unique skills and expertise of the other.[70] This approach is not without its drawbacks and risks, however. Conducting partnered operations can obfuscate the supporting state's ability to assess cost benefits accurately or to mitigate civilian harm.[71] The different command structures and methods of the local partner also can escalate tensions rather than reduce them, since "partnered operations require relinquishing some decisionmaking authority at the tactical and operational levels, diluting the level of control over partner conduct."[72] This does not mean necessarily that local partners are negligent with their planning and execution of operations; in many cases, "local militaries and armed groups are less equipped to mitigate civilian harm than their international counterparts."[73] In most cases, there will be an imbalance among partners in terms of capacity that should be considered when distributing responsibilities and burdens. Even so, in most cases a well-planned and organized combined approach is preferred to a unilateral one.

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A SPECIAL OPERATIONS APPROACH TO LAWFARE

The United States does not have an official doctrine for lawfare, despite years of widespread advocacy for it to develop one.[74] Because SOF have a long, demonstrated ability to attack unique and complex strategic problems, SOF principles—an interagency effort of *preparation of the environment* that utilizes *placement and access* via an international *by, with, and through* approach—are a natural lens through which to develop a coherent lawfare strategy.

All lawfare is a form of preparation of the environment. All the legal actions states take in the context of power competition are done (at least in part) to gain advantages in support of future political or economic efforts and activities. But a more focused and operational approach might yield more-concrete results. At the strategic level of warfare, what we might call "preparation of the legal environment" primarily consists of whole-of-government lawfare efforts.[75] The key idea with PE is that these measures must be *prepared* ahead of time so that countermeasures may be employed promptly when needed.

Traditional PE comprises specific actions tailored to preparing for a specific operation. Having a thousand resistance fighters ready in Barcelona, for example, is irrelevant if the mission is to invade Normandy. The cyber domain is one area where the United States already is preparing the legal environment for operations. The United States is a major world cyber power but is also one of the biggest targets for international cyberattacks. One way to prepare the environment to counter these attacks is to ensure the United States can freely and legally employ its vast cyber capabilities globally. The infrastructure is already there; the main impediment is international law. Despite decades of debate, there still are no binding international norms related to cyber activity, and the lack of clear guidelines creates significant ambiguity and risk for decision makers. For a long time, the principal avenue for developing cyber norms was the UN Group of Governmental Experts (GGE).[76] From 2004 to 2016, the General Assembly established five GGE sessions, which consisted of experts representing between fifteen and twenty-five member states, including the five permanent members of the Security Council.[77]

In 2018, Russia initiated a separate process because it did not like the evolving GGE consensus on cyber law and norms. This was the Open-Ended Working Group (OEWG).[78] The states promoting the OEWG had different political goals they wanted to achieve. At least at first, this created two rival spheres of influence. The GGE advocated for a "sovereignty-lite," open Internet, while the OEWG wanted hard and absolute territorial control over the Internet and other information.[79] Each side uses these international institutions and mechanisms to establish its preferred consensus and rules. If Russia's vision for the Internet were to win out, the world would develop binding norms that make any web traffic

flowing through the physical infrastructure of a state implicate the sovereignty of that state and would also allow states lawfully to shut down domestic Internet at the push of a button. This would create a severe hindrance to the ability of the United States to employ its cyber power. So, the United States continues to promote a sovereignty-lite, open-Internet legal regime through institutions such as the GGE and OEWG. This ensures the international legal environment is prepared in a way to allow the Federal Bureau of Investigation or U.S. Cyber Command to respond quickly to a cyberattack on the United States or its allies. That is the essence of preparation of the environment—preparatory actions taken in advance of specific anticipated operations.

This competition between the United States and Russia relating to conflicting perspectives of Internet freedom and cyber sovereignty has expanded beyond the scope of simply leading the competing working groups to include the placement of individuals at specific, and sometimes obscure, international institutions. For example, Russia and the United States recently competed for leadership of the International Telecommunication Union (ITU), with the open-Internet-supporting candidate favored by the West winning out.[80] The previous secretary general of the ITU, a Chinese citizen, used his position to support the growth of Chinese information technology firms such as Huawei, while also helping China avoid scrutiny and oversight for some of its practices.[81] A Russian secretary general was expected to push policy in favor of the hard cybersovereignty goals of the authoritarian regimes.[82] This example demonstrates the potential power of placement and access in a lawfare context.

Beyond the ITU, both China and Russia have used their presence in other international organizations to promote their goals and drive a shift in international law. But they are not the only ones. More states are employing international legal instruments in novel ways. In response to Russia's 2022 invasion, Ukraine filed and won a case with the ICJ based on an unconventional reading of the Genocide Convention.[83] The core argument was not that Russia had committed genocide itself but rather that false Russian accusations of genocide against Ukraine used as a pretext for unlawful aggression were a violation of the treaty.[84] It is perhaps not surprising that only the Russian and Chinese judges sitting on the case dissented from the powerful majority opinion that ordered Russia "shall immediately suspend the military operations" in Ukraine.[85]

Ukraine is using every tool in its legal tool kit to find leverage against its much larger adversary. For example, Ukraine has employed bilateral investment treaties to inflict financial costs on Russia.[86] Scholars are now suggesting a wide range of unconventional legal measures, such as using the Convention on Legal Assistance and Legal Relations in Civil, Family and Criminal Matters to force Russia into a situation where remaining on the present course in Ukraine would inevitably

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force it into international law violation.[87] Although the likelihood of Russia ever acquiescing in an international court's judgment in such a case is low, the loss of such a case would damage Russian credibility further, so these sorts of legal actions are not without strategic value.

These examples demonstrate the importance of direct involvement in all sorts of international institutions and processes for supporting or achieving national objectives. In this sense, *placement and access* means ensuring the United States not only has membership on as many arbitration bodies as possible—no matter how obscure they may appear—but also possesses experts with deep knowledge of the variety of legal instruments that might prove useful for lawfare. This should be a dedicated assignment for legal professionals, not an additional duty. Tropin argues that "planning and implementing such actions should be carried out by specialists who are not bound by day-to-day legal maintenance of state interests," owing to the excessive workload of routine government operations.[88]

Holding powerful global actors accountable under international law is complicated by the fact that Russia and China have not acceded to many of the relevant instruments. Russia does not recognize the compulsory jurisdiction of the ICJ, preventing Ukraine from filing a complaint of simple aggression and instead forcing it to find other jurisdictional approaches, such as the Genocide Convention. Russia also has withdrawn from Additional Protocol I to the Geneva Conventions, complicating the prosecution of war crimes in its ongoing war against Ukraine. China also rejects the compulsory jurisdiction of the ICJ, does not consent to "the individual or interstate communication procedures of any of the UN human rights treaty bodies," and voted against the creation of the ICC.[89]

But the United States is in a poor position to leverage this against China or Russia, because it too does not recognize the jurisdiction or obligations of many international bodies, and in some cases takes even stronger positions against those bodies. As long as the United States refuses to join the international community under basic instruments of international law such as the ICJ and the ICC, any complaint the United States makes against these rivals appears hypocritical. China and Russia will always have leverage against the United States as long as it continues to be a global outlier. Likewise, the United States must be more cautious in promoting novel interpretations of international law, such as humanitarian intervention or preemptive self-defense, as these can be employed by rival states to achieve contrary ends. The United States should fully join the ICJ, ICC, Additional Protocols to the Geneva Conventions, and other fundamental instruments, as proof of its dedication to the protection of international norms and to protect its own credibility.

However, since national politics and various strong interests make it unlikely that the United States will accede to many additional international instruments

and bodies, it can pursue international legal pressure *by, with, and through* partner nations who are fully compliant with the international system. As in normal military operations, acting in a BWT capacity adds legitimacy to one's actions. More significantly, in an international law context, where law is based on consensus of states, BWT tactics build coalitions who present the same interpretation of the law. This would have a much more powerful effect in shaping the evolution of international norms than one or two states, however powerful, acting alone.

It is worth noting that there is a difference between a *by-with-through* approach and when a more powerful state simply coerces a less powerful one to go along with a political scheme. It is only *by-with-through* if the partner state is acting willingly and genuinely. Considering how customary law is formed, state practice is not enough. A powerful state may be able to coerce another state to take a certain action, but it is still missing the required *opinio juris* aspect—the declaration by the state that it understands the action to be lawful or obligated by law—needed to create customary norms.

There is a lot that the United States can do to support the lawfare efforts of like-minded partners. The U.S. legal experts should support Ukraine in its unconventional legal battles against Russia, along with South China Sea states in their sovereignty contests with China. As with SOF advise-and-assist operations, these partners would lead the "mission" while the United States provides resources and expertise.

One of the SOF fundamentals is "humans are more important than hardware."[90] To this end, it is important not only to build expertise in the above areas, but also to centralize doctrine and leadership. This can be accomplished by creating lawfare centers of excellence (COEs) for the United States and its allies. NATO currently has twenty-eight COEs but none are dedicated solely to legal operations.[91] The legal schools of the military services provide courses on international and operational law, but these institutions likely are not the best place to center lawfare doctrine, since the curricula of these schools vary and are typically focused on the more unique legal needs of the respective sponsoring service.

The creation of a lawfare center should be centralized for the entire interagency, to ensure a unified doctrine and unity of effort across the whole of government. This center would deliver the education that legal professionals engaging in lawfare will need to be effective; in addition, these efforts should be coordinated and planned by a single lead agency.[92] In the same way that SOCOM writes the doctrine for military preparation of the environment, one agency should drive doctrine for *legal* preparation of the environment. This would likely be the State Department, since lawfare is fundamentally political,

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but alternatively it could be an interagency task force, drawing in representatives from the State, Defense, Justice, and Treasury Departments as well as other agencies and activities.

Legal professionals and operations staffs can prepare the legal environment at every level of warfare. At the tactical level, legal preparation of the environment means having judge advocates embedded in the planning process to ensure a smooth transition to military operations and to reduce risk through training and oversight. At the operational level, legal staff can assist commanders in frontloading necessary legal authorities and providing input on legislative changes. But the largest effort happens at the strategic level, where the whole of government must build international coalitions and engage in international lawfare with global competitors. Ensuring that international norms remain consistent with U.S. priorities will equate to less time spent in political maneuvering prior to—or worse, after—the start of an operation. Favorable norms also cause disruptions to the operations of aggressors who flagrantly violate them, most clearly seen in the fierce global reaction to the Russian invasion of Ukraine.[93]

Currently, the United States does not have a consolidated, interagency doctrine for lawfare. This is despite the fact that the United States has created unified strategies for other global issues, such as counterdrug operations and transnational organized crime.[94] Nor does the federal government have a single representative for lawfare, as compared with, for example, the new national cyber director in the field of cyber.[95] This needs to change to meet and support responses to the strategic challenges posed by adversaries who are now actively promoting authoritarian views in international forums, and requires a unified effort that begins with national policy and trickles down into tactical operations. And this transition needs to happen long before the next "hot" war.

The United States should not unilaterally manipulate the law to pursue selfish ends; the nature of international law, with its focus on collaboration and consensus, is an impediment to self-centered approaches. Lawfare, by its nature, must be conducted by coalitions of the willing, and the primary focus of U.S. lawfare efforts must be in developing those partnerships, aligned to a democratic and beneficial interpretation of international law.

NOTES

The views presented are those of the author and do not reflect the official position of the U.S. Army, U.S. Special Operations Command, or the Department of Defense.

1. Cicero, *For Milo*, in *The Orations of Marcus Tullius Cicero*, ed. C. D. Yonge (London: George Bell & Sons, 1891), sec. 11, available at www.perseus.tufts.edu/.

2. Ibid., sec. 10. Cicero describes the point as follows: "What is the meaning of our retinues, what of our swords? Surely it would never be permitted to us to have them if we might never use them. This, therefore, is a law, O judges, not written, but born with us,—which we have not learnt or received by tradition, or read, but which we have taken and sucked in and imbibed from nature herself; a law which we were not taught but to which we were made,—which we were not trained in, but which is ingrained in us,—namely, that if our life be in danger from plots, or from open violence, or from the weapons of robbers or enemies, every means of securing our safety is honourable."
3. U.S. Defense Dept., *Special Operations*, Joint Publication 3-05 (Washington, DC: Joint Staff, 2014), pp. IV-3 to IV-4, available at edocs.nps.edu/.
4. For a full explanation of the three levels of war, see Andrew S. Harvey, "The Levels of War as Levels of Analysis," *Military Review* (November–December 2021), available at www.armyupress.army.mil/. Note also that "there are no fixed limits or boundaries between the levels of war."
5. Joseph L. Votel and Eero R. Keravuori, "The By-With-Through Operational Approach," *Joint Force Quarterly*, no. 89 (2018), available at ndupress.ndu.edu/. The by-with-through approach here is defined as operations "led *by* our partners, state or nonstate, *with* enabling support from the United States or U.S.-led coalitions, and *through* U.S. authorities and partner agreements."
6. James F. Glynn [Maj. Gen., USMC], "A Letter from the MARSOC Commander," *Marine Corps Gazette* (January 2021), available at mca-marines.org/. Glynn argues, "MARSOC remains positioned to capitalize on the forward deployed placement and access to help prepare the operating environment for potential future operations in competition and conflict."
7. S.S. Lotus (Fr. v. Turk.), Judgment, 1927 P.C.I.J. (ser. A) No. 10, p. 18 (27 September), available at icj-cij.org/. The court noted that "international law governs relations between independent States. The rules of law binding upon States therefore emanate from their own free will as expressed in conventions or by usages generally accepted as expressing principles of law and established in order to regulate the relations between these co-existing independent communities or with a view to the achievement of common aims. Restrictions upon the independence of States cannot therefore be presumed."
8. Justin Malzac, "Expanding Lawful Influence Operations," *Harvard National Security Journal,* online ed. (12 April 2022), harvardnsj.org/.
9. Statute of the International Court of Justice art. 38, 26 June 1945, available at icj-cij.org/.
10. Ibid.
11. Article 31 of the Vienna Convention on the Law of Treaties establishes that, when assessing state interpretations of treaties, "any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation" must be considered. Vienna Convention on the Law of Treaties art. 31, 23 May 1969, available at oas.org/.
12. For example, see Brian J. Egan, "Remarks on International Law and Stability in Cyberspace" (Berkeley Law School, Berkeley, CA, 10 November 2016), available at 2009-2017.state.gov/. He remarks, "Customary international law, of course, develops from a general and consistent practice of States followed by them out of a sense of legal obligation, or opinio juris."
13. For example, see Rebecca Crootof, "Change without Consent: How Customary International Law Modifies Treaties," *Yale Journal of International Law* 41 (2016), available at scholarship.richmond.edu/. "States explicitly consent to be bound by a treaty, but their consent to customary international law (to the extent it exists) usually must be inferred."
14. For a brief discussion on how new treaties can abrogate previous custom, see Justin Malzac, "A Broken UN Security Council Is Changing International Law: Part 2," *Georgetown Journal of International Law Blog*, 3 May 2022, www.law.georgetown.edu/.
15. For an in-depth analysis of lawfare, see Orde F. Kittrie, *Lawfare: Law as a Weapon of War* (Oxford, U.K.: Oxford Univ. Press, 2016).
16. Charles J. Dunlap Jr. [Col., USAF], "Law and Military Interventions: Preserving

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Humanitarian Values in 21st [Century] Conflicts" (presented at "Humanitarian Challenges in Military Interventions Conference," Washington, DC, 29 November 2001), available at scholarship.law.duke.edu/.

17. The common acronym for the instruments of state power is DIME, for diplomatic, informational, military, and economic levers.
18. Zakhar Tropin, "Lawfare as Part of Hybrid Wars: The Experience of Ukraine in Conflict with Russian Federation," in "Non-military Aspects of Security in the Changing International Order," ed. Wiesław Lizak, Kamil Zajączkowski, and Malwina Kołodziejczak, special issue, *Security and Defence Quarterly* 33 (2021), p. 17, available at securityand defence.pl/.
19. For example, see Jill I. Goldenziel, "Law as a Battlefield: The U.S., China, and the Global Escalation of Lawfare," *Cornell Law Review* 106, no. 5 (2021), available at cornelllaw review.org/.
20. Tropin, "Lawfare as Part of Hybrid Wars," p. 16 (citing Yevhen Magda).
21. Freedom of movement (or maneuver) is "the actual or perceived degree to which individuals or groups can move from place to place within a given environment or into and out of that environment." For example, see Ben Connable et al., *Assessing Freedom of Movement for Counterinsurgency Campaigns* (Santa Monica, CA: RAND, 2012). Although this is commonly applied to the physical domain, the concept can be, and is, easily applied to other domains, such as cyberspace and law.
22. For an examination of how domestic jurisdiction relates to international issues, see Justin Malzac, "Leveraging Domestic Law against Cyberattacks," *American University National Security Law Brief* 11, no. 1 (2021), p. 32, available at digitalcommons.wcl.american .edu/.
23. Kittrie, *Lawfare*, p. 3.
24. Mark Voyger, "Russian Lawfare—Russia's Weaponisation of International and Domestic Law: Implications for the Region and Policy Recommendations," *Journal on Baltic Security* 4, no. 2 (2018), p. 36.
25. For example, Russia recently declared martial law in the four oblasts of Ukraine that it annexed illegally and issued "a threat to resort to nuclear weapons to defend what Russia sees as its own lands." See Mark Trevelyan, "Putin Demands All-Russia War Effort as He Declares Martial Law in Occupied Ukraine," *Reuters*, 20 October 2022, reuters.com/. Mark Voyger notes: "This lawfare technique was used against Georgia in order to portray the occupations and forced secession of Abkhazia and South Ossetia as a legitimate action in response to the will of the local 'Russian citizens,' coupled with the newly redefined Russian right of 'responsibility to protect.'" Voyger, "Russian Lawfare," p. 39.
26. For a short explanation of how the doctrine of humanitarian intervention violates the intent of the UN Charter, see Malzac, "Broken UN Security Council."
27. Voyger notes the spirit and intent of the instrument is to "increase transparency and reduce tensions in Europe." Voyger, "Russian Lawfare," p. 39.
28. As noted by Voyger, "The Russian modus operandi involves having a major Russian news agency issue a communique on the very morning of the exercise stating that President Putin had called the Minister of Defence Sergei Shoygu in the early hours of that morning to order him to put the Russian troops on full combat alert—a simple but very powerful technique combining lawfare with information warfare." Ibid.
29. Tropin, "Lawfare as Part of Hybrid Wars," p. 20.
30. Ibid.
31. Gordon Corera, "Russian GRU Spy Tried to Infiltrate International Criminal Court," *BBC*, 16 June 2022, bbc.com/; Voyger, "Russian Lawfare," p. 39.
32. John Leicester, "Wife of Jailed Ex–Interpol Chief Says Friend Risks Same Fate," *U.S. News & World Report*, 19 November 2021, usnews .com/.
33. Zane Zovak, "China Seeks to Exploit Interpol Leadership Role to Hunt Dissidents," *Foundation for Defense of Democracies*, 1 December 2021, fdd.org/; Leicester, "Wife of Jailed Ex–Interpol Chief."
34. "International Court Orders Russia to 'Immediately Suspend' Military Operations in Ukraine," *UN News*, 16 March 2022, news .un.org/.

35. Rana Siu Inboden, "Going on Offense against Authoritarians at the UN Human Rights Council and Beyond," *Just Security*, 10 July 2023, justsecurity.org/.
36. Harriet Moynihan, *China's Evolving Approach to International Dispute Settlement* (London: Chatham House, 2017), p. 2, available at chathamhouse.org/.
37. Ibid.
38. Ibid., p. 5.
39. Ibid.
40. Dean Cheng, *Winning without Fighting: Chinese Legal Warfare* (Washington, DC: Heritage Foundation, 2012), available at heritage.org/.
41. Moynihan, *China's Evolving Approach*, p. 3.
42. Daniza Fernandez, "China Claims Arbitral Ruling on South China Sea 'Seriously Violates International Law,'" *Asia News Network*, 15 July 2022, asianews.network/.
43. Ibid.
44. Moynihan, *China's Evolving Approach*.
45. Ibid., p. 3.
46. Ibid.
47. Ibid., p. 9. China sided with Serbia in the dispute on whether the independence declaration of Kosovo was a violation of international law; the ICJ ruled for Kosovo. China has a strong interest in controlling the legal actions of separatist regions.
48. Ibid.
49. For example, see "7th Fleet Cruiser Conducts Freedom of Navigation Operation in South China Sea," *America's Navy*, 28 November 2022, navy.mil/.
50. Ibid.
51. United Nations Convention on the Law of the Sea art. 5, *opened for signature* 10 December 1982, 1833 U.N.T.S., p. 397, available at un.org/.
52. Ibid., arts. 17, 38.
53. Office of the Staff Judge Advocate, "U.S. Indo-Pacific Command's International Military Operations and Law Conference: Record of Proceedings," *U.S. Indo-Pacific Command*, August 2022, pacom.mil/.
54. Jill I. Goldenziel (@JillGoldenziel), "Energized and hopeful after speaking before 25+ US Ally & Partner nations @USINDOPACOM Military Operations & Law Conference in Bangkok," *Twitter*, 20 August 2022, twitter.com/. Goldenziel continued, "At #MILOPS2022 we announced the INDOPACOM Counter-Lawfare Concept of Implementation I've been working on w/ INDOPACOM SJA."
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Top to bottom: Admirals Chester W. Nimitz, Ernest J. King, and Raymond A. Spruance on board USS *Indianapolis* in the Pacific, 1944; Vice Admiral William P. Halsey Jr. with members of his staff; Rear Admiral Stephen B. Luce and class; *Zuikaku* crewmembers throwing explosives off the sinking carrier during the battle of Cape Engaño, 25 October 1944

Source: Naval War College Archives.

THE STUDY AND UTILITY OF NAVAL HISTORY

Milan Vego

The study of history lies in the foundation of all sound military conclusions and practice.

REAR ADMIRAL ALFRED T. MAHAN (1840–1914)

The value of history in the art of war is not only to elucidate the resemblance of past and present but also their essential differences.

SIR JULIAN S. CORBETT (1854–1922)

Human tendency is to ignore what happened in the past as being "irrelevant and useless."[1] This is especially pronounced in navies (and air forces), because of their reliance on advanced technologies. Yet experience abundantly shows the critical role and importance of comprehensive knowledge of naval and military history for all officers and especially for those who aspire to reach the highest command and staff duties in their respective services. Almost without exception, all successful war-fighting admirals also have been serious and lifelong students of history. Knowledge and understanding of all aspects of war in general, and the art of war at sea in particular, cannot be obtained in combat—the life of any officer is too brief. Hence, the best and the only proven way to obtain that knowledge is through long and systematic study of naval and military history.

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The terms *maritime history* and *naval history* sometimes are used as though they are interchangeable. They are not. *Maritime history* is much broader and deeper than naval history because it encompasses the full range of human relationships with the seas and oceans. It consists of a number of subordinate areas of study, such as maritime economic history, the history of merchant shipping, the history of shipbuilding, the history of fisheries, and maritime law—and naval history is itself a

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subset of maritime history.[2] In narrow terms, *naval history* can be described as a study of all aspects of the tactical, operational, and strategic employment of organized naval forces and the naval-related shore establishment across the spectrum of conflict, from routine activities in peacetime and operations short of war, to high-intensity conventional war.

THE STUDY OF NAVAL HISTORY

The Purpose

The true purpose of history is to describe the truth, though truth is never unalloyed and we can only strive to provide objective truth as closely as possible.[3] History can point us in the right direction but cannot provide details about how we should reach a destination. It also can show us what to avoid, but it cannot tell us how to do so. At the same time, history can highlight the mistakes humanity is most likely to make and repeat. It offers to its students lessons on how to learn by the experience of others.[4]

History is a unique discipline. Its study demands a different intellectual process from those used in other disciplines—many of those other disciplines depend on history to provide the basis for their own assertions![5] Various events are examined in all their complexity and in several different dimensions—social, political, and others—to determine a pattern of causation. Unlike other realms of study, history deals with both particulars and universalities.[6] It deals with life as it happened, rather than with "idealized conceptions or with artificially categorized segments of life."[7]

Political, economic, and social ideas do not emerge from a vacuum. They are given meaning only by the historical circumstances within which they occur. They also do not spring from some source of eternal truth. Humans who contribute to and are affected by specific historical events conceive these ideas.[8] Military history is a part of general history. No matter what one's attitude toward war is, war is an integral part of human history. Prior to 1945, there never had been a century without a war and there never had been a time of peace that lasted a hundred years.[9] Since the end of World War II, the world has entered an era of almost continuous low-intensity conflicts, though few high-intensity conventional wars. Military history, with its 3,500-year span, is the only discipline that can illuminate the totality of the phenomena of war.[10] A study of past wars is fundamental to preparation for the next one, because current military problems cannot be solved without an understanding of the past from which they stem.[11]

The Importance

Solid knowledge and understanding of naval and military history provide numerous advantages for naval officers aspiring to reach the pinnacle of their profession. History teaches us to be wary of broad generalizations and quick solutions.[12]

It broadens one's vision and deepens insights. History impresses on one's mind how easy it is to make mistakes and how far-reaching these mistakes can be.[13] In studying history, there is individual judgment, but no formulas, tenets, or rules. Carl von Clausewitz warned against misusing history by expecting it to provide a "school solution" rather than to educate the minds of military commanders to expect the unexpected.[14] He was adamant that the study of military theory, and by extension military history, should guide the commander in his self-education—not accompany him to the battlefield.[15]

History's great naval thinkers—such as Alfred T. Mahan of the U.S. Navy, Raoul Castex of the French navy, Sir Herbert W. Richmond of the Royal Navy, Wolfgang Wegener of the Imperial German Navy, and British naval historian Sir Julian S. Corbett—also were great students of history; otherwise, their theories would have been useless. Mahan wrote:

> History by itself is better than formulated principles by themselves; for in this connection, History, being the narrative of actions, takes the rôle which we commonly call practical. It is the story of practical experience. But we all, I trust, have advanced beyond the habit of thought which rates the rule of thumb, mere practice, mere personal experience, above practice illuminated by the principles, and reinforced by the knowledge, developed by many men in many quarters. Master your principles, and then ram them home with the illustrations which History furnishes.[16]

Rear Admiral Stephen B. Luce, USN, remarked that knowledge of military and naval history shows us what errors have been committed in war and how they may be avoided. Mistakes are inevitable in war as in any other endeavor, but studying the art of war is crucial to making the fewest and least consequential ones.[17]

One cannot but profit by studying the experiences of others.[18] It is unwise to depend on happy inspiration on the spur of the moment. It is preferable to rely on the experiences of others, acquired by the study of history. Napoléon I said that "often what one believed to be a happy inspiration proved to be merely a recollection."[19] Some of the most successful commanders suffered setbacks and even defeats; the study of history should make us humbler. Proper study of history enhances one's ability to think critically and highlights the need for clear thinking.[20]

Ignoring or Neglecting History

Experience shows that when naval officers—and flag officers in particular—ignore or neglect history, it invariably has adversely affected the preparation for war, the development of doctrine, and performance in combat. Some major navies—for example, the Royal Navy and the U.S. Navy—have tended to neglect the study of naval history and the art of war during long periods of relative peace and in the absence of peer competitors. Additionally, major navies usually have

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led in the invention and application of new naval technologies. This reinforces their already strong bias to placing paramount importance on matériel and their relative neglect (sometimes gross) of the study of naval history. Prior to 1914, it was believed widely in the Royal Navy that strategy and history had nothing to do with each other; leaders believed that study of naval history could be deferred until aspiring officers reached flag rank. Moreover, it was believed widely that not everyone should study history and that admirals did not necessarily need to understand naval history.[21] The British prime minister Lord Salisbury (1830–1903) said in 1895 that (British) naval experts could be found to support almost any view on what should be done, a quality some attributed to "the absence of any kind of historical teaching in the [Royal] Navy."[22]

At the Royal Navy College in Dartmouth (established in 1863), history was taught as a string of disconnected events instead of as an analysis of causes and effects. All too often, history lectures were presented as mere collections of events and dates. This approach to teaching naval history discouraged attempts to derive lessons of history with a discerning eye. Yet when taught and studied properly, "history admits no superior in the mental training of officers whose profession is war."[23]

Prior to 1914, the frenzied pace of technological naval advances led to the ascendancy of the so-called matériel school over the historical school in most of the major navies of the day. This, in turn, "killed" meaningful strategic thought.[24] The Royal Navy's officers had scant knowledge of the tactics and strategy in the new era of fast technological changes. There was no staff or war college for the study of these subjects, and there was not much encouragement for young officers to read naval history to learn the principles of strategy and tactics.[25] Captain A. C. Dewar (brother of Vice Admiral K. G. B. Dewar, a leading reformer of the era) asserted that the Royal Navy was deficient in the study of strategy, tactics, and war. He wrote in 1913 that except for Philip Colomb's *Naval Warfare*, "the officers of the greatest navy in the world have produced no work in the last thirty years of any really distinctive merit." What he called "this sterility" might have been attributable to the "inexorable demands" of routine that absorbed all an officer's available time. Yet this was hardly a sufficient excuse. It also might have been owing to an "absolute inability to think in terms of war on the part of minds constantly distracted by the study of mechanism and the minutiae of naval routine."[26]

This sorry situation in the Royal Navy apparently did not improve during the interwar years. Admiral Herbert Richmond (1871–1946), another important reformer and a noted historian, claimed that the Royal Navy neglected study of the humanities in the education of its officers. Although there were excellent lectures given by prominent historians at the Royal Naval College in Dartmouth, they lacked accompanying critical analysis of campaigns.[27]

Like warfare in general, naval warfare is shaped by human nature, the complexities of human behavior, and the limitations of human and physical conditions. Although it should be of obvious importance, naval leaders throughout history often either ignored the critical importance of the human factor in naval warfare or gave it short shrift. In the late 1880s, few U.S. naval officers realized the importance of the human element in warfare. For most of them, war was a type of managerial exercise, a mathematical equation, or an engineering principle. Hence, the study of war was considered unimportant.[28] The prevalent view in the U.S. Navy was that "everything [was] done by machinery." Mahan aptly pointed out that not even "the subtlest and most comprehensive mind" on the planet could devise "a machine to meet the innumerable incidents of sea and naval war."[29]

Like the Royal Navy, the U.S. Navy long neglected the study of both naval history and the art of war. Rear Admiral Stephen B. Luce (1827–1917) founded the U.S. Naval War College in 1884, and he called then-Captain Mahan to be a lecturer at the school. By the mid-1890s, the Naval War College had secured its existence.[30] Admiral Luce noted that history has been called "Philosophy teaching by example," and went on to write that "history admonishes by its warnings. It is by the knowledge derived from the history of naval battles that we will be enabled to establish a number of facts on which to generalize and formulate those principles which are to constitute the groundwork of our new science. . . . It is only by a philosophical study of military and naval history that we can discover those truths upon which we are to generalize."[31] Yet some officers still questioned the value of studying the art of war; one unnamed high-ranking USN officer reportedly quipped, "We can sail our ships, fire our guns accurately, we can keep correct positions in the line of battle. There is nothing else of consequence."[32] At the turn of the twentieth century, USN officers did not always appreciate the full value of military history in their studies.[33] The institutional appreciation for naval history's importance improved during the interwar years. The curriculum at the Naval War College included study of many naval wars and battles, notably the Battle of Trafalgar (October 1805), the Crimean War (1853–56), the American Civil War (1861–65), the Spanish-American War (1898), the Russo-Japanese War (1904–1905), and World War I (1914–18). Furthermore, the students spent much of their time studying the Battle of Jutland (31 May–1 June 1916) in detail.

In the postwar era, the U.S. Navy's interest in history varied greatly. In recent decades, the increased focus on matériel has led to the dominance of technocracy. Because of overemphasis on pure science, the critical importance of liberal arts, including history, in educating the future leaders is given short shrift. There is a widely held belief among many proponents of information technologies that history is irrelevant to the problems facing the Navy today. This situation has many

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similarities to the state of the Royal Navy prior to 1914—which led to its early underwhelming performance in World War I—and in the interwar years. The consequences of such neglect will not be different today.

Learning from Naval History

Study of naval and military history is the best way to understand the aspects of warfare across the spectrum of conflict. Studying past wars at sea, on land, and in the air provides necessary context for understanding the Clausewitzian nature of war. Any war, by its *nature*, includes hostility, violence, bloodshed, fear, fatigue, unpredictability, friction, fog of war, chance, luck, and even irrationality. These features are timeless. In contrast to its nature, the *character* of war is affected by transient factors, such as drastic changes in the international security environment, ideology, demography, religion, international law, and finally, technology. Study of naval history shows that radically new technologies affect all three components of naval art (strategy, operational art, and tactics) to different degrees. No new technology can replace any component of naval art. Novel technologies only can change the character of war at sea. The role and importance of psychological factors in warfare also can be learned and understood fully from the study of military history.[34] Without these intangibles, military history is dull and dry, and no one can learn anything from it.[35] The study of naval and military history shows that study of the phenomena of war requires the use of scientific methods. However, the conduct of warfare is largely an art and not a science, contrary to what many proponents of matériel believe.

Study of naval history emphasizes the need to have a balanced view of the importance of naval strategy, operational art, and naval tactics. By studying history one can learn that naval strategy is not developed without due regard to the larger framework provided by policy and national security strategy. Study of history shows the paramount importance of policy and national strategy. It shows that one's ends, means, and ways must be consonant with one another; otherwise, setbacks or even catastrophic defeats are inevitable consequences. No matter how many victories at sea are achieved and how big they are, they essentially are useless unless they serve a sound and coherent national policy and strategy. If one believes that the historical experiences are irrelevant under the pretext that the situation today is vastly different, then there is no alternative but to create the entire strategy on the basis of personal experiences or the opinion of living authorities.[36] Experience also shows that naval tactics never should be allowed to influence significantly—much less dominate—operational art or even worse, naval strategy.

Study of naval history shows that national and military strategy invariably should dominate operational art; otherwise, the results will be fatal.[37] It illustrates

that poor performance at the operational level can lead to tactical defeats, which may have not only operational but also strategic consequences. Japan's Combined Fleet suffered a decisive defeat in the Battle of Midway in June 1942 despite possessing what should have been an overwhelming superiority of force, because of a flawed operational plan. This example perhaps best demonstrates how the superiority of one's forces easily can be squandered when operational thinking on the part of commanders is lacking.

Experience demonstrates that the accomplishment of operational and strategic objectives depends on the results obtained by tactical actions. Naval strategy should ensure that tactical combat is conducted under conditions favorable for accomplishing strategic objectives. Bad naval tactics can invalidate a sound strategy. Hence, a sufficient level of tactical competence always is required to accomplish strategic or operational objectives in a war at sea. The U.S. Navy did not match tactical skills with the Japanese surface forces during the protracted struggle for Guadalcanal (August 1942–February 1943). However, the Allies ultimately won because they matched means and ends at the operational and strategic levels better than the Japanese. Study of naval history shows repeatedly that great operational victories only can delay but not prevent ultimate defeat if there is a serious mismatch or disconnect of the ends and means at the strategic level. A comprehensive study of past wars at sea, major naval or joint operations, and maritime and littoral campaigns is a major source for developing the operational perspective of future flag officers.

Study of naval history shows that a naval tactical action should not be fought unless it is both part of the operational framework and directly contributes to accomplishing operational or strategic objectives. Tactical victories are meaningless if they are fought outside the operational framework determined by operational art. As part of the larger Battle of Leyte Gulf, Admiral William F. Halsey (1882–1959), Commander, U.S. Third Fleet, won a tactical victory in the battle off Cape Engaño over a much smaller and weaker Japanese carrier force on 25 October 1944. However, that victory essentially was useless, because it was fought outside the operational framework—wherein Third Fleet was to provide effective distant cover and support to the Allied forces in Leyte Gulf. Only Imperial Japanese Navy (IJN) vice admiral Takeo Kurita's (sudden) decision to turn north when his heavy surface force was on the verge of defeating the U.S. Task Unit 77.4.3 escort carrier group in the battle off Samar on 25 October saved the Allies from suffering an ignominious defeat that would have resulted if he had proceeded southward to Leyte Gulf.

Study of naval history shows a great danger in confusing naval tactics with strategy and strategy with the conduct of war, as the IJN did during the interwar years. The IJN was fixated on fighting a single decisive battle in the manner of

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the Battle of Jutland. That preoccupation guided its tactical doctrine and ship designs, resulting in a powerful surface force that was both one-dimensional and brittle.[38]

The lessons of history are not confined only to naval strategy and operational art; they also apply to naval tactics. Proponents of the paramount importance of matériel firmly believe that naval technologies change everything in tactics. In this view, history is largely irrelevant today and in the future. Yet, while new technologies change the character of naval warfare, they do not change its content—that is, the human factor. The timeless importance of such decisions as offensive versus defensive posture, decentralized versus centralized command, and using initiative versus waiting on orders can be found in a long series of naval battles fought since the ancient era. The importance of a thorough understanding of the commander's intentions, of individual initiative, and of refusing to acknowledge defeat is to be found in the past wars at sea.[39] Experience shows that the principal reasons for success in tactical combat are having a plan prepared beforehand, articulating a broad and flexible intent, leaving details of the execution to the subordinate commanders, and not adhering to a formalistic scheme. In other words, the reasons for great defeats have been failure of leadership, poor seamanship, and the lack of courage.[40]

Experience repeatedly shows the need to use an overwhelming force against the most important part of the enemy forces, to achieve success in a naval battle. Admiral Luce observed that study of naval history shows that whether it was Athenian commander Phormion (in the battle of Naupactus in 429 BC) or Marcus Agrippa (in the Battle of Actium in 31 BC), Horatio Nelson or Oliver Hazard Perry (in the Battle of Lake Erie on 10 September 1813), the victory generally has been with a leader who had skill to throw two or more of his own ships on one of his enemy's.[41] Alexander the Great found a fleet necessary to reduce Tyre (in 332 BC). When the Cyprian and Phoenician galleys appeared, the Tyrians sank triremes from their own force in the channel to block the entrance to their harbors. Some 2,200 years later, the Russians executed a like maneuver in Sevastopol (in 1854–55) when faced with British and French fleets.[42]

A thorough study of naval history would show that one's tactical success cannot be consolidated without a quick and sustained pursuit of the remnants of the enemy forces. Many naval commanders have failed to seal their victories by unrelenting pursuit—for example, Admiral George B. Rodney (1718–92) in the West Indies during the American Revolutionary War (1775–83). Admiral Thomas Mathews (1676–1751) abandoned pursuit in the battle of Toulon in 1744 during the War of the Austrian Succession (1740–48) for another objective. The French admiral Anne-Hilarion de Tourville (1642–1701) failed to pursue the squadron of defeated English admiral Arthur Herbert (Lord Torrington) (1648–1716) in

the battle of Beachy Head on 10 July 1690. The British admiral William Hotham (1736–1813) failed to defeat the numerically smaller French squadron in the battle off the Hyères Islands (on the French Mediterranean coast) in July 1795; and Alexander Hood (1st Viscount of Bridport) (1726–1814) also did not finish off the French squadron in the battle off Île de Groix (off the Brittany coast) in June 1795.[43] In the Battle of Jutland, 31 May–1 June 1916, the British Grand Fleet achieved an operational success, but tactical victory belonged to the numerically inferior and better led and trained German High Seas Fleet. Admiral John Jellicoe (1859–1935) did not pursue the German battle fleet, because he believed that he would encounter the dreaded U-boats or mines.[44]

Tactical lessons learned from naval history show the critical importance of mission command, as exemplified by Admirals Michiel Adriaanszoon de Ruyter (1607–76), Edward Hawke (1705–81), and Horatio Nelson (1758–1805), and some other, lesser-known naval commanders. They all commanded by issuing general directives rather than detailed orders. Nelson trained his captains to work together as a team and to seize opportunities without waiting for orders. He blended their wills into one, while leaving to each freedom of action within the respective captain's particular sphere.[45] Prior to both the Battle of the Nile (or Aboukir) in August 1798 and the Battle of Trafalgar in October 1805, Nelson called all his captains and admirals to a roundtable discussion on board his flagship during which he explained in detail his intent for the forthcoming battle. His subordinates served him well, and they achieved two great victories.[46]

Contrast Nelson's command style with that of Admiral Mathews ahead of the missed opportunity at Toulon and the Italian admiral Carlo Pellion di Persano (1806–83) prior to his decisive defeat in the battle of Lissa in July 1866. Mathews gave his second in command, Richard Lestock, a curt "good evening" prior to the battle of Toulon when he called on the admiral for instructions. Persano told Admiral Giovanni Vacca, "We had no prepared plan of actions." He never called together either his captains or his admirals. Compare this attitude with the devolution of command by Admiral Heihachirō Tōgō (1848–1934) in the Battle of Tsushima.[47] Likewise, in the Battle of Jutland, the commander in chief of the High Seas Fleet, Admiral Reinhard Scheer (1863–1928), applied the *Auftragstaktik* (mission command) by allowing subordinate commanders to exercise the initiative within the scope of the higher commander's intent.[48] Scheer only issued general instructions and left his subordinates to carry them out according to circumstances.[49] The Royal Navy's officers under Jellicoe were not educated and trained that way.[50] The British junior flag officers were reluctant to communicate information to Jellicoe and act on their initiative when they had the chance to engage the enemy. The British ships' captains failed to keep their squadron commanders informed.[51] Jellicoe exercised close and personal control over the

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movements of the whole battle fleet without imparting any general idea to his numerous squadrons and flotillas.[52]

Historical experience illustrates that a weaker opponent who carries out a direct attack on seaborne trade or merchant shipping can threaten or even destroy a country's sea power. However, such an attack rarely has been effective to the point of victory unless it has been organized centrally, conducted on a large scale, and coupled with a defeat of the enemy's battle fleet.[53]

Study of naval history also shows how having a highly trained force is critical for success, from the flag officers down to the seamen. One's naval forces can be numerically larger and excellently armed and equipped but still be ineffective because of deficiencies in training owing to unsound doctrine. Combat training is conducted both in peacetime and during hostilities. However, deficiencies in combat training during peacetime cannot be corrected quickly—if at all—once the hostilities start. In the battle of Lissa on 20 July 1866, a numerically stronger Italian squadron suffered a decisive defeat at the hand of a smaller, less technically advanced but better led and trained Austrian squadron. The Italians had forgotten that the true strength of a fleet resides not in the excellence of weapons alone but also in the training and quality of personnel. The Italian fleet lacked organization, discipline, and sea training. Its crews were raw and unskilled in gunnery, and officers were inexperienced.[54] In the War of the Pacific (1879–83), one of the major reasons for Chile's success was the superior quality of its personnel. Its officers had solid professional education and shipboard training; many of them spent time training and serving with advanced European navies.[55]

In the Russo-Japanese War of 1904–1905, the Russian and Japanese fleets were numerically almost equal, but the Japanese sailors were better educated and trained.[56] The state of the Russian fleet in the Far East was abysmal. Training of the Russian ships in gunnery and navigation was neglected for many years. Reportedly it took up to twenty-two hours to move the fleet out of Port Arthur.[57] The main reason for the Russian defeat was the lack of skills and the poor training of the officers and crews. The Russians also did not learn that the most important thing in naval combat is the spirit and decisiveness to win.[58]

Until the Battle of Midway in June 1942, the Japanese navy included superbly trained and combat-hardened carrier pilots.[59] However, the loss of four fast carriers in that battle along with many of their experienced pilots left an aviation arm with much less training and experience and significantly reduced quality and combat effectiveness. By the Battle of the Philippine Sea in June 1944, the quality of training and experience and skills of the Japanese commanders and pilots of the fast carrier forces was much inferior. Most of the Japanese carrier commanders had only two or three months' experience.[60] The Japanese pilots, new to the force, were poorly trained—often with only three to six months of formal combat

training.[61] In one carrier division, no pilot had more than one hundred hours of flying experience.[62] In contrast, a pilot in the U.S. Navy had two years of training and three hundred hours of flying time before he was fit to fly from a carrier. Most of the U.S. carrier pilots were combat veterans.[63] The U.S. Navy also had a much more effective method of training for its pilots. After the Battle of Midway in June 1942, the U.S. Navy used its best pilots to train new pilots. In contrast, the Japanese kept their best pilots in operational units, where they gradually were lost through attrition in combat, along with the experience that could have been passed on to pilot trainees.[64]

The exceptional early performance of the German U-boats in both world wars largely was owed to the high standards of training in the branch. In the case of the lead-up to the Second World War, after the Kriegsmarine's first U-boat flotilla was created in 1935, German admiral Karl Dönitz insisted on strict and demanding training for his U-boat officers and crews. As far as possible, U-boat commanders and crews were trained under realistic wartime conditions. Hence, the U-boat crews were trained thoroughly in all aspects of their potential combat employment.[65] The six-month training schedule was divided into graduated periods. Dönitz claimed that in 1935, each U-boat had to carry out sixty-six surface attacks before it was allowed its first torpedo-firing practice. At the beginning of the war, the Germans had some three thousand well-trained submariners. However, already by the end of 1941, attrition of personnel and wartime demands forced training standards to be reduced.[66]

Prior to 1914, the Royal Navy's doctrine was not to fight at night. The British believed that they would achieve naval victory through formal artillery duels in daytime. In contrast, the Germans were not only very effective at daylight combat but also a great deal more effective at night fighting than the Royal Navy was.[67] In the Battle of Jutland, Jellicoe's only chance after the day action on 31 May was to close in on the German battle fleet west of Horns Reef and engage in a night action. Yet he was not ready to do that, because of the British weakness in fighting a night battle.[68]

During the interwar years, the IJN put an extraordinary emphasis on the intensity and quality of training. Its Combined Fleet was a highly trained combat force, which was evident in the first months of war in the Pacific. All the maneuvers and exercises of the Combined Fleet were conducted under conditions expected in a war. As a result, the skills and war-fighting capabilities of the IJN were improved greatly.[69] After 1927 and until the outbreak of war in December 1941, the Combined Fleet underwent rigorous night training.[70] The most demanding phase of the preparation for war started in 1934. Leaders in the practice exercises emphasized training in severe weather conditions.[71] In contrast, the U.S. Navy entered the Pacific War in December 1941 with poor torpedo tactics and inadequate proficiency in night fighting. These deficiencies were not corrected until

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well into the war.[72] This was the main reason for a series of defeats and losses in the struggle for control of the surface in the Solomons in 1942–43. Also, the U.S. Navy's training standards were not uniformly high—for example, surface forces were not as well trained as naval aviation crews.[73]

Study of military and naval history impresses on readers how critically important it is to have well-educated officers and senior commanders. It provides timeless lessons on the role and importance of leadership at all levels of command. Officers and commanders can gain further knowledge and understanding through the critical reading of biographies and memoirs of the great captains of the past.[74] By studying history, one can get a sense of the pressure and responsibility on commanders in uncertain situations when critical decisions must be made.[75] Understanding the performance of a great naval commander from the past requires a full grasp of the situation in which he found himself, and a clear view of the situation as he saw it.[76] One needs to search for the motives that governed the commander's actions and acquaint oneself fully with the instruction he was given and the conditions under which he made decisions and acted.[77] The greatest utility of military history for officers is that by studying the work of successful commanders, they can best understand what courses of action have borne success or failure.[78]

Study of naval history provides numerous examples of the commander's willingness to take responsibility. To instill, create, and develop the habit of taking responsibility is far from easy. It is very easy to follow uncritically orders issued by a higher commander and thereby not take the responsibility for the consequences in executing such orders. Naval history provides numerous examples of the need to possess moral courage, and it is on those pages that one can find stimulation and guidance.[79]

UTILITY OF NAVAL HISTORY

Study of naval history is useless if one's knowledge cannot be applied in practice. Historical knowledge can be put to good use both by navies as institutions and by individuals. Among other things, a major part of naval theory is derived from in-depth analysis of the past wars at sea. History does not and cannot predict the future. However, it can teach us not to repeat the errors and blunders of our predecessors. The analysis of historical events should lead to the development of a naval theory that shows the relationships and relative importance of various elements of naval warfare and its patterns. Naval theoretical concepts should be created on the basis of certain commonalities derived from the multitude of examples from naval history. And naval theory, in turn, provides a major input to the development of naval doctrine.

The study of naval history is important for the general public, statesmen, and naval officers. For the public, the knowledge of naval history should be an integral

part of the knowledge of history as a whole. Generally, a concerned citizen does not need to read about past operations and campaigns but should be aware of the role the navy has played in the national life.[80] Knowledge and understanding of naval history are very important for statesmen, because they make strategic decisions in both peacetime and wartime that deal with the employment of the armed forces, including naval and maritime forces. Statesmen, especially, need to understand the role and importance sea power has had in history. Leaders use naval forces as tools to accomplish the objectives of policy and strategy. Among other things, history shows statesmen that a nation's strength at sea is heavily dependent on a favorable geographical position and economic strength.[81] History shows the great need for having maritime alliances or coalitions and for understanding those that were successful and those that failed, as well as the reasons for those outcomes.[82]

Study of naval history is extremely important for the navy as a whole and especially for its officers and future flag officers. In general, the more a navy lacks organic combat experience, the more critical it is to educate its officers on the study of the art of war at sea as a substitute to learn from the lived experiences of others.[83] Although study of naval history cannot replace combat experiences, it is the most vital means available in peacetime to prepare an officer for war. The life of a naval officer is too short to obtain experience in all aspects of warfare in combat (if, indeed, that officer experiences combat at all!). But even acquired combat experience necessarily is much more limited than knowledge and understanding provided by the study of naval history. War games, field trips, and exercises are excellent tools for improving the quality of one's operational and tactical training. However, only the study of naval and military history can provide insights into all aspects of warfare.[84]

Naval history is extremely valuable for preparation for higher command in a war.[85] However, officers sometimes do not understand the value of the use of naval history as a preparation for higher command. In all professions there are more of those who seek to know the facts than those who draw conclusions from these facts.[86] Study of naval history should not be limited to what happened in wars at sea, but it also should open one's mind to an understanding of the navy as an instrument of policy and to an understanding of the interplay between domestic and foreign policy and the role and importance that naval and military forces have in a war.[87]

Naval officers do not have such a profound power of synthesis, imagination, and foresight that they do not need to use the experiences of those who have conducted wars at sea in the past. An officer who neglects to learn or ignores the value of naval history is bound to put too much importance on his or her own ideas.[88] Study of naval history would help an officer to understand what motivated some famous admirals to make their decisions. What were the sources of their

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unanticipated difficulties? How did they balance advantages and disadvantages in a given situation? What was their train of thought in reaching conclusions and making their decisions?[89]

Biographies and autobiographies of famous admirals reveal how often successful naval leaders used experiences of others to resolve the problems they faced successfully. Admiral Edward Vernon (1684–1757) referred to the practice of the wars during the reign of British queen Anne (1665–1714) in his advocacy of formation of a western squadron in 1745. Admiral John Norris (1670/71–1749) opposed a proposal to use the fleet to force El Ferrol's narrow fortified channel in June 1740, using precedents from Cartagena, Cádiz, Camaret Bay, Vigo, and Rio de Janeiro to support his opinion that such an operation must be always of a combined nature. During the Crimean War, Captain B. J. Sulivan opposed forcing the entrance of the Russian naval base at Kronshtadt by quoting the experiences of Admiral James Saumarez (1757–1836) in the battle of the Bay of Algeciras (July 1801), and Admiral Nelson in the siege of Calvi (July–August 1794) and battle of Santa Cruz de Tenerife (July 1797). Admiral Pierre-André de Suffren (1729–88) studied the tactics of Admiral De Ruyter and actions of Suffren's two predecessors: Bertrand-François Mahé de La Bourdonnais (1699–1753); and Anne Antoine, comte d'Aché (1701–80).[90]

Some may object that all these commanders applied lessons from predecessors fighting with the same or nearly the same technology and armaments as they themselves possessed. In the modern era, however, ships and weapons are substantially different and more advanced. It is a legitimate question to ask whether lessons from battles fought by wooden ships, for example, are applicable today; they are. By understanding the past one will be less likely to make misleading analogies.[91] There is also a certain permanence of tenets, such as methods of forcing the entrance into a defended harbor or strait or the defense against an invasion, coastal operations, the attack and defense of trade, or the way in which sea command is exercised.[92]

Because very few naval commanders have experience commanding large forces in combat, the best way to educate them is through the study of the successes and failures of great naval and military leaders. There have been some notable exceptions to this, such as Admiral Nelson, a deep thinker who studied the situation carefully prior to making his decisions. He was arguably unique in his ability to discern the right thing to do, and at the right moment.[93] One might argue that almost all successful military or naval commanders were guided by common sense and waged their wars well without being deeply versed in the study of the art of war, but in many cases, victories were achieved despite poor leadership, only because the opponents were even worse. More than once Britain was successful by virtue of its enemies' weaknesses and mistakes rather than

through its own disciplined strength. Nor were all Britain's wars conducted skillfully, as the examples of the War of the Austrian Succession, the American War of Independence, and the Crimean War illustrate.[94]

The most successful military commanders, such as Napoléon I and Field Marshal Helmuth von Moltke Sr., were also well-known as students of history. Napoléon I said, "Wage an offensive war . . . as did Alexander, Hannibal, Caesar, Gustavus Adolphus, Turenne, Prince Eugene and Frederick. Read and read again the history of their eighty-eight campaigns. Model yourself upon them; in this way only can you become a great leader and penetrate the secret of the art. Your reason thus enlightened will cause you to throw aside maxims opposed to these great men."[95] He also said, "Tactics, manoeuvres, the science of the engineer officer and of the artillery officer; these can be learned in text books; but the knowledge of grand tactics [operational art] is acquired only through experience and by the historical study of the campaigns of great captains."[96] Moltke said that to make a rational decision, we should "develop freely, practically, artistically, the mind and the will, with the help of a previous military culture resulting either from the study of history or from one's own experience."[97]

Some of the greatest naval leaders were also great students of history.[98] Several of the U.S. Navy's best admirals—Ernest J. King (1878–1956), Chester W. Nimitz (1885–1966), Raymond A. Spruance (1886–1969), and R. K. Turner (1885–1961)—were known for their comprehensive knowledge of naval history. King studied both naval and military history. He was especially impressed with Mahan's book *Types of Naval Officers Drawn from the History of the British Navy*, containing essays of famous British admirals in the eighteenth century. Among his heroes were Admirals Jervis, Nelson, Tromp, Suffren, and Farragut.[99] King read not only Mahan but books on Napoléon I and the American Civil War. He admired Napoléon I and studied several of his marshals. Moreover, he was one of the rare naval officers who studied land warfare.[100] King also wrote a number of articles that appeared in the U.S. Naval Institute's *Proceedings* as a junior officer.

Admiral Nimitz was also a student of history. By his own account, the eleven months he spent as a student at the Naval War College (1922–23) had the largest impact on his wartime command. He immersed himself in reading naval and military history, strategy and tactics, and biographies. He also took part in war games where the main potential enemy was always Japan. His student thesis was on the Battle of Jutland.[101] Later in his career, Nimitz took great interest in amphibious operations and concluded that they would be the primary feature of a war between the United States and Japan.[102] Nimitz apparently had a lifelong interest in naval history. With Professor E. B. Potter, he coedited the acclaimed work *Sea Power: A Naval History* in 1960.[103]

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Admiral Spruance acquired a solid knowledge of naval history during his years as a student (1926–27) and an instructor at the Naval War College (1931–33; 1935–38). Spruance was highly interested in the art of naval warfare. He also was stimulated intellectually at the Naval War College by taking part in war games and gained a reputation as a thinker within the Navy.[104] As an instructor and head of the Operations Department (1937–38), Spruance also lectured on sea power, naval history, and employment of large naval forces in the struggle for sea control. Admiral R. K. Turner served as a captain in the Operations Department, under the direction of his friend Admiral Spruance. He was well-known as the author of lectures on strategy, operations, and tactics. Turner was a firm believer that carriers and amphibious warfare would be dominant features in a future war. This contrasted with the mainstream view of the supremacy of battleships.[105]

There are also several dangers in studying naval and military history. Very often, historical examples are misused to win bureaucratic battles in support of a specific weapon program. Often, these so-called lessons have entrapped those using them without recognition of critical changes to conditions that alter how or whether the lessons can be applied.[106] Perhaps it is even more serious to continue to rely on such lessons without trying to adjust, refine, or even abandon them when considering the new situation. The writings of Admiral Mahan are perhaps a classic example of lessons that not only were accepted uncritically but also were followed dogmatically long after their straightforward usefulness had passed. Mahan was not a theoretician but a historian of sea power. He did not use historical examples to illustrate a theoretical construct; rather, he used naval history to derive lessons that could be applied universally.[107] Another pitfall in studying history and deriving lessons is focusing on a single defining moment and then absolutizing its significance at the expense of all others. In studying military history, one should avoid applying a historical example of one era to completely different contemporary conditions.

Experience shows the inestimable value of studying naval and military history for all naval officers and prospective flag officers and their staffs in particular. The best way to understand all aspects of naval warfare is through lifelong study of naval and military history. Study of history should start very early on in one's professional career. It is simply too late to start such a study after an officer is promoted to a flag rank. In general, not only are flag officers responsible for commanding their forces in combat, but they also have numerous administrative responsibilities. This leaves little if any time for studying the art of war. Almost all great war-fighting admirals in the modern era were known as lifelong students of history. Among other things, thorough study of history is the best means of

understanding the importance of sea power in a war, the role and importance of technology, and the impact of other factors on the character of war at sea. It shows the importance of understanding the dominant role of policy and strategy on the conduct of war at sea. The relationship among naval or maritime strategy, operational art, and tactics cannot be properly understood without in-depth study of naval warfare of the past eras. Study of naval and military history highlights the timeless importance of naval leadership at all levels and shows how critically important it is to have highly trained and skillfully led naval forces; otherwise, success in a war would be wanting.

NOTES

Portions of this article expand on or modify work that appeared as Milan Vego, "Learn and Use History's Lessons," U.S. Naval Institute *Proceedings* 143/2/1,368 (February 2017).

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107. Roland Alfred Bowling [Capt., USN (Ret.)], "The Negative Influence of Mahan on the Protection of Shipping in Wartime: The Convoy Controversy in the Twentieth Century" (PhD diss., Univ. of Maine, 1980), p. 2, microfilm.

BOOK REVIEWS

UNDERSTANDING WARFARE—PAST, PRESENT, AND FUTURE

The US Navy and the National Security Establishment: A Critical Assessment, by John T. Hanley Jr. Boulder, CO: Lynne Rienner, 2023. 341 pages. $102.

The Navy faces many complicated challenges today: emerging threats; great-power competition; underperforming ship and aircraft industrial bases; and inadequate, unpredictable, and late budgets are but a few. Their confluence at the seemingly worst time breeds wonderment, confusion, frustration, and questions, such as, Why can't the Navy keep the fleet ready, manned, and equipped? Why does the Chief of Naval Operations allow excessive ship and aircraft operational tempo? Why does the Navy build expensive platforms that deliver late and in inadequate numbers? Is the Navy a learning institution? As Coach Vince Lombardi famously shouted to his Green Bay Packers team: "What the hell is going on out there?"

The answer to all these questions is that it's really complicated. Unless one has served (frequently) at the highest levels of the Navy Staff, it is nearly impossible to grasp all the dynamics associated with generating a POM (program objective memorandum—a service's budget, essentially), a strategy, and the policies associated with organizing, training, manning, and equipping a military service. And then those initiatives must survive contact with the "enemy"—that is, those in the federal bureaucracy who see things differently than the secretary or service chief. Why has this been so hard for so long? John Hanley's book, *The US Navy and the National Security Establishment*, is a Rosetta stone for deciphering this bureaucracy's historical hieroglyphs—the legacy of decisions, policies, and events describing the Navy's evolving place within the national-security establishment.

Wise counsel holds that if we want to set a new direction for an organization, we first should make the time to see where we have been, and how we got here. A cardinal rule of ship handling, taught in basic Navy officer training, is to turn around and look at the ship's wake after ordering a new course to check what direction the ship is turning and ask: "Is this what I intended?" or, "Does our wake show we are off track?" and if so, "How did we get off track?"

Hanley's book is a terrific compendium of Navy and Defense Department leadership decisions, strategies, and intentions delivered with a coherent

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explanation of the realities of what he labels the "agents" within the "national security ecosystem" (p. 1). The U.S. Navy and its leaders are, collectively, one agent among several in the "military, industrial, congressional enterprise (MICE)" (p. 13) and each agent has, or believes it has, a hand on the rudder. In an era where we collectively never seem to have enough time to stop and understand the history or perspective behind major changes and decisions in the Navy's strategy and direction—geopolitical, fiscal, operational, and educational—Hanley takes us through the evolution of an evolving and learning institution.

To see where the Navy and the broader national-security establishment may have started drifting off track owing to a "current" imposed by external agents, go to his "Outline of the Book" (pp. 12–14). Here Hanley describes the loss of a coherent evolution in the national-security establishment ecosystem at the end of World War II and the beginning of the Cold War. What happened? Hubris. Chapters 2 and 4 describe a national leadership oversight that became diluted and divested from the national-security establishment's performance. As a result, military services became focused on competing for resources (both people and money) for equipping, manning, and maintaining forces with a zero-sum mentality. Military concepts and capability were capped by the budget and their evolution became zero-sum. The Cold War (chapter 4) begot a hubris brought about by victory in World War II; the national-security ecosystem was less inclined to change, and its approach to evolving—that is, assessing, learning, and changing—was (and remains) entrenched. The dawn of the information age (chapter 5) provided an opportunity to use systems analysis to assess our strategies, capabilities, and concepts objectively. Unfortunately, the Navy Staff was more inclined to seek data and systems analysis to support preexisting beliefs and its own interpretation. The Defense Department became further entrenched in the status quo surrounded by (or buried in) data. Chapters 6 and 7 help the reader understand how the MICE acts and interacts. They describe how good intentions by Navy leaders got off track, and whose hands (i.e., which agents) were on the rudder steering the Navy's course (the Navy Department, secretariat, Office of the Secretary of Defense, Office of Management and Budget, Congress, and the defense industry).

Hanley lays down a sensible corrective path forward, informed by the realities of divergent agents acting in an ecosystem. Incorporating experience and knowledge honed throughout a career working at and with the Naval War College, Naval Postgraduate School, Commander, U.S. Pacific Command, the Navy Staff (OPNAV), and the defense industry, Hanley provides pragmatic recommendations that are within the purview of Navy Department leaders to enact. Perhaps the book's best topic is a discussion on how to evolve the Navy into a learning institution, shaping traditionally conflicting elements of our education enterprise (e.g., the Naval War College, Naval Postgraduate School, and OPNAV) to synergize their respective strengths—from theory (classroom) to practice (war gaming)—to organize, train, and equip the Navy in support thereof with the following recommendations:

- Learning is fundamental to adapting.
- More practice, with less theoretical training, is a proven imperative.

- Focus on schemes and changes that are within the purview of the Secretary of the Navy and Chief of Naval Operations.
- Reinvigorate Navy campaigns of learning; nurture a learning culture (the Navy's current Get Real, Get Better initiative aligns with this point).
- Remove paradigms that do not serve well; retain paradigms that hold.

This is an excellent book for officers and civilians tasked to determine the Navy's future course. It will enable the reader to observe the Navy's strategic wake and understand the myriad institutions involved in shaping its track, and provide clarity about how we got where we are. Few have walked in Hanley's shoes and his work is a great insider's perspective on how our national-security enterprise works, and how we might make it work better.

JONATHAN W. GREENERT

Is Remote Warfare Moral? Weighing Issues of Life + Death from 7,000 Miles, by Joseph O. Chapa. New York: PublicAffairs, 2022. 275 pages. $29.

Moving beyond the legal debates in international humanitarian law and the law of war (LOW) around the use of remotely piloted aircraft (RPA) in war, Joseph Chapa considers some of the deeper moral and psychological questions about this type of warfare. As a U.S. Air Force officer with a doctorate in philosophy from the University of Oxford who has served as a Predator pilot and instructor, he brings a unique credibility and perspective to the subject. He presently serves on the Air Staff, where he focuses on artificial intelligence (AI) ethics for the Department of the Air Force.

Chapa begins with a brief history of combat airpower to highlight the seismic shift that RPA warfare represented as well as its socio-technical nature. The scope of his analysis is the tactical level of war, which focuses more on RPA warfare's effects on the individual warfighter and raises different questions in the areas of morality, warfare, and risk: "What is—and what ought to be—the warfighter's relationship to war, the enemy, or the members of the political community for whom the person fights? What is the moral significance of risk in war, the moral psychology of remote killing, or the remote warfighters' ability to cultivate martial virtue?" (p. 18).

The first significant issue Chapa addresses is the relationship between risk and war, as some cast doubt and aspersions on whether RPA crews truly can be considered warriors, because they kill with impunity and without risk to themselves; as he notes, "The remote warfighter takes life but does not risk death" (p. 58). Through historical analysis on the warrior ethos, Chapa demonstrates that "the use of force is even more central to the warrior ethos than the risk of death is. . . . There must be more to the warrior ethos than the risk of death in war" (p. 65). Opponents of riskless warfare often reference the Clausewitzian "warfare as duel" paradigm, citing risk to one side but not the other. Chapa explains that Clausewitz's duel analogy refers to war in general, in which two political communities face off, and not to individual combatants. The author additionally cites several examples of military technologies that increase distance and change our understanding of modern war and proximity of risk: "If we attempt to define what warfare is in terms of the risk a warfighter faces,

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then we discover some difficult questions about where the line ought to be drawn" (p. 80). Given this technological reality and its impact on the character of war, Chapa suggests that the warrior's role ultimately should not be defined by risk to self but by a willingness to defend others, which RPA crews clearly embrace. The author also reiterates that in accordance with the just-war tradition and its foundational contributions to the LOW, the moral justification for wartime violence "has little to do with who faces risk and much more to do with who poses an unjust threat" (p. 133).

Chapa next engages the moral and psychological effects of remote warfare on the warfighter, highlighting two extreme narratives about RPA crews, neither of which are correct: the PlayStation mentality (i.e., RPA war is like playing a video game) and the PTSD (post-traumatic stress disorder) supposition (i.e., that RPA crews experience rampant PTSD and moral injury). While clinical studies on RPA crews have revealed the occurrence of psychospiritual injuries—specifically, PTSD and moral injury—the author notes that they are not as pervasive across the RPA community as some are led to believe by media, nor has the presence of psychic or moral distress degraded remote warfare operational effectiveness. Chapa also addresses the misconception that RPA warfare is like a video game and disconnected from its lethal effects. He refers to Grossman's thesis in his 1995 *On Killing* that as physical distance from the target increases, human resistance to killing decreases. RPA warfare, as Chapa contends, changes this dynamic, as illustrated by a former RPA wing commander's account: "You're 8,000 miles away. What's the big deal? But it's not 8,000 miles away. It's 18 inches away. . . . We're closer in a majority of ways than we've ever been as a service. . . . There's no detachment" (p. 96). Remote warfare now creates a new distanced intimacy, with crews establishing prestrike patterns of life on potential targets and conducting real-time kinetic engagements and poststrike battle damage assessments, all via high-definition sensors and screens. As Chapa explains, "Because crews are presented with visual evidence of the violence caused by enemy forces, can see the violence they themselves cause to the enemy, and can loiter over the target, they respond emotionally and psychologically as if they were much closer" (p. 108). This unique character of remote warfare means that while RPA crews are not in the line of fire, they can and do demonstrate martial virtues such as moral courage, loyalty, and honor.

Chapa concludes his volume by discussing the implications for the proliferation of RPA warfare (especially in targeted killings during operations other than war) and an increased incorporation of AI into future lethal autonomous weapon systems (LAWS). The author avers that in future war, remote warfare will be normal and not exceptional. The same type of martial virtue required for RPA warfare will be needed by commanders and LAWS operators as "strength of character will remain a safeguard against the worst elements of war" (p. 194). Chapa closes with the exhortation that in this emerging landscape of virtual war, "decision makers from the army private in the field to combatant command leadership, and even to the elected and appointed civilians who lead and oversee the military will need *more training and preparation in ethics, not less*" (p. 196, emphasis added). For those interested

in the ethical and moral issues related to increasingly remote-enabling and weaponized emerging technologies and the character of future warfare, especially its effects on the warfighter at the tactical level of war, Chapa's book is an indispensable contribution to the field.

JONATHAN ALEXANDER

Understanding Naval Warfare, by Ian Speller. 3rd ed. Abingdon, U.K.: Routledge, 2023. 273 pages. $44.

The third edition of Ian Speller's *Understanding Naval Warfare* is a welcome update to the original work published in 2014. The author is a professor of military history and director of the Centre for Military History and Strategic Studies at Maynooth University, Ireland. He also teaches at the Irish Military College and previously was a senior lecturer at King's College London and the Defence Academy of the United Kingdom.

Although the book's overall structure remains unchanged, Speller has given new attention to novel technologies, doctrines, and emerging ideas in the field of naval warfare in his analysis. His overarching objective is to examine the role and activity of navies and the conduct of naval warfare, and he unfolds the challenges that encompass modern naval warfare, which differs substantially from what admirals confronted in the past. The book is divided into two parts. The first deals with the conceptualization of naval warfare through the lenses of legendary naval strategists such as Alfred T. Mahan and Sir Julian Corbett. The second part is a substantially updated examination on naval roles and activities in the contemporary world.

Speller admonishes naval officers on the relevance of studying both naval history and theory as it enhances a sailor's critical acumen. He also contributes valuable terminological clarity between "sea power" and "maritime power," as attempts to distinguish them have generated confusion among academics in the field. Despite the use of different terms by different authors, Speller is convinced that all such terms focus on essentially the same thing: the ability to exert power at and from the sea in pursuit of national (and multinational) policy goals.

The first chapter is a lucid account of the maritime environment and its related issues. While tracing the robust development of the law of the sea, which culminated in the UN Convention on the Law of the Sea (UNCLOS) in 1982, Speller fails to acknowledge how the North-South division came to the fore regarding the delimitation of the sea.

The second chapter is an eye-opener for those who are interested in understanding the evolution of traditional naval strategy. Speller has not confined his chapter to discussing the canonical works of Mahan and Corbett; he also tries to elucidate how non-European strategists, including the Chinese and Arabs, contributed to naval strategy. Nonetheless, his analysis of non-Western strategists in the chapter remains peripheral, as Speller has failed to mention the naval strategies adopted by Admiral Zheng He under the Ming dynasty of China in the fifteenth century or the naval strategy of the Cholas of southern India.

Chapter 10, "Contemporary Challenges and Naval Policy," attempts to discuss the current challenges looming before navies, such as newly emerged complexities including hybrid warfare and gray-zone activities. Considering Russia's

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invasion of Ukraine, the author suggests that what is required is a maritime approach, integrating all relevant assets and agencies into a policy that fits broader national objectives. Speller pays significant attention to the challenges posed to the naval world by the ongoing rivalry between the United States and China. While tracing the rise of China's People's Liberation Army Navy (PLAN) from a mediocre force in the 1970s to its present greatness, Speller pays much attention to the development of its aircraft carrier program. In Speller's view, China has made great strides to develop an aircraft carrier with indigenous technology. He further discusses the U.S. response to the robust growth of China's naval presence by highlighting the new edition of U.S. naval doctrine published in 2020 and entitled *Advantage at Sea*.

Speller's last chapters in this compelling work unveil more about the future of naval warfare. He examines the contemporary security environment in the aftermath of Russia's invasion of Ukraine, showing how mutual threat perceptions led to changes in naval doctrines, such as the latest edition of Russia's maritime doctrine and the European Union's Strategic Compass, both published in 2022. He rejects popular arguments in comparing China's robust growth with imperial Germany's naval expansion, which set the path to the Great War. Speller argues that China is aware of the repercussions of falling into the trap of building big navies: "The PLAN can give China a tool with global reach and forward presence that may give Beijing influence in regions where it might otherwise be ignored" (p. 222).

All in all, *Understanding Naval Warfare* is a very readable book not only for strategists but also for general readers. His discussion of key naval theorists and their strategies should motivate readers to examine them in depth on their own. Notwithstanding the changing character of war, this book emphasizes that naval warfare remains a fascinating topic and not one likely to become irrelevant anytime soon.

PUNSARA AMARASINGHE

Tactical Air Power and the Vietnam War: Explaining Effectiveness in Modern Air Warfare, by Phil Haun. Cambridge, U.K.: Cambridge Univ. Press, 2024. 312 pages. $105.

In his latest book, *Tactical Air Power and the Vietnam War*, Phil Haun offers a practical and theoretical model for assessing and employing airpower. Using the Vietnam War as his primary case-study vehicle, Haun presents his tactical airpower (TAP) theory formulation. Through analysis of the American air campaigns during the Vietnam War, Haun argues that airpower is most effective on the modern battlefield when used in direct attack against enemy fielded forces. The result is, arguably, the most complete and practical presentation of why and how airpower contributes to victory both politically and on the battlefield.

Tactical airpower is a familiar subject to Haun. As a practitioner, he flew the venerable A-10 in the U.S. Air Force and saw combat in Iraq, Bosnia, Kosovo, and Afghanistan. As an academic, Haun has written multiple books and articles about airpower application and theory, among other subjects. His most recent works include *Air Power in the Age of Primacy: Air Warfare since the Cold*

War and "Near-Catastrophic Victory: Disregarded Lessons from the Six-Day War." Currently, Haun is a professor at the U.S. Naval War College, and arguably the leading expert in the field.

The construct of the book flows logically and sequentially beginning with Haun's introduction and explanation of tactical airpower theory. The bulk of the book, its five central chapters, chronologically steps through the various eras and air campaigns of the Vietnam War, beginning with ROLLING THUNDER, then Tet and the defense of Khe Sanh, the various iterations of COMMANDO HUNT (divided into two parts), and then Operations LINEBACKER I and II. Finally, Haun concludes with an overall analysis. Within each chapter, he provides a brief historical overview of the chapter's air campaign before analyzing its effectiveness within the construct of TAP theory. In supporting his argument, narrative, and analysis Haun draws deeply on primary sources—such as the Air Force's Project CHECO reports and CIA analysis—along with other works on the Vietnam War. The book's logical sequence and strong supporting research make a compelling case for Haun's argument. Similarly, he employs a tight narrative structure that delivers facts and analysis in a dense but digestible manner that guides the reader through the campaigns to his conclusions.

In the end, Haun makes his point capably. He concludes, through both the narrative and analytical examples, that effective tactical airpower employed with a capable friendly army places an enemy's armies on the horns of a dilemma: they must choose between concentration and dispersion. If an enemy army concentrates on defeating the friendly army, it exposes itself to destruction by air attack. In contrast, if it disperses to prevent air attack, an army risks piecemeal destruction by friendly ground forces. The only critique to make of the work is an organizational one; it would have been helpful to move the two appendices—one on airpower theory broadly and the second analyzing post-Vietnam air campaigns—into the introductory and concluding sections, respectively. This is a style preference, rather than a critical flaw, but one that would better integrate those parts into the rest of the work and help drive Haun's theoretical and analytical points home.

Despite the book's strong argument, logical narrative, and ample research support, one might assume by Haun's background and previous works that he was predisposed to his conclusion about the application of airpower. However, he does not dismiss other airpower missions in drawing his conclusions about direct attack. He acknowledges the critical role that air superiority plays in setting conditions in a successful air campaign. Ultimately, Haun provides his theory and analysis to weigh the use of airpower in a future conflict. In his epilogue, Haun offers an overview of the state of American airpower and focuses a sharp critique against the U.S. Air Force's current structure and doctrinal choices. Likewise, he points out the flaws in the Russian air campaign in Ukraine, noting it "provides the case of a recent conflict which can help demonstrate how TAP theory can predict the likely effectiveness of air power in current and future modern air wars" (p. 327).

Tactical Air Power and the Vietnam War is not a beginner's guide to airpower. The

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text requires the reader to have some understanding of the doctrinal airpower terms and campaigns Haun harnesses in making his case. That is not to say he does not offer any explanations along the way, nor is the book inaccessible to novices, but it is aimed at experts and policy makers who think and deal with airpower as a means of national power. Critically, it offers a lens through which policy makers, military leaders, and campaign planners must view the use and effectiveness of airpower. To that end, *Tactical Air Power and the Vietnam War* belongs on the bookshelf of all who style themselves academics or practitioners of airpower and national defense policy—or anyone who might strive to be one.

MATT DIETZ

Apartheid's Black Soldiers: Un-national Wars and Militaries in Southern Africa, by Lennart Bolliger. Athens, OH: Ohio Univ. Press, 2021. 292 pages. $80.

The Cold War in southern Africa produced some odd bedfellows, and there are contemporary lessons to be learned from it, as presented by Lennart Bolliger, a lecturer in international history at Utrecht University.

Bolliger highlights some startling juxtapositions. At one point during the Angolan civil war, some two thousand Cuban soldiers were defending the operations of an American oil company. The irony of Communist internationalists defending an American oil company whose revenues were providing the majority of the funds for Angola's communist government may have been lost at the time.

Elsewhere on the continent, when Zimbabwe's then-new president, Robert Mugabe, and the Zimbabwe African National Union–Patriotic Front (ZANU-PF) faced their greatest-ever test they ultimately were saved by elements of the old white Rhodesian government they had just displaced. Zimbabwe People's Revolutionary Army (ZIPRA) launched what is known as the Entumbane uprising in 1981. The Rhodesian African Rifles and elements of the Rhodesian Armoured Corps commanded by white officers decisively defeated a ZIPRA force. The four-day clash gave the Rhodesian military something it had never achieved on the battlefield previously—a victory that had both decisive military and political results. The defeat of the ZIPRA helped pave the way for Mugabe's decades-long rule and allowed him to break previously agreed commitments on military integration.

Bolliger's work provides many more such intriguing examples that have, until now, slipped through the pages of our history books. The book looks at Namibians who fought against the socialist South West Africa People's Organization (SWAPO) and mostly Angolan soldiers who fought with the South African army. The latter formed the core of the 32nd Battalion, which started out as a uniquely Angolan unit made up of former rebels who had fought against the Portuguese empire. Many of them became rebels once again when the socialist People's Movement for the Liberation of Angola (abbreviated MPLA, after its name in Portuguese) took power in the country in the 1970s, and some were defectors from the MPLA itself.

There are similar parallels here with the Kit Carson Scouts, made up of former Vietcong fighters, used during the Vietnam War, but, as the author

points out, the very existence of such forces challenges the conventional narrative of African wars during the period being waged between conventional colonial-settler armies and unconventional guerrilla liberation movements (p. 182). The core of the anticommunist Mozambican National Resistance movement (known by its Portuguese abbreviation, RENAMO), for example, which fought a brutal civil war in Mozambique, was made up of ex-Portuguese colonial soldiers.

The Soviet Union committed advisers to the MPLA in Angola down to the brigade level as late as 1989. Yet, when the Angolan civil war ended, the 32nd Battalion was redeployed for urban police operations in Africa. Its officers largely were white and learned Portuguese to better interact with their men. Intriguingly, the unit at one point also absorbed a group of Lusophone rebels from São Tomé and Príncipe when a platoon seized a group of survivors who had launched an abortive rebel invasion of that country.

Rare for a scholarly work, Bolliger's book is a quick read. The introduction could have better served readers with limited exposure to the history of African decolonization with a more general history of the period. The first chapter presents a historical sketch of the former South-West Africa (Namibia) and Angola, and more background information could have been useful for the neophyte reader, particularly regarding Kaokoland, a proto-Bantustan in Namibia, which provided many of the Black police units that fought against the South West Africa People's Organization, which spearheaded the independence movement there and still dominates Namibian politics.

This is an excellent piece of scholarship that centers on the voices of participants, lifting a veritable veil of silence. Soldiers often express fatalistic accounts about why they ended up in factions within the wider conflicts, though some figures clearly possessed significant agency over their situations. Consider Daniel Chipenda, whose Eastern Revolt against the MPLA was shot in the arm by the National Liberation Front of Angola (FNLA, according to its Portuguese abbreviation). Commander Chipenda would jump back and forth between for and against the central government and rejoin the MPLA for a final time in 1992.

Those who fought for the various South African–aligned groups had various reasons for doing so. The 32nd Battalion had few options and effectively no place to return to once Angola had fallen to the communist MPLA. Koevoet (a former South African counterinsurgency unit) forces interviewed by the author expressed myriad reasons for joining. Often, members of their families had suffered at the hands of People's Liberation Army of Namibia forces. The interviewees offered different perspectives on the racism they encountered. Though such racism was pervasive, the author relates one instance of a white officer being stripped of his post and being told that distinctions of race mattered little in the bush.

Well into the 1980s, members of the 32nd Battalion enforced corporal punishment that included being brutally beaten with a sjambok—a rawhide whip that the author suggests had its origins in the FNLA rebellion in Angola (p. 109). The communist MPLA fought to impose communism and ironically enough, given its atheist

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ways, also executed Angolan civilians for witchcraft during the civil war.

Postwar white officers often fared better, and many entered the private sector at the end of the southern Africa conflict. Indeed, the final section of the book looks at the fate of both groups in the ensuing decades. The author describes how some 32nd Battalion members became mercenaries—some became contractors during the coalition invasion of Iraq in 2003; others were involved in a 2004 coup plot in Equatorial Guinea. Some South West Africa Territorial Force (or SWATF) members fought in the Democratic Republic of the Congo in the series of civil wars that stretched until 2013. In 2006, nineteen South Africans were arrested—mostly 32nd Battalion veterans—in a coup attempt against then-president Joseph Kabila. Both 32nd Battalion and Koevoet veterans reportedly worked as part of private military contractors in 2015 in Nigeria (p. 151). Others ended up in United Nations peacekeeping missions in Angola and Liberia.

In Namibia, the fate of the veterans of the various security units has been quite different, as various veterans groups formed to advocate for their rights. Bolliger argues that Namibia has never had anything like South Africa's Truth and Reconciliation Commission (p. 126). While veterans of SWAPO have long been given preference, the author suggests attitudes in Namibia may be changing.

This is a book that should be of broad interest to students of African conflicts, the formation of proxy forces, and the critical issue of combatant reintegration.

JOSEPH HAMMOND

Generals and Admirals, Criminals and Crooks: Dishonorable Leadership in the U.S. Military, by Jeffrey J. Matthews. Notre Dame, IN: Univ. of Notre Dame Press, 2023. 400 pages. $38.

While examples of problematic leadership in the military grab sensational headlines for a short time (the Tailhook and "Fat Leonard" scandals may be notable exceptions for their scale and perseverance in news), there is less focus on looking at different kinds of behavior by senior leaders in a deep and systematic way. *Generals and Admirals, Criminals and Crooks*, by Jeffrey Matthews, who specializes in American history and leadership, does exactly that. It is organized into seven chapters, each dealing with a different leadership problem: war crimes, insubordination, moral cowardice, toxic leadership, obstruction of justice, sex crimes, and public corruption. Each chapter contains a core case, but also other narratives and examples on the topic for context and depth. The material is extensively researched and documented, including themes that cut across the cases and some interesting recommendations for leader development at the end of the book.

These themes cut across the different chapters and require some deep reflection. First, there were precedents and signs that were ignored; or, worse, problematic behaviors and dispositions were rewarded, especially with promotions or better assignments. Second, there was an organizational culture and leadership climate that did not address issues nor have hard conversations to confront obvious problems. Third, there is an interaction and tension between personal moral leadership and ethical leadership. Even in cases

where individuals were considered to have good moral leadership (and there were plenty that failed this test), they lacked the ethical leadership capacity that requires more than mere personal morality and "doing the right thing." Fourth, there is a lack of accountability and responsibility as deterrence to bad behavior; on the contrary—cover-up, deception, and evasion as well as protecting the other senior leaders in most cases were incentivized and rewarded (pp. 210–11; 232–33). In many instances, it seems that the worst sin was making the military "look bad," not the actual crimes committed. This is neither moral nor ethical leadership, and it certainly is not how members of a self-regulating and autonomous profession of arms ought to act. Finally, there is the issue of trust being understood by perpetrators and enablers as predictability, rather than as a relational virtue at the core of the profession and critical to the exercise and sustainability of ethical leadership and ethical organizational cultures.

The most striking part of the book is the candid, even blunt, recommendations for the most senior leaders. Matthews does not mince words anywhere in the book, but at the end he notes two things that are required to address the issues he raises (pp. 305–307). The first is the continuation of moral development for flag and general officers with a focus on humility. The second is a serious focus on real accountability for deterrence and addressing organizational culture. Public sunlight is what Matthews recommends here.

As an ethicist and teacher in professional military education, I know that it is not just happy stories that are needed to develop and sustain an ethical culture and the leaders within it. Matthews notes, "Sober examinations of bad leadership can and should contribute to the positive development of good leaders." This book contains a plethora of cases, themes, discussion points, and recommendations worthy of consideration and reflection. I cannot recommend it highly enough, especially for senior leaders, those who develop and educate them, and those who hold them accountable and responsible to lead our nation.

PAULINE SHANKS KAURIN

Airborne Anti-submarine Warfare: From the First World War to the Present Day, by Michael E. Glynn. Barnsley, U.K.: Frontline Books, 2022. 258 pages. $54.95.

On the jacket of Michael Glynn's study of airborne antisubmarine warfare (ASW), we read that "this book will take aviators, naval enthusiasts, and military scholars behind the scenes to understand how technical breakthroughs, the evolution of weapons, and advances in sensors have shaped this high-risk game of cat and mouse." In his introduction, Glynn advises new aviators, experienced aviators, and engineers or acousticians how they might use his book to "understand the basics of airborne ASW" and to understand how they and their platforms "fit holistically with the larger ASW force." Glynn is a former ASW naval aviator with more than 2,500 flight hours, and well qualified to write on the subject.

While he identifies several others, Glynn's primary audience is fellow ASW aviators. The advice he provides for how new and experienced ASW aviators can use his book is helpful. His advice for engineers and acousticians is

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as well, but he does not provide similar advice for other audiences mentioned on the book jacket (naval enthusiasts and military scholars). Because a large part of *Review* readership falls into these categories, this reviewer will offer some observations for them.

In the early chapters, the author provides a broad overview of several topics: the airplane's role in ASW (chapter 1); the characteristics of the airplane and submarine (chapters 2 and 3); the history of airborne ASW (chapters 4 and 5); and airborne ASW weapons and sensors (chapters 6 and 7). The broad coverage in these chapters provides good context for ASW aviators. Engineers and acousticians can also use these chapters to review previous trends and to anticipate "future technical advances" (p. 76). Naval enthusiasts and military scholars can get even more out of these chapters. In them, the author expands on something previewed on the book jacket: the "parallel evolution of both aircraft and submarine as each side tries to gain supremacy over the other." He briefly discusses a similar dynamic within the strategic bombing community in World War II and describes how similar interactions shaped that process (pp. 50–51). His discussion of interaction in both ASW (the primary focus) and strategic bombing (an interesting parallel) brings to mind Clausewitz's assertion about the importance of interaction in war, as well as of two of the themes from the College's Strategy & War course, the first being interaction, reassessment, and adaptation and the second being the instruments of war.

The middle chapters (chapters 8 and 9) provide an overview of oceanography, environmental analysis, and sound-propagation analysis. New ASW aviators can use these chapters as a primer while still early in learning their profession. Experienced ASW aviators can use them as a summary of what they have learned and for making connections between different topics. Although these chapters may be too basic for engineers and acousticians, they may be too technical for naval enthusiasts and military scholars who do not possess an ASW background. Frequent reference to the illustrations (the twenty-eight figures between pp. 146 and 147) and to the list of abbreviations (pp. xi–xiii) may be necessary.

Chapter 10, "Intelligence Gathering and Cueing," has broad appeal to all audiences. For ASW aviators, this chapter summarizes how "intelligence-gathering systems, sensors, and command and control constructs function" so that they can "comprehend their role in the larger ASW effort" (p. 156). For all audiences, the review of five case studies of past ASW campaigns, which provide examples of how systems and services have performed in the past, is particularly interesting (pp. 164–71).

Chapter 11, "Crew Resource Management," is mostly targeted at ASW aviators but the other audiences can use this chapter to obtain "insight into what issues and problems ASW aviators deal with on station" (p. x).

The last four chapters (chapters 12–15) discuss the four steps of the ASW kill chain: search, localization, tracking, and attack. As with chapters 8 and 9, they seem technical, but, like chapter 11, they provide a good overview for ASW aviators, and provide insight to the other audiences.

Three weaknesses could have been addressed to strengthen the book. First, it ends abruptly; a summary of

what was covered and what the various audiences could glean from it would have been helpful. Second, the book focuses exclusively on fixed-wing ASW and ignores rotary-wing ASW. In the introduction, the author recognizes this as "the largest failure of this work" and expresses the hope that someone will provide the rotary-wing perspective (p. x). Third, despite the fixed-wing focus, four of the six aircraft shown on the cover are rotary-wing ASW aircraft. So, the cover art doesn't match the content of the book, but that oversight is the publisher's responsibility.

Despite these minor issues, this book provides a good overview of fixed-wing airborne ASW for multiple audiences. Readers can use the author's introduction and this review to focus their reading and glean lessons that are appropriate for them.

DANIEL LYNCH

Marque and Reprisal: The Spheres of Public and Private Warfare, by Kenneth B. Moss. Lawrence, KS: Univ. Press of Kansas, 2019. 452 pages. $45.

Kenneth Moss's study of mercenary warfare at sea is a remarkable and highly interesting book. Potential readers expecting a narrative ripe for Howard Pyle's illustrations of martial glory, or something in the line of a romanticized pirate movie should simply move on. No Disney-ride-inspired fantasy, Moss's tome offers far more. Not only has he produced an excellent history of privateers and privateering, but he also has raised fundamentally important questions for today's military and political leaders. His book deserves to be widely read and discussed.

As Moss explains, privateers were civilian-owned armed vessels provided with letters of marque or reprisal, which existed at an intersection of public and private warfare. The latter was not the exclusive domain of pirates, although most captains of civilian-owned armed vessels operated there. Some, perhaps most notably Captain Kidd, were granted permission to use violence to hunt down pirates, but when Kidd exceeded his authorities, he himself became a pirate. Others, such as Henry Morgan, managed to rehabilitate themselves from a piratical past and become agents of the crown. The separation between public and private war was, for many years, permeable.

Both the thirteen British colonies and the new U.S. republic to which they gave rise embraced privateering. The Constitution has always provided Congress with the authority to empower private parties to conduct warfare on the high seas, whether to recoup losses inflicted by other parties or to capture and destroy maritime assets of a hostile state. However, as the United States Navy grew, privateering was all too often dismissed as a means of getting warships on the cheap or empowering violent maritime adventurers.

However, as Moss points out, the domain of permitted private warfare, once believed to be a relic of the past, may be returning with increasing utility in the modern era. Those seemingly antiquated constitutional authorities potentially could allow private citizens and corporations to engage in violent conflict that falls below that associated with a declared war or its modern equivalent. At a time when cyberwar and lawfare are becoming common concerns, *Marque and Reprisal* convincingly argues there are modern parallels to privateering.

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As a history, this volume is excellent. Moss, not surprisingly, takes pains to explain the significant differences between a letter of marque and a letter of reprisal. He also explains how privateers have been utilized since before the time of the Revolutionary War and why this approach was appealing to weak maritime powers. Moss examines how the great Dutch and English trading companies used associated authorities to exercise state-like power in advancing their interests and protecting their maritime assets. This historical review is accompanied by discussions of prize courts, and how as national navies grew in numbers and power, maritime merchants increasingly came to expect and demand those navies to protect their commercial ships and cargoes. Moss traces how the fledgling United States and many of its citizens initially gravitated toward privateering, to the consternation and disapproval of Great Britain. He also captures the irony of how the United States, when the rebellious Confederacy seized on privateering as a preferred way of war, moved quickly in an initially unsuccessful attempt to outlaw the practice internationally.

Were this book a simple and straightforward history, it would still command respect. Moss, however, provides far more. Today, actors in the private sector are engaging more and more in what has come to be seen as functions traditionally belonging to states. Private military contractors—including those who provide maritime escorts, security agencies wielding armed, quasi-military forces, and senior security consultants—are encroaching and engaging (at times with lethal force)in the domain of public warfare. Russia had "little green men" at the outset of its invasion of Ukraine. In Africa, the actions of Wagner Group mercenaries are well-known. In 2019, Nigeria arrested maritime security personnel in the employ of the U.S.-based Trident Group. When the actions of new and shadowy actors in the realm of cyberspace are considered, it is difficult not to conclude that the lines of demarcation between public and private domains in warfare have become very blurred to the point of nearly vanishing.

Moss points out that there are rule sets and frameworks that were traditionally used in these domains. One such framework involves mercenaries. Another set of frameworks involves privateering. Deciding which framework or rule set to embrace poses significant challenges. As Moss puts it: "It is not just a matter of reestablishing government roles and creating better laws and mechanisms of control; it is also a question as to whether governments want to purposely make private agents responsible for certain types of measures and accept the risk of private wars over which states lack or even abdicate control" (p. 73).

In chapters 4 through 7 of *Marque and Reprisal*, Moss discusses an increasing privatized component of war, the emergence of private forces for profit, and the growing possibility of private war. These chapters, built on Moss's strong historical and analytical foundations, raise questions of grave concern to today's military and political leaders, as well as the legal experts who advise them.

Although dealing with detailed constitutional and legal issues, *Marque and Reprisal* is highly readable. Moss writes in a commendably clear and direct manner. His arguments are logical and persuasive. While not purporting to have all the answers, Moss raises many of the right questions. For

those interested in this increasingly pertinent aspect of modern conflict, this book is highly recommended.

RICHARD NORTON

Ghosts of Honolulu: A Japanese Spy, a Japanese American Spy Hunter, and the Untold Story of Pearl Harbor, by Mark Harmon and Leon Carroll Jr. Nashville, TN: Harper Select, 2023. 272 pages. $29.99.

Collaboratively crafted by Mark Harmon, a key figure from the hit television show *NCIS*, about dramatized exploits of the Naval Criminal Investigative Service (NCIS), and Leon Carroll, a real former special agent with NCIS, *Ghosts of Honolulu* delves into the intriguing and intricate stories of espionage surrounding Japan's attack on Pearl Harbor on 7 December 1941. In this meticulous exploration, the authors illuminate the clandestine world of naval intelligence, revealing the remarkable journey of a University of Hawaii baseball star who became the first Asian American U.S. naval counterintelligence officer. The narrative also introduces a Japanese spy seeking redemption after an abrupt end to his military career, as the two men's destinies intersect amid the chaos unfolding in Hawaii.

The stage is set years prior to the momentous day of infamy, introducing not just the two main protagonists but also an array of key figures in the realm of military espionage. The book extensively delves into unraveling the personalities behind these pivotal roles. Rich in detail and supported by abundant resources, it resurrects information often lost in time. The initial depiction meticulously painted by the authors prepares the reader as the timeline unfolds, shedding light on the escalating tension with Japan that eventually culminates in the ominous conflict engulfing the Pacific. Within these intricate details, readers come to understand that the Hawaiian Islands had already become a war zone, hosting not only military officials but also spies and their handlers, years before the infamous attack on 7 December.

Ghosts of Honolulu paints a vibrant picture of Douglas Wada's experiences and unwavering patriotism for his hometown of Honolulu, and for the United States. It delves into fascinating details, allowing readers to forge connections between his undercover endeavors as a newspaper reporter, his pivotal role in translating wiretaps on the Japanese consulate, and his leadership in interrogating a submarine officer who becomes America's first captured POW of World War II. The narrative unfolds in tandem with Wada's rise as a naval intelligence officer, mirroring the trajectory of Takeo Yoshikawa, a Japanese spy operating as a junior diplomat within the consulate in Honolulu. Yoshikawa's mission involves collecting vital information to be directly transmitted to Admiral Isoroku Yamamoto, architect of the coming attack.

The storyline unfolds into a captivating intelligence struggle between Japan and the United States. In this scenario, the casualties extend beyond personnel losses to include critical information that both sides fiercely compete to acquire or protect. The narrative immerses you in the intricate world of espionage, where both factions employ tactics and unexpected alliances to gain a strategic advantage. Harmon and Carroll inject excitement into their writing,

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creating an atmosphere reminiscent of a dramatic television episode, complete with elements of deception, discovery, and impending danger.

As the narrative of the rival spies unravels, the authors delve into the difficulties experienced by innocent residents of Honolulu, such as Douglas Wada's father, amid the wartime anti-Japanese sentiment and the establishment of internment camps. The authors seamlessly weave personal anecdotes into the broader backdrop of the main characters' efforts to shield Hawaii from succumbing to the same harmful mass internments of Japanese Americans witnessed on the mainland United States.

The historical perspective presented in *Ghosts of Honolulu* is not only informative but also thought-provoking. By exploring the nuanced layers of the key players, readers acquire an authentic understanding of the decisions made in a previously untold chapter of World War II history. The commendable character development in this work brings unsung heroes of U.S. intelligence to life, offering readers a deeper insight into the human aspects of war. The authors adeptly navigate the complexities of espionage and military intelligence, crafting a narrative that is extremely engaging.

This work exhibits a multitude of strengths, and among them is the vivid depiction of the high-stakes game of naval intelligence. The book addresses the broader implications of the intelligence operations depicted, showcasing the resilience and dedication of American patriots who worked tirelessly to protect their country while upholding its highest ideals. The themes of patriotism, sacrifice, and the quest for truth permeate the story, resonating with readers on a visceral level. Moreover, this work sheds light on the origins of investigative techniques used by NCIS, with the different investigations employed during the war laying the groundwork for the organization as it stands today. The postwar realization of the need to distinguish between what is real and what is not led to the restructuring of the organization into the NCIS of the present day.

Ghosts of Honolulu is a masterfully crafted piece by debut author Mark Harmon. The work not only educates readers on the intricacies of naval intelligence during World War II but also captivates them with its rich storytelling. Harmon and Carroll have succeeded in presenting a compelling, historically accurate narrative. The book provides even more insight into a sector of World War II that is not as well-known as others, establishing a tremendous introduction with plans to continue exploring the inception and implementation of NCIS in future works.

GREG RODRIGUE

A New Force at Sea: George Dewey and the Rise of the American Navy, by David A. Smith. Annapolis, MD: Naval Institute Press, 2023. 376 pages. $44.95.

George Dewey occupies a unique position in American naval history. An officer who served a remarkable fifty-eight years on active duty that bridged the Civil War era and the height of the steel and steam era, he commanded the Navy's Asiatic Squadron to a lopsided victory at the Battle of

Manila Bay in the Spanish-American War and became the only career naval officer to seriously be considered as a presidential candidate. Despite this record of accomplishment, he remains a relatively understudied figure with less than a handful of serious biographies having been produced on his career. David Smith's *A New Force at Sea* simultaneously fills an important gap in the literature on George Dewey and serves the history of the expansion of American naval power in the late nineteenth and early twentieth centuries.

Prior to the publication of *A New Force at Sea*, Ronald Spector's *Admiral of the New Empire: The Life and Career of George Dewey* (1974) long has been regarded as the best Dewey biography, and it remains an excellent work of scholarship. Smith's biography complements Spector's and adds critical details on Dewey's early life and personality. By far Smith's most significant contribution is his complex portrait of Dewey the man, and not just Dewey the naval officer. Growing up in a comfortably upper-class family in Vermont, Dewey lost his mother while he was in childhood, which, Smith contends, produced a family dynamic that contributed to emotionally stunted behavior that recurred throughout his life as well as to Dewey's general lack of discipline. Dewey's problems with discipline disappeared during his time at the nascent Naval Academy of the antebellum period, and he dramatically improved his class standing by the time of his graduation.

Later, during the Civil War, Dewey's service under Admiral David Farragut proved extremely influential, with Dewey seeking to emulate Farragut's leadership qualities, including his attention to detail, embrace of new technologies, and acceptance of personal risk in times of danger. Fortunately for Dewey, his meritorious service during the Civil War advanced him up the ranks high enough that the post–Civil War stagnation of officer promotions merely slowed Dewey's career advancement, instead of ending it. His command of the Asiatic Squadron both before and during the Battle of Manila Bay reveals an officer well prepared for the strains of command and ultimately who thrived when put to the test in battle against the Spanish fleet. The victory, however, led to several months on station that taxed Dewey's abilities, with him having to balance fending off potential naval and diplomatic challenges to control of the bay and islands and interacting with Filipino leaders such as Emilio Aguinaldo all while being at the far end of Washington's reach. In the end, by the time Dewey departed Manila, he had decided that American control of the islands was preferable to granting independence to the Filipinos.

Even as the narrative builds toward Manila Bay and its immediate aftermath, Smith continues to provide insights into Dewey's personal life and behavior. He paints a portrait of Dewey as a charming man blessed with a dapper sense of style and personal social graces that drew attention from those around him. His first marriage ended tragically with the death of his wife, Susan, days after giving birth to their son, George, in 1872. The strains of service and perhaps the effects of Dewey's childhood led Dewey to leave his young son in the care of his wife's family for many years. Dewey eventually remarried in 1899, with Mildred Hazen of Washington, DC, and their sometimes-troubled marriage was caught in the wake of Dewey's public fame in the years after his victory at Manila Bay. Smith outlines

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numerous examples of how Dewey's success became a cultural phenomenon, leading to parades, the writing of songs, memorials, and even advertisements for products that Dewey never endorsed. Yet, as Smith relates, Dewey struggled to manage his image, leading to an awkward public controversy after he transferred to his wife ownership of a home that public donations had bought for him in 1899. Seemingly overnight, an adoring public turned on Dewey, although the flap was forgotten quickly. Still, Dewey's brief presidential campaign in 1900 was notably half-hearted and awkward, and he sometimes grew defensive of his record, particularly his management of the Philippines in the months after Manila Bay before U.S. occupation forces arrived.

Smith provides ample coverage of Dewey's life throughout the volume, but his emphasis on Dewey's career largely ebbs after narrating the admiral's command of the U.S. fleet during the winter 1902–1903 maneuvers that President Theodore Roosevelt sought to use as a deterrent against German encroachment in the Western Hemisphere. Dewey continued to serve as president of both the Navy's General Board and also the Joint Army-Navy Board until his death in 1917, but these years of largely institutional service are covered relatively briefly. Readers more interested in Dewey's twilight years will still be better served by Spector's volume.

This gap in coverage aside, Smith has provided audiences with a thorough and engaging study of George Dewey's life and career that takes care to examine Dewey as a man, a naval officer, and a prominent public figure of his day. It not only adds to the scholarly record of Dewey and the U.S. Navy during the period but also makes for a stimulating read for the general public.

RYAN WADLE

Spanish Warships in the Age of Sail, 1700–1860: Design, Construction, Careers and Fates, by Rif Winfield et al. Barnsley, U.K.: Seaforth, 2023. 392 pages. $100.

Sometimes, research projects take you deep into the weeds of your subject; if you are trying to put yourself in the shoes of a participant in an obscure engagement, or if you are writing a historical novel, you might urgently need to know precisely when the *Santa Águeda* thirty-four-gun frigate of 1775 was in service. You might also need to know its length, beam, and details of its armament, or who its builder was, or what happened when it underwent a major refit. If you find yourself in a situation like that, this is the book for you. The final three hundred pages consist of a reference guide to every ship in the Spanish navy. As the subtitle says, each entry covers the ship's design, construction, career, and fate.

There is good scholarship in the reference entries. Take, for example, the entry on one of the largest ships in the age of sail, *Santísima Trinidad*. The authors explain that it initially was built in 1767 to carry 112 guns on three full decks, but then expanded twice. Doing so was "illogical," the authors explain, because when it was launched, it quickly became clear that it was already too big. It "veered to leeward and heeled over badly in rough seas, resulting in difficulties in aiming her guns"—which was ironic given that its primary purpose was to be the largest floating battery in the world.

Expanding it to four decks and 136 guns during a major refit in the 1790s meant that "with the slightest breeze, the windward broadsides pointed at the sky and the leeward rounds went into the water, so that she could not defend herself" (pp. 104–105). In the end, it saw less than five years of active service before it was captured at Trafalgar and scuttled during the storm that followed the battle. The ship entries combine general commentary with meticulous details. They bust the myth that *Santísima Trinidad* was the largest ship in the world by pointing out that while it carried the most guns, there was a class of French three-deckers that was eight and a half feet longer and six inches broader. It is that kind of precision that makes this book stand out as a work of reference.

If you are unlikely to find yourself in urgent need of detailed information on a specific Spanish ship, however, you might pass over this book and save yourself one hundred dollars. After all, the reference section will mostly sit on your shelf unused. Unless you are a glutton for punishment, you are not going to read those three hundred pages. But what about the first hundred pages? The cumbersome title undersells this book, because it ignores the primary reason why someone other than a librarian would buy this book. In fact, the first hundred pages contain a valuable compendium of short essays on Spanish naval history. Those essays attack major gaps in the English-language history of the Spanish navy, and they justify the significant cost of the book for any scholar interested in the subject.

The publisher does not see it that way, of course, as the title indicates. From the publisher's perspective, this book is about ships—what they looked like, and what happened to them. Therefore, it is heavily illustrated with black-and-white pictures of ship models, builders' plans, and other archival documents, as well as paintings of ships in action, maps of key ports, and portraits of important figures. All that, as well as the large format (the book is 9.75 × 11.25 × 1.5 inches), explains the hefty price tag—and that is fair enough. The book's design and approach follow those of the other titles in the series, many of which have been written by Rif Winfield and which cover other navies' ships' design, construction, careers, and fates.

But the introductory essays deserve wider attention. It is difficult to find good scholarship in English on the Spanish navy, even though it was among the world's largest and most complex for much of the eighteenth century. It stitched together an enormous empire, yet it has tended to finish a distant third in terms of scholarly attention to the British and the French. Winfield and his team have done a service to the profession by providing a general historical overview, including a brief discussion of the Spanish navy in the sixteenth and seventeenth centuries. They have also provided an analysis of the navy's leadership, structure, and administration, and a more elaborate treatment of the navy's approach to shipbuilding. While *Santísima Trinidad* was an unsuccessful design, that was atypical. In fact, Spanish shipbuilding was often world leading, even if the rest of the navy (especially its infrastructure, leadership, and manning policies) did not meet the same standard. Every library with a reason to have a naval history collection should stock this book because of its reference value, but there is more here than just that.

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OUR REVIEWERS

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REFLECTIONS ON READING

IGNITING A SPARK IN THE MIND OF A CHILD

Professor John E. Jackson of the Naval War College is the Program Manager for the Chief of Naval Operations Professional Reading Program.

The Chief of Naval Operations Professional Reading Program is designed to encourage sailors to read books of value as a component of their individual professional development. This is the sixty-second "Reflection" published in the *Review*, and for a change the focus is not on what sailors should read, but rather how they can contribute to the intellectual growth of their small children. A common theme of these Reflections has been that reading books of merit opens an individual's eyes to the surrounding world. Developing a habit of reading is valuable on so many levels, and there is no greater gift that parents can give children than to read to them at an early age and give them the tools to become readers themselves.

According to the nonprofit Child Mind Institute:

> From birth, babies are hardwired to develop language skills, and consistent exposure to a wide variety of language patterns is what helps them do exactly that. "Just exposure to words is the single most important thing that you can do to help build the language pathways in your child's brain," says Laura Phillips, PsyD, the senior director of the Learning and Development Center at the Child Mind Institute. "Reading and exposure to words helps kids maximize their language and cognitive capacity." Even the tactile experience of holding or touching a book supports babies' cognitive development.
>
> By reading to your child starting at a young age, even before they're able to communicate verbally, you help lay the neurological groundwork for effective language use and literacy. That's partly because books expose children to vocabulary and grammar that they wouldn't normally hear. "When kids are with caregivers or parents, they're exposed to the same language, the same vocabulary words, the same patterns of speaking, which is wonderful," says Dr. Phillips. "But books allow them to hear new vocabulary and new ways of putting words together, which expands their ability to make sense of and use language."

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> Research has found that young children whose parents read to them daily have been exposed to at least 290,000 more words by the time they enter kindergarten than kids who aren't read to regularly. And depending on how much daily reading time kids get, that number can go up to over a million words. All that exposure likely makes it easier for kids to expand their vocabularies and understand the variety of texts they'll need to read as they get older, both inside school and out.

The value of childhood reading is recognized widely, and there are a number of options for parents to obtain printed and digital books to share with their children; a simple Internet search on the keywords "free books for kids" will identify numerous sources. One remarkable program, for example, is managed by a world-famous country music singer and mails more than *two million* high-quality, age-appropriate books each month to enrolled children from birth to age five. Children enrolled from birth can receive sixty free books by the time they graduate from the reading program. Since it began, this program has provided nearly two hundred million free printed books in the United States, Canada, the United Kingdom, Australia, and the Republic of Ireland. The impact of such programs has been widely researched, and the results suggest positive increases in key early childhood literacy metrics. Some hard-copy-focused book delivery programs determine eligibility based on the postal code in which the family resides. Parents will find that most programs that utilize digital media are unconstrained by a family's geographical location.

Sailors can also take advantage of the many resources available from the Department of Defense Morale, Welfare and Recreation Libraries (DoDMWRLibraries.org) and the Navy General Library Program (NGLP@navy.mil). These programs enable registered users to download e-books and audiobooks for readers of all ages. The "Children's Corners" on both sites are particularly good sources for age-specific materials.

The bottom line is that tens of thousands of Navy families are eligible to enroll their infants and young children in these remarkable and easily accessible programs. On a personal note, my new grandson received his first hard-copy book from one of the largest programs within six weeks of his birth. We encourage all sailors, of all ranks and in all locations, to investigate to see whether their children are eligible to walk the road of discovery with either hard-copy or digital books!

> *One of the greatest gifts adults can give—to their offspring and to their society—is to read to children.*
>
> CARL SAGAN, ASTRONOMER AND NASA CONSULTANT

JOHN E. JACKSON
Author, Husband, Father, Grandfather . . . Reader