Spring 2023 Full Issue

The U.S. Naval War College

Follow this and additional works at: https://digital-commons.usnwc.edu/nwc-review

**Recommended Citation**
Available at: https://digital-commons.usnwc.edu/nwc-review/vol76/iss2/1

This Full Issue is brought to you for free and open access by the Journals at U.S. Naval War College Digital Commons. It has been accepted for inclusion in Naval War College Review by an authorized editor of U.S. Naval War College Digital Commons. For more information, please contact repository.inquiries@usnwc.edu.
U.S. Marine Corps M777 155 mm howitzers are staged on the flight line prior to being loaded into a U.S. Air Force C-17 Globemaster III aircraft at March Air Reserve Base, California, in April 2022. The howitzers are part of efforts by the United States, alongside allies and partners, to identify Ukraine's needs and provide it with additional capabilities. In ""Confining the Enemy": Halford Mackinder's Theory of Containment and the Conflict in Ukraine," authors Michael Hochberg and Leonard Hochberg demonstrate how Mackinder's containment theory provides a useful geopolitical assessment of the 2022–23 Ukraine crisis, and analysis current applications of his writings and theory to the U.S. commitment to Ukraine.

Source: U.S. Marine Corps photo by Staff Sgt. Royce H. Dorman
NAVAL WAR COLLEGE REVIEW

Spring 2023
Volume 76, Number 2

NAVAL WAR COLLEGE PRESS
686 Cushing Road
Newport, RI 02841-1207

Published by U.S. Naval War College Digital Commons, 2023
The Naval War College Review was established in 1948 as a forum for discussion of public policy matters of interest to the maritime services. The thoughts and opinions expressed in this publication are those of the authors and are not necessarily those of the U.S. government, the U.S. Navy Department, or the Naval War College.

The journal is published quarterly. Distribution is limited generally to commands and activities of the U.S. Navy, Marine Corps, and Coast Guard; regular and reserve officers of U.S. services; foreign officers and civilians having a present or previous affiliation with the Naval War College; selected U.S. government officials and agencies; and selected U.S. and international libraries, research centers, publications, and educational institutions.

Contributors
Please request the standard contributors' guidance from the managing editor or access it online before submitting manuscripts. The Naval War College Review neither offers nor makes compensation for articles or book reviews, and it assumes no responsibility for the return of manuscripts, although every effort is made to return those not accepted. In submitting work, the sender warrants that it is original, that it is the sender's property, and that neither it nor a similar work by the sender has been accepted or is under consideration elsewhere.

Permissions
Reproduction and reprinting are subject to the Copyright Act of 1976 and applicable treaties of the United States. To obtain permission to reproduce material bearing a copyright notice, or to reproduce any material for commercial purposes, contact the editor for each use. Material not bearing a copyright notice may be freely reproduced for academic or other noncommercial use; however, it is requested that the author and Naval War College Review be credited and that the editor be informed.
## CONTENTS

- From the Editors ................................................................. 3
- President’s Forum ............................................................... 9

### Strategy and Policy

**The Future of Precision-Strike Warfare**

**Strategic Dynamics of Mature Military Revolutions** ........................................ 13
*John D. Maurer*

The precision conventional revolution, which yielded early U.S. military successes, is entering a more mature phase. Future great-power wars could tend toward protracted conflicts as superpowers seek to coerce each other without escalating to nuclear warfare. The proliferation and massing of precision conventional weapons may worsen such conventional military stalemates, with each side eviscerating the other’s power-projection capabilities.

### Maritime Security

**Smart Balancers Kill Many Birds with Few Stones**

**Sino-Russian Security Cooperation in the Maritime Domain** ............................... 39
*Maximilian Ernst and Tongfi Kim*

Minimizing the costs and risks of balancing is crucial for a coalition facing stronger opponents—such as China and Russia facing the United States and its partners. The motives of Sino-Russian security cooperation should be understood within the context of a full spectrum of balancing strategies in international relations and the relatively lower risk of escalation in the maritime domain.

**The European Union’s Quest to Become a Global Maritime-Security Provider** ............................................................... 67
*Christian Bueger and Timothy Edmunds*

The European Union (EU) seeks to become a global maritime-security actor, yet strategic challenges influence its maritime-security strategy process. Is there a distinctive and coherent EU approach to global maritime security, and how should the EU address the growing range of maritime challenges, including the intensification of militarized competition in the Indo-Pacific?
European Security

“Confining the Enemy”
Halford Mackinder’s Theory of Containment and the Conflict in Ukraine.............. 87
Michael Hochberg and Leonard Hochberg

Before George Kennan outlined his vision of containment, Halford Mackinder articulated a vision of maritime geostrategic logic that prioritized some geographic locations over others. Because Mackinder’s writings have been marshaled to assess the ongoing U.S. commitment to Ukraine, it is important to appreciate how his theory applies to the current crisis.

The Cold War at Sea

The Cuban Missile Crisis at Sea
Avoidance of Nuclear War Not Left to Chance ......................................................... 107
Theodore Voorhees

Many contradictions emerge from the nine published accounts of the confrontation between the Soviet submarine B-59 and American antisubmarine-warfare units during the Cuban missile crisis of October 1962. Assessing those accounts reveals that no participant should be anointed as “the man who saved the world,” and that the peaceful conclusion of the confrontation should not be attributed to good luck.

Research & Debate
Historical Parallels in Command: Nelson and Spruance ........................................... 147
Robert C. Rubel

Book Reviews
Reflections on Captivity: A Tapestry of Stories by a Vietnam War POW,
by Porter Alexander Halyburton
reviewed by Edward J. Marolda................................................................. 159

Escape from Java: The Extraordinary World War II Story of the
USS Marblehead, by John J. Domagalski
reviewed by Scott Cauble ................................................................. 161

Armed Guests: Territorial Sovereignty and Foreign Military Basing,
by Sebastian Schmidt
reviewed by Robert Flynn................................................................. 162

Drones and Global Order: Implications of Remote Warfare for International Society, ed. Paul Lushenko, Srinjoy Bose, and William Maley
reviewed by Richard Norton ................................................................. 164

A Great and Rising Nation: Naval Exploration and Global Empire in the
Early US Republic, by Michael A. Verney
reviewed by Michael Romero................................................................. 166

Sun Tzu in the West: The Anglo-American Art of War, by Peter Lorge
reviewed by Jonathan Welch ................................................................. 167

Reflections on Reading ................................................................. 171
The Russo-Ukrainian war, the largest war in Europe since World War II, has become a testing ground for contemporary and emerging military technologies. Less obviously, but perhaps more fundamentally, it has created the preconditions for a rethinking of operational concepts guiding possible future wars between states possessing comparably sophisticated military capabilities. In “The Future of Precision-Strike Warfare: Strategic Dynamics of Mature Military Revolutions,” John D. Maurer offers a rethinking of precision-strike warfare within the framework of the theory of “military revolutions” that came into such prominence in the last decade of the Cold War. In the early years of the nuclear era, he argues, the full implications of the appearance of nuclear weapons for modern warfare were not recognized immediately, given the very limited nuclear arsenals then available; it was assumed that nuclear exchanges would occur within the context of a conventional war—something often referred to as a “broken-back war.” Just as the proliferation of nuclear weapons on both sides made this scenario seem increasingly fantastic, so, Maurer suggests, the wide availability of precision-guided weapons among major (and even minor) powers today forces us to rethink the efficacy we have tended to associate with them (e.g., in the U.S. interventions in Iraq and Afghanistan). As in the Russo-Ukrainian war, such weapons are unlikely to deliver quick victories through “shock and awe” but rather protracted conflicts that will call for new methods of employing them. John D. Maurer is a professor at the School of Advanced Air and Space Studies, Air University.

Over the last decade, Sino-Russian security cooperation in the maritime domain has become a seemingly permanent fixture of the contemporary strategic environment. In “Smart Balancers Kill Many Birds with Few Stones: Sino-Russian Security Cooperation in the Maritime Domain,” Maximilian Ernst and Tongfi Kim analyze the ways in which Russia and China use this cooperation as a balancing tool in great-power competition with the United States and its allies. They argue that these two powers have been relatively adroit in advancing their respective interests (which do not always coincide perfectly) to firm up their own defense-industrial and alliance relations while at the same time creating “negative external balancing” through exploiting differences between the United States and its allies, as well as among various of those allies themselves. As an example
of the latter, the authors point to the joint Sino-Russian overflight of Dokdo/Takeshima in 2019, which exacerbated friction between South Korea and Japan, both claimants to the islands. Maximilian Ernst and Tongfi Kim are researchers at the Centre for Security, Diplomacy, and Strategy at the Brussels School of Governance, Belgium.

In this era of great-power competition and the reemergence of “hard power” in relations between states, it is important to keep in mind other dimensions of global order, especially global order at sea. In this context, the European Union (EU) is a strategic actor of greater consequence than generally seems to be recognized. In “The European Union’s Quest to Become a Global Maritime-Security Provider,” Christian Bueger and Timothy Edmunds provide a detailed overview of the EU’s maritime activities around the world, including in places far from its own shores, such as the Gulf of Guinea and the western Indian Ocean. The most important of these activities are the suppression of piracy and human trafficking, enhancing maritime domain awareness, environmental protection, and capacity building with Third World partners. These efforts form a complex web of partly overlapping missions carried out by varying groupings of states and a wide variety of civil and military organizations. Bueger and Edmunds acknowledge the many challenges and shortcomings with which the EU has contended in executing these missions, including command and control, interoperability, and coordination with the United States and (now) the United Kingdom, but their case for a better appreciation of these valuable contributions to global maritime security is a compelling one. Christian Bueger is a professor of international relations at the University of Copenhagen, Denmark; Timothy Edmunds is a professor of international security at the University of Bristol, United Kingdom.

As the war in Ukraine enters its second year, it is well to remember that Ukraine was scarred by war twice in the last century—not only in World War II, but in the Russian Civil War following the Bolshevik seizure of power in 1917. In all three cases, war in Ukraine has constituted a struggle for control of what the geopolitical theorist Halford Mackinder called the Eurasian “heartland.” In “Confining the Enemy’: Halford Mackinder’s Theory of Containment and the Conflict in Ukraine,” Michael Hochberg and Leonard Hochberg explore possible implications of Mackinder’s classic geopolitics for today. Of particular interest is the fact that Mackinder himself went on an official mission to Ukraine in 1919–20 to advise the British government on the prospects of Denikin’s White Russian army and whether Britain should continue to support it materially. The report he produced laid out a vision of a Ukraine–East European–Baltic alignment against the Soviets that is highly reminiscent of the situation today. Michael Hochberg is president of Luminous Computing; Leonard Hochberg is a senior fellow at the Foreign Policy Research Institute.
Finally, it is always well to be reminded of the phenomenon of “the fog of war.” In “The Cuban Missile Crisis at Sea: Avoidance of Nuclear War Not Left to Chance,” Theodore Voorhees sifts through the various eyewitness accounts of the incident of 20 October 1962 involving the forced surfacing of a Soviet attack submarine by the U.S. Navy, during which, we often have been told, it was only by a lucky accident that the sub did not launch its nuclear torpedo and thus initiate World War III. In this careful and (one hopes) definitive analysis, Voorhees shows that the view lacks any serious foundation—in particular, that the American side did not engage in any of the provocative actions that Soviet participants sometimes have alleged. Theodore Voorhees Jr. is the author of *The Silent Guns of Two Octobers: Kennedy and Khrushchev Play the Double Game* (2020).

### NWC PRESS BOOK PROJECTS

<table>
<thead>
<tr>
<th>Most Recent Volumes</th>
<th>Book Line</th>
<th>Next Projected Volumes</th>
</tr>
</thead>
<tbody>
<tr>
<td>HM 28, Eccles, To the Java Sea: Selections from the Diary, Reports, and Letters of Henry E. Eccles, 1940–1942, ed. Hattendorf and Boyer (October 2021)</td>
<td>Historical Monographs</td>
<td>HM 30, Hattendorf, Reflections on Naval History: Collected Essays</td>
</tr>
<tr>
<td>NP 45, Schneider, Goldman, and Warner, eds., Ten Years In: Implementing Strategic Approaches to Cyberspace (December 2020)</td>
<td>Newport Papers</td>
<td>NP 47, Burke, Analogous Response Redux: Vladimir Putin’s Aspirations for Altering the Maritime Balance</td>
</tr>
<tr>
<td>NP 46, Ayer, ed., Deterrence: Selected Articles from the Naval War College Review (February 2022)</td>
<td></td>
<td>NP 48, Augier, Barrett, and Mullen, eds., Wayne Hughes Symposium proceedings</td>
</tr>
<tr>
<td>LES 2, Demy, ed., Ethics and the Twenty-First-Century Military Professional (November 2018)</td>
<td></td>
<td>LES 4, College of Leadership and Ethics, Competence and Character: The History of the College of Leadership and Ethics</td>
</tr>
<tr>
<td>Most Recent Volumes</td>
<td>Book Line</td>
<td>Next Projected Volumes</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>(Preceding volumes were published by the Naval Institute Press)</td>
<td>China Maritime Studies Institute Red Books</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Leidos Chair of Future Warfare Studies Black Books</td>
<td></td>
</tr>
</tbody>
</table>

Some titles available in printed form from the Government Publishing Office at bookstore.gpo.gov/. All titles available in electronic form from the Naval War College at digital-commons.usnwc.edu/.
Rear Admiral Shoshana Chatfield is the fifty-seventh President of the U.S. Naval War College and a career naval helicopter pilot. A native of Garden Grove, California, she graduated from Boston University in 1987 with a bachelor of arts in international relations and French language and literature. She received her commission through the Naval Reserve Officers Training Corps in 1988 and earned her wings of gold in 1989. Chatfield was awarded the Navy’s Political/Military Scholarship and attended the Kennedy School of Government, receiving a master in public administration from Harvard University in 1997. In 2009, the University of San Diego conferred on her a doctorate of education in leadership studies.
PRESIDENT’S FORUM

AS ACADEMIC YEAR 2022–23 enters its final trimester, I want to share some thoughts about a significant opportunity for this institution that we will be addressing in the months and years ahead.

Colleagues within the national-security arena often refer to us as “the nation’s premier war college.” Our College earned this reputation through nearly 140 years of superior scholarship, strategic and operational research, and professional executive development on our historic Newport campus and throughout 109 years of highest-quality and relevant distance education.

Yet while we take immense pride and comfort in looking back at past accomplishments, it is time to engage in an intense process of data-driven self-evaluation and preparation to ensure that our voyage plan prepares us for both foreseeable and unknowable challenges. Our Navy is encouraging such inward-looking analyses fleet-wide by developing a mind-set called Get Real, Get Better, the subject of my President’s Forum in the Autumn 2022 Review (volume 75, number 4). We must pay particular attention to the global military and political operating environments to determine what is changing and how we must assess and modify our programs and processes to incorporate the new demand signals. In the following paragraphs, I will describe how this process will occur here in Newport and the steps that will position the College to answer the questions that objectively will inform our collective future.

The primary responsibility of all leaders is to understand the missions, functions, and tasks assigned to their organizations and to measure the effectiveness of all efforts to achieve those desired outcomes. Some environments lend themselves to straightforward assessments. For example, it seems easier to think about standards, goals, cost drivers, and value in an industrial context,
in which the accumulation of raw materials and the costs associated with processing those materials into finished products result in clear-cut measures of effectiveness. However, institutions in the naval-education enterprise must design assessment tools to fit our unique educational and research outcomes and organizational construct. Such complex endeavors in graduate education and cutting-edge research require a change in our mind-set and organization regarding our business practices and the modernization of our information-management systems.

In 2021, we worked collaboratively to develop and publish the *U.S. Naval War College Strategic Plan 2022–2027*. In 2022, we established a strategic-plan-implementation framework for engaging stakeholders across the College. Our staff and faculty have worked together to identify and improve internal business practices to support our team better. We engaged the Office of Personnel Management to assist us in optimizing our organizational structure and in understanding where we have workflow and personnel mismatches. In 2023, we welcomed our first Chief Inclusion and Diversity Officer, who will support our creative, collaborative, and high-performing team. We have initiated an internal search for an Associate Provost for Academic Services, one for Research, and one for Outreach and Engagement to enable us to move more quickly in developing processes and goals to accomplish our desired institutional changes.

Since then, we also have discovered where we have gaps in our data. If we are to make data-driven decisions, we must set standards and goals and measure our efforts in relation to them. For example, our robust survey processes in our resident degree program are not extended or duplicated across all our educational programs. An existing program for collecting data about our short-course attendance and completion is underused. As we looked deeper, we discovered that the College's current student-information systems must be upgraded to meet higher-education standard practices to support us across the scope of our missions. Therefore, we are working with the Naval Postgraduate School to select and invest in a state-of-the-art student-information system to provide each institution with a modern, reliable, integrated source of retrievable data. And this year, we will hire a Chief Data Officer.

These moves will underpin innovations in Navy professional military education and warfighter development directed by the Chief of Naval Operations and Secretary of the Navy. The appropriate investments across the naval-education enterprise will enable each institution to be responsive to calls for short courses, badging and certification, and stackable degrees. Drawing the best results from such an investment will require a dedicated implementation team to accomplish the migration, as well as training of faculty and staff across the College to understand how to condition the data and achieve full functionality.
To inform today’s decision makers and educate tomorrow’s leaders, we need to know ourselves better than anyone else does. Accurate records and assessments must be readily available when the institution is called upon to realign its priorities to address emerging threats. Suppose this truly is the “decade of danger” for our nation and allies. In that case, our war-college community must become keenly interested in developing our ability to work collaboratively across our own institution and to integrate our capabilities with those of the other higher-education institutions in the naval-education enterprise. Access to data will allow us to refine our organizational structure and human-capital strategy with enough fidelity to pivot adroitly if and when necessary to address changing priorities and emerging challenges.

Our new Data Committee has developed criteria for hiring the Chief Data Officer. In an era in which the industry standard is a “data lake,” our outdated, manual data-gathering efforts limit us to barely adequate and disconnected “data puddles.” Our limited technological tools are inadequate. Our Naval Education Enterprise Chief Information Officers are collaborating on designing a new data architecture for naval-education flagship institutions that references higher-education best practices and uses data-driven systems to manage crucial tasks such as student and curriculum support, human-resource management, and facilities maintenance and modernization. Investing in data infrastructure is an opportunity for our Naval War College to highlight current success and to extend our legacy.

Over the past three and a half years at the helm of this great institution, I continuously have grown more interested in and curious about ways of accurately representing and assuring our College history, operations, and impacts worldwide. Evaluating our institution’s ability to deliver war-fighting advantage with appropriate metrics and outcomes to our customers and stakeholders will only become more important. We have work to do to translate our requirements and achievements into Get Real, Get Better language.

I am amazed daily by our team’s energy, commitment, and innovation, and our resilience and connection to the mission are evident. However, now we are called to view our great College through a more analytic lens—one that will provide us with the information we need to make reasoned decisions in a time of change.

SHOSHANA S. CHATFIELD
Rear Admiral, U.S. Navy
President, U.S. Naval War College
John D. Maurer is a professor of strategy and security studies at the School of Advanced Air and Space Studies, Air University, and a nonresident fellow at the American Enterprise Institute. His book on American nuclear strategy and arms-control policy, Competitive Arms Control, was published by Yale University Press in 2022. He has a PhD in the history of American foreign relations from Georgetown University.
Beginning in the 1970s, military theorists began predicting that the combination of highly accurate conventional weapons and networks of advanced sensors would transform the character of future wars radically, enabling rapid and precise attacks that would overwhelm adversaries quickly and create opportunities for decisive military success. Decades later, important parts of that vision seem to have been realized; increasingly accurate conventional weapons and large networks of sensors have enabled great powers such as the United States to dominate less-well-armed adversaries such as Iraq, Serbia, Afghanistan, and Libya in rapid military campaigns. Although most would admit that the political outcomes of those military successes were far less decisive, many analysts nonetheless predict that precision conventional weapons will continue to drive ever-more-decisive conventional battles in the future, allowing the side that adopts and best employs such weapons to overcome its adversaries.1

The overwhelming battlefield successes of American precision weapons are undeniable, but they are not a particularly good guide for the future of precision-armed conflict. American successes reflect an immature version of the precision military revolution, in which the United States enjoyed the enormous advantage of having such weapons while its adversaries did not. As we move deeper into the twenty-first century, however, that early period of the precision conventional revolution is giving way rapidly to a more mature phase, in which the proliferation and widespread adoption of such weapons will see new dynamics largely unrelated to early U.S. military successes. Future wars between great powers very well could tend toward longer, protracted conflicts as superpowers seek to coerce each other without escalating to nuclear warfare.2 Far from alleviating this dilemma, masses of precision conventional weapons may worsen conventional...
military stalemate, with each side eviscerating the other’s power-projection capabilities. We very well may be seeing a version of this sort of stalemated conflict playing out in Ukraine today.

In seeking to explore the future of precision-guided warfare, military analysts would do well to consider the historical patterns of previous military revolutions, in which the initial dominance of early adopters regularly has given way to the mature counterbalance of proliferated capabilities. Such previous revolutions at first seemed to offer unique technological solutions to long-standing military dilemmas, but as these technologies were adopted more widely, combatants repeatedly relearned that fundamental military advantages in generating mass and projecting power remained as relevant as ever in prevailing over similarly armed adversaries. Rather than degrading its overall forces in pursuit of a mythical precision “silver bullet,” the United States would do better to consider how precision-strike weapons best can support the balanced armed forces required to deter and, if necessary, prevail in future conventional wars of either short or long duration.

MILITARY REVOLUTIONS, THEN AND NOW

Across the centuries, new technologies periodically have altered the character of war in dramatic fashion, a process often referred to as a military revolution. While historians long have studied the impact of emerging technology on war, policy-oriented study of military revolutions has a more recent origin. In the 1970s, American military reformers reflecting on the nation’s recent defeat in Vietnam began programs to improve the lethality and responsiveness of American conventional forces, with a much greater emphasis on exploiting munitions precisely guided by advanced sensors to disrupt and defeat adversaries on the battlefield. While militaries had been working for decades to improve the accuracy of their weapons, American military reformers first systematically sought to exploit the advantages of accurate weapons and networked sensors through programs such as Assault Breaker and new doctrinal developments such as Air-Land Battle. By the late 1970s, Soviet marshal Nikolay V. Ogarkov described American military reforms in epochal terms as a military-technical revolution that not only would alter the balance of conventional forces in Europe but also would reshape fundamentally the character of future war by allowing the technologically superior combatant to disarm and defeat opponents in rapid and decisive fashion.

The rapid destruction of the Iraqi army during Operation DESERT STORM in 1991 suggested that such Soviet predictions of a military revolution very well may have been prescient. Even as the Soviet Union itself collapsed, American strategists seeking to make sense of the emerging security environment drew on Ogarkov’s theory to explore the future of military-technical development. By the mid-1990s,
the concept of a military-technical revolution, or revolution in military affairs (RMA), had become a staple of American defense policy analysis. Since that point, the pursuit of decisive military advantage through the combination of precision-guided weapons, advanced sensors, and networked command-and-control (C2) capabilities has driven much American military innovation and doctrine.

However, the United States was not the only country to come away from the 1991 Persian Gulf War impressed by the possibilities of a precision-guided RMA. While American strategists sought to extend the perceived advantages they had enjoyed during the Gulf War, Chinese and Russian theorists instead concentrated on the utility of advanced precision-guided weapons to prevent the United States from repeating 1991. China took the lead in this regard, pursuing a combination of sensors, networks, and long-range precision fires to produce an antiaccess/area-denial system that would deter and, if necessary, prevent American forces from massing on China's periphery for a decisive attack. Contemporary Chinese strategists write about the need to emulate American successes in using precision-guided weapons to disrupt adversary military systems and win rapid, decisive victories. Russian military thinkers also recognize the importance of long-range precision fires and advanced electronic and cyberwarfare capabilities to deter and disrupt NATO intervention along their country's borders, although poor performance in Ukraine calls into question how effectively the Russian military has pursued this capability. Nonetheless, American strategists contemplating a return to strategic competition confront adversaries who share similar broad technical capabilities, operational concepts, and theories of victory.

The precision-strike military revolution has entered what Thomas G. Mahnken describes as “the mature phase.” In this phase, early innovations proliferate through the international system and are replicated on a large scale. Critically, the maturation of a military revolution often is associated with rapid loss of advantage on the part of early adopters.

The pattern of early asymmetric advantage followed by maturation and growing symmetry has repeated throughout history. Spanish armies in the early modern period used firearms, combined-arms tactics, and fiscal-military state building to dominate European battlefields—until their many rivals replicated and surpassed their accomplishments. Napoléon's armies enjoyed similar advantages in operational organization and societal mobilization—until his adversaries adapted by adopting French innovations. Prussia exploited railroads and telegraphs for mass mobilization in building the German Empire, but Germany could not replicate this success in the First World War against similarly organized opponents. Rapid German successes in armored warfare in the opening phases of the Second World War were overcome similarly by Allied adaptation in the war's final years.
The military revolutionary process of early exploitation followed by rapid adaptation also was visible in the development of nuclear weapons. The United States took the early lead by producing the first nuclear weapons in the final days of the Second World War. American leaders hoped that nuclear weapons would deter and, if necessary, defeat future aggression while the United States rebuilt the international order. However, Soviet and British leaders also quickly determined to pursue nuclear arsenals to ensure their own security and status.

While leaders quickly grasped the revolutionary political potential of nuclear weapons, American military strategists struggled with how to use the new weapon to achieve wartime objectives. At least initially, American military leaders conceived of nuclear weapons as an extension of their wartime bombing programs. In a future war, the United States would use its small arsenal of nuclear weapons to destroy the adversary’s industrial war-making capability. If the adversary did not capitulate, the United States would mobilize its vast conventional military resources to defeat the crippled adversary on the battlefield, much as it had the Axis powers. As a result, American military leaders spent the early postwar years focused on technical and operational issues related to the delivery of nuclear weapons at long distances, especially through the organization of the U.S. Air Force. By investing in nuclear weapons, American political leaders hoped to offset Soviet advantages in standing conventional forces and contain Soviet influence while avoiding crippling economic and social costs at home.

The August 1949 Soviet test of a nuclear weapon in itself did not alter fundamentally the contours of American nuclear strategy. While the threat of Soviet nuclear attack was of supreme political importance, it was not clear that even the mutual use of nuclear weapons would prove decisive in a future war. The Truman administration’s NSC-68 report treated the Soviet development of nuclear weapons seriously, but also observed that the outcome of a nuclear exchange was difficult to predict, and that therefore the United States needed not just a large nuclear arsenal but also the capability to fight and win a long conventional war.

In their 1952 Defence White Paper, British leaders went a step further to describe the notional interaction of emerging nuclear arsenals with conventional war-fighting capabilities in so-called broken-back wars. Now the early phase of a superpower war would witness an exchange of nuclear weapons delivered by manned bombers, with each side seeking to penetrate the other’s air defenses. At

---

Masses of precision conventional weapons may worsen conventional military stalemate, with each side eviscerating the other’s power-projection capabilities. We very well may be seeing a version of this ... playing out in Ukraine today.
that point, both sides would mobilize for a conventional struggle of attrition. The side that did better in the early nuclear exchange would be at an advantage in the ensuing conventional phase of the war, but the nuclear striking arm would need to be balanced against the competing priorities of air defenses, conventional standing forces, and industrial mobilization capability.

Today, the idea of the superpowers waging a broken-back conventional war in the aftermath of a nuclear exchange stretches credulity, but in the prevailing political and military context of the early 1950s the idea was less far-fetched than it would seem later. The American nuclear arsenal remained relatively small in this period, and its delivery on bombers into the teeth of Soviet defenses against uncertain targets remained a precarious plan. The Soviet “arsenal” was in even worse shape, with few working warheads or bombers. Under these conditions, the speculation that a total nuclear exchange might not produce an immediate strategic decision was not unrealistic, nor was the possibility that the superpowers might continue fighting with residual conventional capabilities.

Whatever its merits in 1952, the broken-back-war theory of nuclear strategy was eclipsed quickly as the number and size of nuclear weapons increased dramatically. President Harry S. Truman responded to the Soviet nuclear test by authorizing the development of even more powerful fusion, or “hydrogen,” weapons capable of destruction that was orders of magnitude greater than that of early fission devices. The larger arsenals of more-powerful weapons increasingly were deployed not just on bombers but on long-range ballistic missiles capable of bypassing existing air defenses and striking their targets in minutes rather than hours, or even days, of flight.

Plentiful hydrogen bombs on high-speed missiles made the idea of reconstituting for conventional war after a nuclear exchange increasingly fantastical. As the Soviets developed hydrogen weapons of their own, by the mid-1950s American nuclear planning increasingly emphasized preemptive attack on Soviet nuclear forces to limit damage to American society. By the end of the 1950s, the continued expansion of nuclear firepower called into question even this damage-limitation mission, as even a few missiles surviving a first strike would inflict unacceptably heavy retaliatory damage on the aggressor.

Calls to prepare for protracted conventional warfare also faced significant political and social obstacles to implementation. Politically, Western leaders balked at the fiscal costs of preparing for both large-scale nuclear war and grinding conventional wars of attrition. Although Truman’s NSC-68 had called for widespread economic mobilization, the Eisenhower administration’s New Look policy sought to bolster nuclear capabilities for deterrent purposes while de-emphasizing conventional war fighting. By the early 1960s, the Kennedy administration sought to reinvigorate conventional capabilities, not to wage a grinding
war of conventional attrition but to restore flexibility of maneuver in more-limited conflicts and crises. President John F. Kennedy and Secretary of Defense Robert S. McNamara’s desire to curtail defense expenses led them to embrace an “assured destruction” framework in which American nuclear forces were tasked with deterring the Soviets through survival and retaliation rather than preemptive self-defense. Nor did periodic attempts to prepare for postattack mobilization (or even postattack survival) meet with much enthusiasm from the public.

The demise of the broken-back-war theory had profound implications for future defense planning. American leaders and military strategists increasingly predicted that future great-power wars would be short and sharp. Although American declaratory policy emphasized “strategic stability” from the mid-1960s onward, in practice the United States continued to seek ways to limit damage to itself from a nuclear attack, including developing preemptive-attack capabilities to disrupt adversary command systems and destroy hostile nuclear forces while they were still on the ground or under the water. Even as American strategists grappled with the paradoxes of nuclear deterrence, many still concluded that in the event of a nuclear war the side that shot first would enjoy a major advantage, regardless of the balance of economic potential or conventional military strength.

The belief that modern technology would grant the attacker an overwhelming advantage shaped not only nuclear strategy but also thinking about precision-guided conventional weapons. By the 1980s, proponents of precision-guided weapons similarly argued that aggressive and early use of such weapons would allow the United States to disrupt and defeat adversaries regardless of their economic or conventional military potential. The short, sharp wars of the 1990s and the early years of the following decade seemed to confirm this potential against hostile states.

Yet the parallel was never quite exact; after all, the nuclear strategists of the 1950s and ’60s considered nuclear weapons decisive even against the backdrop of a “mature” revolution in which nuclear weapons technology had proliferated widely. The question remains: What might we expect in future conflicts under a mature system of precision-strike capabilities?

MATURE PRECISION STRIKE
Strategists seeking to envision a future nuclear war operated under a great handicap in that no such war ever had occurred. Thinking through the unthinkable thus required considerable imagination to identify key factors and extrapolate important trends. When imagining conflict under a mature precision-strike revolution, we enjoy some advantages, including that over the last several decades several conflicts have occurred in which combatants employed precision-guided conventional weapons. Yet a common empirical challenge remains, since few if
any of our recent cases could be considered “mature” in the sense that both sides could disrupt the other with precision conventional strikes.\textsuperscript{48} The use of precision-guided weapons in the wars of American primacy is akin to the use of nuclear weapons against Japan in 1945: artifacts of an early revolutionary phase that serve as touchstones for future analysis, but whose specific features are unlikely to recur in a mature, proliferated system. Russia’s invasion of Ukraine provides some hints regarding the sort of conventional stalemate that might exist even on a precision-armed battlefield, although so far neither side has achieved the sort of systematic, long-range disruption of the enemy’s combat system envisioned by proponents of the precision military revolution.\textsuperscript{49} Exploring the dynamics of a mature precision conventional regime thus also requires a significant act of imagination.

Precision-guided weapons certainly have excited the imagination. From the 1991 Gulf War onward, international audiences have been given a front-row seat on the use of precision-guided munitions through the release of extensive video records of such munitions at work.\textsuperscript{50} Their ability to strike suddenly and destroy a given target dominates public discussions. Harder to discern from the videos is the larger “back end” of such precision-strike systems, including the sensors that surveil adversaries, the intelligence process that turns sensor data into actionable targets, the aircraft and missiles that carry munitions to those targets, the command systems that coordinate these activities, and the networks that tie the entire process together.\textsuperscript{51}

\textit{The Primacy of Disruption}

Lost entirely in the dramatic videos of discrete exploding objects is the intellectual underpinning driving much of the use of precision-guided weapons, one that treats adversaries not as unitary forces to be overthrown but as systems to be disrupted.\textsuperscript{52} Under this framework, precision-guided munitions are directed not against the bulk of the adversary's forces but against the critical nodes in its military system: the sensors, analysts, commanders, and networks that allow the adversary’s military to function. Targeted disruption of the adversary system is at the heart of how major militaries prepare for precision-guided warfare today, whether it is the American Joint Concept for Access and Maneuver in the Global Commons, the Russian “active defense,” or the Chinese “systems confrontation.”\textsuperscript{53} By leveraging the unique capabilities of precision-guided weapons against vulnerable nodes in the adversary’s system, these major militaries seek to disrupt the adversary’s ability to resist.\textsuperscript{54} Overall, this has been a sensible approach, one validated by the significant disruption that militaries from Iraq and Serbia to Yemen and Armenia have experienced under barrages of precisely targeted attacks.

Whether such disruption will be as effective in future wars is less certain. In future conflicts between well-armed equals, not all elements of the adversary’s military system will be equally vulnerable to disruption by precision conventional
attack. As a rule, large, fixed nodes in the adversary’s system will remain significantly more vulnerable to precision attack than elements that are smaller, more mobile, or more easily concealed. This observation has important implications. Precision weapons are unlikely to be very effective at destroying other precision weapons once those weapons are dispersed aboard trucks, aircraft, or ships. Of course, precision weapons depend on command facilities that themselves will be vulnerable to attack. Disrupting command systems will lessen further an adversary’s ability to strike small, mobile, and concealed targets. But disruption of large command systems will not prevent as easily attacks on similarly large and well-known targets, which can be located ahead of time and attacked with minimal outside support. As a result, belligerents with long-range precision-attack capabilities will struggle to limit the damage inflicted by similar adversary systems on their own fixed, high-value targets. The interaction between mobile and dispersed precision-attack systems will be minimal; instead, faced with disruption of its command system, each side is likely to direct its own disruptive attacks primarily against the fixed, high-value targets of the other.

Aside from major C2 facilities, the other likely class of high-value targets is the major logistical hubs. Ports, airfields, train stations, bridges, fuel-storage sites, power plants, bulk-storage facilities, and data centers represent only a few of the fixed facilities on which major militaries depend to project power and sustain combat operations. Destroying or disabling these targets would impair significantly an adversary’s ability to project power to or maneuver within a given theater. Like large command facilities, these fixed logistical assets represent a set of targets that could be developed prior to a conflict and attacked by long-range missiles with relatively little support.

When it comes to disrupting adversary forces in a major war, a final set of critical targets will be major maritime assets such as aircraft carriers and amphibious warfare groups. If major maritime assets are caught in port, they are virtually indistinguishable from other fixed targets and can be attacked with relative ease. Targeting warships while they are at sea is another question. Ships operating close to adversary bases are likely to face significant threats from swarms of antiship missiles, although the volume of such attacks will drop off against ships farther at sea. As C2 functions break down, targeting of warships at sea is also likely to become much more difficult, at any range. In a future conflict, we might expect an early phase of sudden destruction of major warships in port and hostile seas, followed by a significant decrease in precision-strike capabilities as major warships seek to avoid detection at sea and C2 capabilities break down.

Conflict under a mature and proliferated regime of precision strike thus will share important similarities to and differences from the recent past. Large arsenals of precise, long-range conventional weapons still will allow significant
disruption of adversary operations. Yet when both sides enjoy similar levels of precision-attack capability, the emergent conflict is unlikely to resemble the one-sided successes of recent decades. While early exchanges of precision-guided weapons might remove critical mobile assets such as major warships, neither side is likely to destroy entirely the other’s dispersed and mobile precision-attack capabilities. As a result, each side is likely to default to attacks on fixed, high-value targets such as C2 facilities and logistics hubs in an effort to disrupt military operations further. Mutual attack on vulnerable C2 systems will create a self-reinforcing cycle of ever-decreasing ability to attack dynamic, mobile targets. At the military-operational level, conflict between mature precision-strike systems is likely to produce a form of mutual disruption.

The Challenges of Coercion

For all their disruptive potential, precision weapons have not altered the strategic challenge of linking battlefield successes to larger political objectives. The fundamental question for the mature precision revolution will be how to exploit wartime disruption to achieve larger strategic effects and political objectives. Exploiting the adversary’s disarray will be much harder under a mature precision revolution in which one’s own major forces have been disrupted similarly. We should suspect that conventional conflicts under the mature precision revolution will face high risks of protraction and attrition.

Few would predict a precision conventional stalemate, given the “mystique” that currently surrounds precision weapons and their supposed ability to win wars quickly and decisively. That mystique, built over decades of precision-weapons use against less-well-armed adversaries, may be the greatest strategic asset of the precision-strike regime. The threat of overwhelming disruption through precision attack has exercised a strong deterrent effect on conventional conflict since the 1991 Gulf War. In 1996, the American deployment of aircraft carriers to East Asia headed off a crisis between mainland China and Taiwan. Several years later, Russian leaders backed down in the face of large-scale precision attacks on Serbia.

Today, Chinese and Russian development of their own precision-attack capabilities is creating serious doubts about American power-projection capabilities, suggesting that the deterrent effect of an opponent’s potential conventional precision attack remains strong. We can hope that the latent threat of precision conventional attack will continue to restrain great-power war in the future. Bolstering precision-strike capabilities to reinforce conventional deterrence is thus a sensible policy.

Should deterrence fail, though, the mystique of precision attack will fade quickly, because precision-attack capabilities have not resolved the challenges of coercing an adversary in wartime. States occasionally rely on “brute force” to
seize what they want, but in most cases war termination involves coercing an adversary into political concessions—that is, threatening what they value to get them to accede to one’s demands. The theoretical requirements of this compellent coercion are well-known; the coercer must combine the ability to hurt an adversary with the willingness to do so, and then communicate that capability and credibility to the adversary in a way that is convincing. In practice, wartime compellence is difficult to achieve. Combatants struggle to discover and attack what the adversary values. Adversaries take countermeasures that weaken the effectiveness of coercive tools. Credibility is even more difficult to measure. Political leaders place restraints on the use of force to avoid escalation or domestic backlash. Leaders and publics respond to violence with anger, complicating efforts to assess the “rational” value of the political stakes. Nor is communication any easier. The divergent worldviews of leaders make it difficult for them to communicate effectively. Leaders have strong incentives to avoid wartime bargaining out of fear of encouraging the adversary further. These many barriers to effective compellence mean that states often struggle to link their destructive battlefield capabilities to quick political successes.

Precision-strike capabilities do little to alleviate these obstacles to wartime coercion. Precision-strike capabilities do offer greater ability to destroy a given set of targets quickly, but they do not provide any greater insight into which targets should be struck, nor do they invalidate the ability of the adversary to take countermeasures by hardening, concealment, or dispersion. Precision-strike capabilities do little to alter the balance of interests over a given political issue, and on the margins they may complicate making credible threats by undermining public tolerance for casualties, as publics become accustomed to conflicts featuring very low collateral damage. Precision strike contributes little to avoiding misunderstandings or incentivizing early peace negotiations, especially if disruption of adversary leadership and communications renders prompt negotiations harder.

The early precision conventional revolution confirms the continued challenges of compelling an adversary in wartime. American precision attacks were insufficient to coerce Saddam Hussein into withdrawing from Kuwait in 1991; only after American ground forces engaged their Iraqi counterparts did Hussein order a withdrawal from the occupied territory. American coercive attacks on Serbia in 1999 did produce results, but only after many months of bombardment and Serbia’s growing diplomatic and economic isolation. Precision conventional

In a future conflict, we might expect an early phase of sudden destruction of major warships in port and hostile seas, followed by a significant decrease in precision-strike capabilities as major warships seek to avoid detection at sea and C2 capabilities break down.
disruption enabled the American invasions of Afghanistan and Iraq in 2001 and 2003, respectively, where the objective was not compellence but regime change through ground invasion. 80 Israel struggled to coerce Hezbollah in 2006. 81 NATO’s efforts at coercing Libya in 2011 resulted instead in the destruction of the Gadhafi regime. 82 Saudi-led air efforts have failed to coerce Yemen’s Houthis into surrender. 83 Russia’s ongoing campaign of striking Ukrainian energy infrastructure has not yet produced better results. 84

Recent history also points to several other limits on conventional precision coercion in future wars. First, defenders can repair targets that have been damaged, so repeated reattacks are required to ensure that those targets remain out of operation. 85 Second, attacking each target with multiple weapons means that precision conventional strikes require many precision weapons. Even forces operating in permissive environments have run short repeatedly of critical precision weapons. 86 Third, future conflicts are likely to place a premium on conventional attack over very long ranges, the better to disrupt adversary command and logistical capabilities quickly. Yet sharp opportunity costs still exist between a weapon’s range and its volume of fire, as long-range weapons are much more expensive than shorter-range ones. 87 When considered together, the high tempo of operations combined with the scarcity of long-range strike assets suggests that the coercive capabilities of precision-strike systems will decline dramatically after an initial burst of violence, as magazines are depleted and damage is repaired. Yet in coercion theory, it is the prospect of future violence that compels an adversary’s capitulation. While an initial exchange of precision conventional weapons would be tremendously disruptive, the rapidly diminishing returns on precision attacks pose a further barrier to effective coercion.

If coercion remains difficult, how will states use their disruptive precision attacks to accomplish specific wartime objectives? The critical variable in future conflicts under a mature precision-strike regime will be time. Disruptive precision-strike capabilities will be a wasting asset. Magazines will be depleted quickly, command and control will degrade rapidly, and adversaries will adopt more-effective countermeasures and repairs. The critical strategic question for future precision conventional conflict will be how to use this initial burst of disruption to support other lines of effort that achieve military and political objectives.

One possible answer is the fait accompli, a conflict scenario in which a party uses its conventional-attack capabilities to disrupt an adversary’s response while it physically seizes a key piece of territory through a brute-force attack, in which no coercion is required. 88 Once ensconced in its new terrain, the aggressor can seek to deter the adversary from responding with a counterattack. 89 The fait accompli concept provides a road map for integrating long-range precision fires to accomplish larger political-military objectives, and it has the virtue of emphasizing the
strengths of precision strike in disruption and deterrence while avoiding a dubious reliance on rapidly compelling an adversary to surrender through bombardment.

Yet employing precision conventional fires to support a fait accompli strategy also poses serious risks. First, it assumes that the aggressor will be able to disrupt defenders for a sufficient duration to achieve its brute-force objectives. Such disruptive attacks are unlikely to prevent a similarly armed adversary from retaliating with disruptive precision attacks of its own. In a world of mature, proliferated precision-attack capabilities, the aggressor not only must disrupt the defender but also must project its own power to seize terrain in the face of the defender's retaliatory disruption—a difficult proposition. Some operational concepts aimed at defeating fait accompli strategies emphasize the need for the defenders to adopt their own disruptive attacks. For example, the American Air-Sea Battle concept sought to respond to Chinese antiaccess capabilities with the ability to launch deep, disruptive strikes on Chinese forces in the opening moments of a conflict. If the aggressor causes only mutual disruption, its bid to seize contested territory will fail.

A second challenge to the fait accompli approach is the need to overcome local defenses, which themselves will be enhanced by precision-attack capabilities. While long-range weapons will remain few and far between, shorter-range precision artillery and rockets will be considerably more plentiful. The aggressor’s forces will need to prevail in this increasingly hazardous close fight as well. Other analysts therefore have recommended countering a fait accompli by bolstering the “blunt forces” that the adversary must overcome to accomplish its brute-force grab. This challenge was graphically demonstrated in the difficulties Russian forces faced in seeking to seize Kyiv in early 2022, as their initial offensives were ground down by Ukrainian unmanned aerial vehicles and man-portable antitank fire. If the aggressor cannot overcome local defenses, then its fait accompli will fail.

Finally, a fait accompli strategy also must deter the defender from mobilizing a larger counterattack once the initial disruption fades. A major conventional attack (including disruptive precision strikes) would make reestablishing deterrence difficult. First, once attacked, the defender is likely to respond with anger, which could make an immediate bargain difficult. Second, the defender will have strong incentives to avoid immediate negotiation, to keep from “rewarding” further aggression. Third, conventional precision forces, once used, are likely to lose some of their deterrent mystique, especially as the defender recovers and reconstitutes its forces from the initial wave of strikes. Fourth, a defender might escalate the conflict horizontally, including by conducting indirect attacks—for example, by striking in distant theaters or mounting a distant blockade. Some analysts have recommended pursuing such indirect options to enable horizontal escalation in future conflicts and thereby to defeat fait accompli. All of that assumes that the aggressor’s initial disruption and power projection go perfectly;
reestablishing deterrence will be even more difficult if the defender can blunt the aggressor’s attempted seizure of territory.

Even a fait accompli strategy may struggle in a world of mature and proliferated precision-strike capabilities. The decisive element of such a campaign would not be the precision weapons themselves but rather the ability of the aggressor or defender to project power conventionally to seize or defend terrain. Widespread proliferation of precision conventional weapons will make such power projection considerably more difficult for both sides. While having an advantage in precision-strike systems will be useful, the real deciding capability will remain the ability to project power over and against the adversary’s precision capabilities.

For example, while Azerbaijan accrued significant attention for its use of precision conventional weapons in its September 2020 conflict with Armenia, in fact Azerbaijan’s victory came from its growing ability to seize terrain even in the face of withering Armenian counterfire. Only as Azerbaijani forces encircled the regional capital of Shusha were Armenian leaders compelled to concede disputed terrain. Precision fires were a critical enabler of Azerbaijan’s success, but the ability to project power despite Armenian resistance proved decisive. Similarly, while Russian forces struggled to reach Kyiv in the spring of 2022, by the fall of that year Ukrainian forces were able to retake territory from the Russians through fairly traditional but highly effective combined-arms maneuver. Despite the growing proliferation of precise conventional weapons, militaries continue to be “shocked” by the continued relevance of traditional war-fighting competencies.

As precision conventional weapons proliferate, accomplishing political objectives and terminating even relatively small conflicts will become much more difficult. Far from the early vision of decisive warfare, the world of the mature precision conventional revolution is likely to be marked by military stalemate. The real beneficiaries of the precision revolution will not necessarily be those with the most accurate weapons but rather those who are best able to continue operating in the face of adversary bombardment.

A NEW BROKEN-BACK SCENARIO
What might a protracted conflict between two well-armed adversaries look like in an era of mature precision conventional weapons? Recent wars in Nagorno-Karabakh and Ukraine provide some hints, although less than might have been expected, given the surprising underperformance of the Russian military in Ukraine. Yet no one should conclude from Russia’s failures that future conflicts will be any easier for other countries, even the United States. Real conflict between mature precision-strike regimes remains in the future.

One situation in which mature precision-strike warfare might yet occur is a future large-scale conflict between the United States and China. While imagining
such a war is necessarily speculative, it also provides an opportunity to identify underexamined elements of the mature precision revolution for further analysis. It is here that the broken-back-war theories of the early Cold War are of greatest use. To focus on conventional capabilities specifically, we will also assume for the moment that neither side quickly employs nuclear weapons or collapses economically. What might such a protracted conventional war look like?

Much would depend on the specific political pathways to conflict, perhaps over Taiwan, but for our purposes a large war between the United States and China is likely to escalate rapidly into a predictable pattern of massive precision conventional exchange. Both the United States and China currently trumpet operational doctrines that emphasize early and massive use of disruptive attacks. Yet such a large-scale exchange is unlikely to prove decisive. Neither side would be able to prevent the other from launching devastating disruptive attacks. Consequently, both sides’ command and logistics capabilities would be degraded severely. American and Chinese naval forces in the theater, especially large platforms such as aircraft carriers and major amphibious vessels, might be sunk in rapid succession. Yet these destructive and disruptive attacks by themselves would not bring an end to the conflict. With much of its amphibious capability destroyed, China would be unable to seize Taiwan immediately, but Chinese leaders, having rolled the iron dice, would be unlikely to back down quickly. Similarly, American leaders would find it difficult to back down after so large a Chinese attack on American forces.

Examinations of a future U.S.-China war over Taiwan sometimes end at this point, with the United States having “succeeded” in preventing a Chinese invasion of the island. But if neither side could coerce the other into acceptable terms, what would happen next? Such a protracted conflict might go through several phases. In the immediate aftermath of such a massive exchange of precision fires, the ongoing battle would have to be fought by residual “forces in being”—those legacy conventional systems that were not priority targets during the initial exchange. Smaller surface combatants, surviving submarines, and remaining tactical aircraft with shorter-range bombs and missiles would be the immediate platforms of choice, for their ability to project power over at least short distances. China might enjoy tactical and operational advantages in such a postattack environment around Taiwan, given its large fleet of small combatants and many air bases within reach of the island. The mainland regime might adopt a coercive strategy against Taiwan of blockade and bombardment, which the United States would find difficult to counter. Yet, given the challenges of previous coercive
campaigns, it also seems unlikely that a cobbled-together coercive approach would cause Taiwan to capitulate quickly, any more than Russia’s drone bombardment has compelled the surrender of Kyiv.

Since residual forces in theater would not be sufficient to prevail, we would expect each side to rush additional major forces into the conflict zone. For example, not every American aircraft carrier would have been in the western Pacific when the war began; even if every carrier in the theater were destroyed in a Chinese first strike, the United States still would have strategic reserves. China also might have surviving naval forces that had not participated in the attempted invasion. The same would be true for other power-projection capabilities, including headquarters units, sensor systems, tankers, and amphibious transports. With command systems degraded and magazines depleted, these forces might even meet in larger, more-conventional battles later. In the short term, this “reconstitution” phase likely would benefit the United States, which retains significant depth of capability deployed around the world on which to draw. However, the balance of forces in theater could swing very unpredictably, as it did in the Pacific naval confrontations of the Second World War prior to the arrival of new American warships in 1943.

As rear-echelon conventional capabilities streamed forward from outside the theater, each side would be under tremendous pressure to reconstitute its precision conventional capabilities as quickly as possible. The value of long-range missiles would be less than at the start of the conflict when command networks and sensor systems were relatively intact, yet such weapons would remain potent when and where they were available. As new major forces surged forward, their operations would be punctuated by periodic “surgical” precision attacks on key command and power-projection systems. If one side were able to produce new long-range missiles at a significantly higher rate than the other, it would enjoy a marginal but important advantage in a protracted conventional war. Yet continued “sniping” at major power-projection assets likely would not produce much of an advantage one way or the other; instead, it could serve to protract the conflict further.

If a conventional conflict became truly protracted, we would expect the logistical capabilities of the combatants to be tested significantly. For example, we might assume that China would leverage its immediate local superiority in short-range tactical aircraft to pursue a steady conventional bombardment of Taiwan, in hopes of coercing the island into surrender. Yet such an air campaign would pose unprecedented challenges for the People’s Liberation Army (PLA) in sustaining a high sortie rate in the face of growing crew and equipment fatigue. In a contested environment, both sides would struggle to sustain high-intensity combat operations over long periods at sea and in the air. The United States might enjoy some advantages in longevity of force, given its greater experience operating at higher tempos abroad. Yet over a long time horizon, the end result could be a “medium
intensity” conflict in which longer periods of reconstitution of forces would be punctuated by sudden bursts of high-intensity fighting as remaining forces struggled to come to blows and sustain themselves materially away from home.

If a conventional conflict lasted so long that significant attrition occurred in major rear-echelon forces, it might reach a “kitchen sink” phase in which systems are repurposed from other missions or entirely improvised forces are stood up. The result would be many square pegs pushed into round holes, so long as the square pegs were plentifully available. For example, even if all its major amphibious vessels were destroyed, a sufficiently desperate PLA might attempt another invasion of Taiwan using large civilian vessels. Such an attack would be suicide against a well-prepared defense, but after a protracted campaign of attrition it might produce results. On the other hand, the United States might enjoy unexpected advantages of its own. The war in Ukraine has demonstrated the potential of even relatively nonstealthy unmanned aerial vehicles in higher-end conventional conflicts. Long-range drones such as the MQ-9 could present a serious conventional capability over the Taiwan Strait if the PLA began to run short of longer-range surface-to-air missiles. Anything that is relatively cheap and previously stockpiled would be most useful to protract the fighting. As the quality of systems degraded, we again would expect that China’s proximity to the field of battle would become more relevant in determining the outcome.

Beyond the kitchen-sink phase, absent a major nuclear exchange or sudden economic collapse, we would expect both sides to begin mobilizing greater industrial capability to remake war matériel. Although we cannot know what this matériel would look like, we can presume that both sides would seek to iterate rapidly on new tactics and procedures emerging from the conflict itself, much as the Allies did in deploying B-24s in conjunction with radio-direction-finding stations against German U-boats and repurposing major surface combatants as air-defense platforms to boost the volume of defensive fire against kamikazes.\textsuperscript{103} We might guess that the sorts of things that would be produced and iterated quickly during a conflict would look more like attritable robots than large platforms such as USS \textit{Gerald R. Ford} (CVN 78). Such a future protracted conventional war very well could spur the development of large-scale autonomous robotic warfare, much in the way that the Second World War transformed and enhanced manned military aviation. Whether and how such radical emerging capabilities would allow the combatants to project power, coerce each other, and ultimately terminate the conflict are similarly unclear, although if such innovations allowed for a cheaper volume of long-range precision conventional attacks, the result could be significant economic and social destruction on both sides, even absent nuclear use.
The above scenario, while necessarily speculative, allows us to imagine the contours of a protracted conflict under a mature revolution in conventional precision strike. From this thought experiment we might derive a few general conclusions. First, we should not expect silver bullets in future major wars between great powers. Robust, long-range, precision-strike complexes are important tools that the United States must pursue, but not to the detriment of traditional military capabilities. The mass of ships, planes, and soldiers still will be important in future conventional wars, regardless of how advanced missiles or sensors become. This is true even for “vulnerable” systems such as aircraft carriers and tanker aircraft, which in sufficient numbers will be able to absorb long-range fires while still supporting more-modest operations. While precision-attack systems make important contributions to conventional deterrence, the United States also needs significant and balanced investment in the conventional forces needed to fight and win in a postattack environment. Having the capacity to continue fighting lends credibility to the threat of activating precision-attack systems in the first place.

Second, the capacity to continue fighting in a precision broken-back war depends not just on weapon systems but on resilient command and control. Given the emphasis that the United States and its adversaries all place on disrupting enemy decision-making, we should expect that C2 targets will be a major focus of future conflict between great powers well armed with precision conventional weapons. Focus on winning an advantage in an early exchange of conventional weapons has directed attention toward the need for greater speed in military decision-making, the better to disrupt the opponent before being disrupted oneself. Yet in a world of plentiful precision conventional weapons there is little reason to think that attacking the enemy marginally faster will render one’s own command and control safer from counterattack. While speed of decision will remain important, it must be balanced against the resiliency and flexibility necessary to take punches to both forces and networks and keep fighting in protracted conventional conflicts.

Third, nuclear weapons still matter a great deal. Because precision conventional weapons are unlikely to end future wars between nuclear-armed states quickly, we need to take seriously the possibility of major protracted conventional war. Yet such a war carries significant risks of nuclear escalation, as the increasingly desperate phases of the protracted scenario laid out above should make abundantly clear. A robust nuclear deterrent becomes all the more important as a backstop against devastating adversary escalation. Furthermore, superiority in strategic nuclear weapons would provide additional coercive leverage in future conflicts, whether those weapons are employed in strikes or not. Even as it pursues advanced precision conventional weapons, the United States should seek to retain as much strategic nuclear advantage over rivals as possible. An effective
competitive strategy combining force modernization with arms limitation can help to sustain American strategic nuclear advantages and thus reinforce both nuclear and conventional deterrence.\textsuperscript{106}

Fourth, allies matter—a lot. For simplicity’s sake, the above scenario intentionally ignores security partners other than Taiwan. Yet allies matter immensely in such a conflict. To the extent that they have their own precision-strike systems, allies allow for longer initial disruption of the adversary’s efforts. Even without their own precision-strike systems, allied legacy conventional forces still would be tremendously important in a postattack environment, in which the value of small surface combatants and tactical aircraft will increase rapidly. In a protracted conflict, even allies who arrive late can provide valuable resources to sustain the fight, including functioning command and sensor capabilities, as well as combat forces that avoided the initial major precision exchange. Finally, allies or partners, even if they do not fight at all, can provide important coercive leverage. In a postattack environment, both the United States and China would have to make quick decisions about drawing down forces elsewhere to move them into the main theater of operations. The very existence of partner forces in other theaters, whether it be Indian forces on the Chinese border or Russian forces in eastern Europe, would generate increasing pressure on American and Chinese leaders to cut their losses and find some exit ramp short of total conventional or nuclear devastation.

Fifth, the United States should look to its defense industrial base, and not just for the sake of long-term competition. The need to surge production of munitions to meet future security needs is hardly a novel observation, but the fact that so few options for conventional war termination exist throws into sharp relief the need both for large stockpiles of shorter-range munitions and for the ability to rebuild longer-range forces as quickly as possible once they are fired. The war in Ukraine has highlighted this issue, as the United States draws down stocks of shorter-range precision weapons to support Ukrainian forces; a future high-intensity precision conflict would place even greater demands on even scarcer resources, such as long-range cruise missiles. Similarly, the United States might give more thought to what sorts of cheaper, long-legged capabilities might be most useful in a future broken-back conventional environment in which major power-projection capabilities have been neutralized, yet armed conflict continues. It could be that some systems not fit for the initial phases of a high-intensity conflict—for example, slower, nonstealthy drones—might become more useful once high-end sensors are degraded and magazines empty. Here, too, allies and...
partners are likely to be important as sources of matériel, including munitions, in the event of longer-term combat operations. If the mass of forces still matters in combat, then mass industry (however conceived) remains a crucial enabler of that battlefield mass.

The idea that the mature nuclear revolution might feature broken-back wars rapidly was rendered obsolete by the overwhelming firepower of thermonuclear weapons. As the size and number of American and Soviet nuclear weapons increased, the idea that either superpower would mobilize beyond the first few days or even hours of a nuclear conflict became increasingly difficult to accept. Thus, the idea of protracted conventional conflict following massive nuclear disruption was abandoned in favor of strategies emphasizing the importance of preemptive damage limiting attack and survivable second-strike forces.

Although it was a poor fit for the mature nuclear revolution, the idea of a broken-back war has significant resonance when considered against the maturing revolution in precision conventional weapons. Like nuclear weapons before them, precision conventional systems offer unparalleled opportunities to attack and disrupt an adversary’s operations. Unlike nuclear weapons, however, precision conventional weapons lack the overwhelming firepower to annihilate entire societies. Thus, as precision conventional weapons mature and proliferate, we very well could see renewed conflicts marked by mutual precision disruption and violent stalemate, in which combatants struggle to amass the military resources to prevail in a protracted conventional conflict. Broken-back-war theory predicts that under such circumstances the initial exchange of “revolutionary” military weapons is less likely to be decisive than the larger structural ability to continue fighting conventionally after such an exchange has occurred. The war in Ukraine may be a preview of such protracted conflict.

Precision conventional weapons offer a new and important military tool, and the United States should do what it can to stay ahead of adversaries in this critical capability. But the pursuit of precision-guided dominance cannot come at the expense of larger military capabilities, conventional and nuclear, necessary to deter conflicts with peer competitors and, if necessary, to prevail in them. Precision conventional strikes by themselves do not win wars. They did not do so in the era of American precision dominance, and they are even less likely to do so in a future characterized by widely proliferated precision-strike systems. The critical question for future conflict will remain how to leverage the advantages of precision conventional weapons while also preserving the capability to fight and prevail in conventional conflicts, short or long. That deep ability to fight and win major wars through the integration of many different capabilities will serve as the strongest possible conventional deterrent in a renewed era of strategic competition.
NOTES


46. Andrew L. Stigler, “Hoping for Victory: Coercive Air Power and NATO’s Strategy in


54. Mark Gunzinger and Bryan Clark, Sustaining America’s Precision Strike Advantage (Washington, DC: Center for Strategic and Budgetary Assessments, 2015), pp. 5–12.


56. For example, the U.S. military practices “deliberate targeting” prior to conflict as part of its planning process. See U.S. Defense Dept., Joint Targeting, Joint Publication 3-60 (Washington, DC: Joint Staff, 31 January 2013), available at www.justsecurity.org/ while navigation aids such as GPS receive a great deal of attention, in fact the majority of long-range missile guidance is handled by onboard inertial-guidance systems that cannot be jammed. Many missiles combine inertial guidance with onboard sensors that can match their position to stellar or terrestrial features or employ radar to identify specific targets. Even in an environment in which offboard support has been denied, many missiles still can produce very high accuracies against known, fixed targets. See Scott M. Bezick, Alan J. Pue, and Charles M. Patzelt, “Inertial Navigation for Guided Missile Systems,” Johns Hopkins APL Technical Digest 28, no. 4 (2010), pp. 331–42.

59. Even actors without sophisticated long-range targeting and navigation capabilities have been able to launch precision attacks against fixed, well-known targets; for example, the Iranians were able to launch long-range missile attacks on Saudi oil facilities (“Saudi Oil Attacks: Drones and Missiles Launched from Iran—US,” *BBC*, 17 September 2019, www.bbc.com/), and the Houthis on Emirati facilities (Ghaida Ghantous and Alexander Cornwell, “U.S. Condemns Deadly Houthi Attack on Abu Dhabi; UAE Reserves Right to Respond,” *Reuters*, 17 January 2022, www.reuters.com/).


81. Benjamin S. Lambeth, *Air Operations in Israel’s War against Hezbollah: Learning from


92. Robert Burns, “Russia’s Failure to Take Down Kyiv Was a Defeat for the Ages,” AP, 7 April 2022, apnews.com/.

93. McDermott, Lopez, and Hatemi, “‘Blunt Not the Heart, Enrage It:’”


101. The threat of nuclear use may limit further the decisiveness of conventional operations by compelling adversaries to limit their conventional attacks on certain targets or areas; the result could be an even higher chance of conventional protraction. See Joshua Rovner, “Two Kinds of Catastrophe: Nuclear Escalation and Protracted War in Asia,” Journal of Strategic Studies 40, no. 5 (2017), pp. 696–730.
Naval History 34, no. 5 (October 2020), available at www.usni.org/.


105. On the importance of flexibility in C2, see Bryan Clark, Dan Patt, and Timothy A. Walton, Implementing Decision-centric Warfare: Elevating Command and Control to Gain an Optionality Advantage (Washington, DC: Hudson Institute, 2021), www.hudson.org/.

Security cooperation between China and Russia has increased dramatically over the past three decades, covering various strategic, defense-technological, and geographical areas. Against the backdrop of Russia’s invasion of Ukraine in February 2022 and Beijing’s cautious support of Moscow since then, the salience of Sino-Russian strategic alignment only has increased further. In this context, one notable development in the last decade is the execution of the two countries’ joint military exercises, as well as coercive joint operations conducted in the submarine and surface maritime domains, importantly in both the European and western Pacific theaters. In this article, we offer an explanation about why China and Russia are increasing their maritime-security cooperation, and why they are going about it in a particular way. Moreover, this article will show that Russia’s war in Ukraine did not interrupt Sino-Russian joint operations in the maritime domain, suggesting that this phenomenon continues to be a feature of Sino-Russian security cooperation.

We focus on the unique characteristics of the maritime domain and the multiple functions that Sino-Russian maritime-security cooperation serves in the two countries’ efficient and low-risk balancing strategies. Clearly, Beijing’s and Moscow’s efforts to enhance their military capabilities must be understood in the context of the intensifying geopolitical competition of China and Russia with the United States and its allies in both Europe and the Asia-Pacific. Our focus, however, is on the merits of balancing in the maritime domain.
Minimizing the costs and risks of balancing is important for any state, but it is crucial for a coalition facing stronger opponents. The actual and potential military capabilities of China and Russia are collectively lesser than those of the United States and its regional allies in Europe and the Asia-Pacific, and intense arms acquisition or alliance formation will be counterproductive if it triggers counterbalancing from the United States and its partners. Cooperation in the maritime domain allows Beijing and Moscow to coordinate operational practices and gain experience in far-off seas, which is an important functional benefit. However, the most important motives of Sino-Russian security cooperation, especially in the maritime domain, need to be understood within the context of a full spectrum of balancing strategies in international relations and the relatively lower risk of escalation in the maritime domain.

In this article, we examine Sino-Russian maritime-security cooperation through the lens of balance-of-power theory, including wedge strategies, which are forms of negative balancing. We argue that China and Russia are engaging in balancing in multiple aspects simultaneously and that the maritime domain offers an ideal condition for multipurpose balancing acts with a relatively limited risk of repercussions. Starting in 2012, Sino-Russian joint naval exercises and operations have taken place mostly in international waters, but sometimes they have violated the territorial waters of third parties. These activities improve the two powers’ military capabilities, gain high visibility on the international stage, signal alignment and support on individual and shared interests, and even exacerbate disputes among U.S. allies; and yet we speculate that they are less likely to escalate into a military conflict or trigger counterbalancing than similar actions on and above land.

For both research on balance-of-power theory and policy making, it is important to understand the efficacy and efficiency of Sino-Russian security cooperation, which often satisfies multiple strategic goals with one action. When one focuses on the most commonly used indicators for internal balancing (arms buildup) and external balancing (formation of defense or offense pacts), China and Russia may not appear to be balancing against the United States. We demonstrate, however, that China and Russia are balancing intelligently against the United States—limiting the costs and risks of their balancing. For the United States and its allies in Asia and Europe, a better understanding of Sino-Russian security cooperation is essential both for alleviating the harm of Sino-Russian joint wedge strategies and for improving the allies’ own balancing strategies.

Although we focus on the “smart” balancing behavior of China and Russia, we do not intend to be alarmist. The success and impact of Sino-Russian balancing strategies cannot be judged at this point, and our primary focus is to explain the expected benefits and likely motives of the countries’ balancing strategies. In fact, the overall advantages the United States and its allies maintain over China
and Russia are the main reasons why Beijing and Moscow must take a low-risk approach and avoid the more-well-known means of balancing: alliance formation and arms buildup. China and Russia have consultation pacts but no publicly known mutual-defense agreement—perhaps because it is too risky to commit to defend each other against the United States. Given that most global wealth is concentrated within the United States and its allied nations (and informal partners such as India and Saudi Arabia), internal balancing through heavy military buildup is also counterproductive for China and Russia if it triggers reactions by the United States and others.

By invading Ukraine, Russia took a high-risk approach in February 2022, but the need for the low-risk approach has grown for both China and Russia. Beijing needs to avoid triggering the West’s balancing against itself, and Moscow, which is overstretched already owing to the war, is more dependent on China now than before and is in no position to entangle Beijing in a high-risk strategy. China is unlikely to abandon Russia completely, but it certainly will adjust its level of support as it sees fit.

In the next section, we briefly discuss a variety of actions that states can take to enhance the balance of power in their favor. Subsequently, we explain why the contemporary maritime domain offers an excellent stage for balancing with low costs and risks. In the empirical sections, we examine Sino-Russian maritime-security cooperation that works as (1) positive internal balancing, enhancing the countries’ military capabilities; (2) positive external balancing, strengthening their alignment and bargaining power; and (3) negative external balancing, driving a wedge in U.S. alliances and weakening the opponents’ collective power. This 2 × 2 (positive versus negative and internal versus external) classification also allows for negative internal balancing, which diminishes U.S. military capabilities, but this is better done covertly (e.g., via cyber attacks and disinformation campaigns) and does not apply to Sino-Russian maritime-security cooperation. Since many Sino-Russian joint actions serve multiple purposes, some observations will be discussed in more than one category. We conclude with the implications of our findings for theory and policy making.

VARIETY OF BALANCING OPTIONS IN INTERNATIONAL RELATIONS

In the literature on balance of power, scholars predominantly focus on arms buildup and alliance formation as the two most important options for balancing against opponents, but the range of actions that can affect the balance of power is much wider. As Hans Morgenthau writes, the “balancing process can be carried on either by diminishing the weight of the heavier scale or by increasing the weight of the lighter one,” but the former option has been neglected unjustifiably...
by many international-relations scholars. In his discussion of balancing, Kenneth Waltz defines internal balancing as “moves to increase economic capability, to increase military strength, [and] to develop strategies,” and external balancing as “moves to strengthen and enlarge one's own alliance or to weaken and shrink an opposing one.” Despite Waltz's enormous influence on our discipline, in particular on balance-of-power theory, research on balancing strangely has omitted the analysis of weakening and shrinking opposing alliances. For instance, major works in the literature focused on balancing strategies identified by Adam Liff all focus on arming and alliances, except for that of Waltz, who—at least in his definition of balancing—considered weakening of the opposing alliance.

The neglect of balancing actions to weaken the opposition is evident in analyses of Sino-Russian security cooperation as well. While arguing that China and Russia were not balancing against the United States, Lieber and Alexander focused on (the absence of) arms buildups, alliance formation, and the establishment of diplomatic redlines. More recently, Alexander Korolev argues that China and Russia are balancing against the United States by increasing their capabilities and aligning with each other, given system-level pressures, while they hedge toward one another owing to unit-level factors; again, the focus is on increasing a nation's power rather than weakening an opponent's.

A major exception to the tendency discussed above is the literature on wedge strategies. States use wedge strategies to seek to divide opposing alliances or coalitions or prevent their formation. The idea to drive a wedge into a coalition of potential or real adversaries has been an observable tool of statecraft in diplomatic history. Notable examples are premodern China's strategies to “use barbarians to control barbarians” (i.e., employing one peripheral vassal state to balance another state on China's periphery) and the Soviet Union's failed efforts to divide NATO members over the stationing of intermediate-range nuclear forces in Europe. Yet until recently, the concept of wedge strategies had not been developed systematically in international-relations theory. Starting with the explicit theorization by Timothy Crawford in 2008, the literature has been growing steadily (e.g., Crawford in 2011 and 2014, Izumikawa in 2013, Huang in 2020, and Crawford and Vu in 2021). An adversary of an existing or potential alliance either can offer a reward or can coerce its target state to weaken the alliance. The literature has found that reward-based wedge strategies tend to be more successful, but Yasuhiro Izumikawa explains conditions under which coercive wedge strategies are likely to be employed. With a similar focus on diminishing the opponent's power, Kai He develops a theory of negative balancing strategies, which refer to “a state's strategies or diplomatic efforts aiming to undermine a rival's power.”

As we show in the later sections, China and Russia are engaging in actions that serve multiple goals, and an exclusive focus on the two popular indicators
of balancing (arms buildup and alliance formation) will mislead observers about the nature of their strategies. Their balancing policy is efficient because each action benefits them in multiple ways. Moreover, we argue that they also have minimized the risks embedded in balancing actions by taking advantage of characteristics of the maritime domain.

CHARACTERISTICS OF MARITIME DOMAINS AND EFFICIENT AND LOW-RISK BALANCING

The following three characteristics of the maritime domain make it a good stage for balancing by countries such as China and Russia: (1) oceans are important routes for power projection; (2) international waters and disputed waters can give high visibility to actions taken there; and yet (3) the escalatory potential of these actions is, compared with their counterparts on land, relatively limited, owing to their usually considerable distance from the metropolitan regions of the target states. We will explain these three characteristics in more detail in the following paragraphs.

First, improving maritime capabilities is crucial for the rivals of a dominant naval power. China and Russia need to strengthen their maritime power to compete against the United States, both in their immediate neighborhoods (e.g., antiaccess/area-denial efforts) and on a global level. The maritime domain—in particular the Yellow Sea and the East and South China Seas—is the primary physical space of strategic competition between the United States and China; the Baltic Sea, the Black Sea, and the Mediterranean Sea are important for Russia to secure its military and commercial sea lines of communication (SLOCs) and remain a great power. Although the Arctic is also a maritime space that is strategically important for both Russia and China, thus far we have not witnessed meaningful security cooperation between the two sides there. A likely explanation is that China and Russia in fact have conflicting interests in the Arctic. This, however, supports our argument that Beijing and Moscow are managing their alignment intelligently: engaging in maritime-security cooperation where it meets their common interests of balancing against the United States and its allies, while also cautiously avoiding other contentious strategic spaces.

Joint naval exercises offer opportunities to improve capabilities while also reinforcing incentives for military-industrial cooperation, all of which helps both China and Russia to develop their arsenals more efficiently. Increased Sino-Russian defense cooperation would allow for economies of scale in arms production and would improve interoperability. According to the Stockholm International Peace Research Institute (SIPRI) Arms Transfers Database, China, at its purchasing peak in 2005, “accounted for 60 per cent of all Russian deliveries of major weapons,” but China’s defense industry also could arm Russia in the future. Naval technology
is an important candidate in this respect, and joint naval exercises are opportunities for China and Russia to showcase their technological advances.\textsuperscript{17} China’s and Russia’s desires to improve their power-projection capabilities are particularly important for positive internal balancing taking place in the maritime domain.

Second, unlike land territories, the contemporary maritime domain is a global common, which is inherently international, facilitates global commerce, and therefore affords high international visibility to actions in and above it.\textsuperscript{18} In other words, whatever signals states seek to send to the world are enhanced by the maritime domain’s visibility.\textsuperscript{19} Enhancing such signals is important for Beijing and Moscow, because other states need to recognize the two governments’ improved strategic alignment clearly before it translates into stronger coercive power, and also because a more visible wedge divides the opposition more effectively. For instance, as we discuss in later sections, the Sino-Russian joint operation in the airspace over Dokdo/Takeshima in July 2019 was highly successful both in signaling China and Russia’s strong strategic alignment and in dividing two U.S. allies, South Korea and Japan. Thus, this characteristic is particularly important for positive and negative external balancing.

Third, because maritime domains are distant from the population centers of most states, acts of military cooperation there, despite their visibility, offer buffers to everyone who is potentially on an escalation ladder to a larger conflict. Sending tanks to or flying warplanes over another country’s (claimed) land territory is significantly more provocative and riskier than sending ships or flying warplanes over its (claimed) territorial waters. For instance—and to demonstrate that it is not only China and Russia but other powers that exploit the advantages of the maritime domain that we are proposing—freedom of navigation operations (FONOPs) by the United States and its allies such as the United Kingdom, France, and Japan in the South China Sea may be unpalatable to China, but similar actions over land territories claimed by China would be far riskier.\textsuperscript{20} Whereas the other two characteristics mentioned above relate to the costs and efficiency of balancing, this characteristic reduces the risks associated with balancing of all kinds. With these characteristics in mind, in the following sections we examine three types of balancing that China and Russia pursue through their maritime-security cooperation.

**Positive Internal Balancing and Sino-Russian Maritime-Security Cooperation**

*Positive internal balancing* refers to moves to improve a state’s individual military capabilities in preparation for a potential war against an adversary.\textsuperscript{21} Sino-Russian maritime-security cooperation works as positive internal balancing in three major senses. First, it facilitates the countries’ defense-industrial cooperation and helps create efficient arms buildups. Existing and potential synergies in their defense-industrial cooperation are identified frequently; joint exercises and
operations further deepen the cooperation by improving the interoperability of the two militaries and strengthening the confidence in the sustainability of their strategic alignment. Second, maritime-security cooperation helps improve power-projection capabilities, which both China and Russia are eager to develop, for both prestige and strategic necessity. Third, the cooperation improves the two countries’ maritime capabilities through mutual learning.

Setting aside their calculated efforts to deepen their strategic alignment, China and Russia already have had a natural complementarity that helps each of them improve its military capabilities. In the defense-industrial domain, Russia possesses technological know-how and mature, well-tested weapon systems but faces budgetary constraints. This is only exacerbated further by Western sanctions against Russia’s financial sector and energy exports after the annexation of Crimea in 2014 and the invasion of Ukraine in 2022. China’s defense industry, on the other hand, has not closed the military-technological gap with the United States yet. Thus, imports from Russia to China and the two nations’ coproduction of weapon systems are highly beneficial to both countries. That being said, it remains to be seen to what extent Western sanctions against Russia in response to its invasion of Ukraine will inhibit Sino-Russian defense-industrial cooperation.

After all, despite the Sino-Russian strategic alignment, some Chinese companies, including state-owned enterprises, are avoiding trade with Russia to avoid the impact of secondary sanctions. Given the dual-use property of most modern weapons technology, this dynamic plausibly may affect Sino-Russian defense-technological exchanges also.

Thus far, China and Russia consciously have been cultivating the complementarity that exists in their respective defense industries. Presidents Xi Jinping and Vladimir V. Putin decided in 2012 to make the arms trade the “central pillar” of the Sino-Russian bilateral relationship and agreed to resolve the remaining obstacles to their defense cooperation, such as what one observer labeled “Russian concerns over Chinese intellectual property theft and latent security concerns over China’s rising military power, as well as Beijing’s frustrations over Moscow’s reluctance to transfer weapons to China.” Western sanctions against Russian energy exports and weapons embargoes against China already had been facilitating these dynamics to a significant extent for some years. Since Russia’s aggression against eastern Ukraine and annexation of Crimea in 2014, Russian arms sales to China, including naval systems, have increased rapidly; whereas in the prior decade Russian arms sales to China averaged just over $600 million per year, this number almost tripled in three years and reached $1.7 billion in 2018. Moreover, in the long run, with the rise of China’s shipbuilding industry, Russia could benefit from purchasing Chinese ships, because Russia’s capability to produce surface ships declined after the Cold War. Some have suggested that China’s participation in joint
exercises in European waters has given it an opportunity “to show off its ships and spin it into a potential ship deal for Russia to purchase” Chinese frigates. Joint exercises help strengthen this mutually beneficial arrangement by further improving the interoperability of the two militaries and creating an expectation for stable and long-term cooperation. This cooperation increases the benefits from the complementarity and serves the role of mutual reassurance in an otherwise risky cultivation of mutual dependence. Such mutual reassurance is important for China and Russia because the two countries have had a hostile relationship in the past, and other major sources of arms in the international market are aligned with the United States.

As can be seen in the table, China and Russia have engaged in numerous joint naval exercises. Since their first joint military exercise, the PEACE Mission in August 2005, China and Russia have conducted more than twenty-five joint exercises, as of the end of 2021. In fact, since 2012, China and Russia have held joint naval exercises on an annual basis. The exercises have been conducted in waters that are of particular strategic relevance to China (the Yellow Sea and East and South China Seas), to Russia (the Mediterranean Sea, Baltic Sea, and Sea of Okhotsk), and to both (the Sea of Japan). These exercises serve a range of objectives: the exchange of operational concepts and the improvement of interoperability of weapon systems, the provision of operational experience, the development of tactical proficiency, the establishment of procedures, and the maintenance of flexibility. In later sections, we also discuss their role in positive and negative external balancing.

These exercises display Chinese and Russian abilities to project power credibly into faraway seas and to enhance deterrence against American, Asia-Pacific,
## MAJOR SINO-RUSSIAN NAVAL EXERCISES, 2012–21 CONTINUED

<table>
<thead>
<tr>
<th>Date</th>
<th>Host/Region</th>
<th>Participating Vessels and Manpower</th>
<th>Exercise Objective / Mission</th>
</tr>
</thead>
<tbody>
<tr>
<td>18–21 May 2015</td>
<td>Russia/Mediterranean</td>
<td>China: 2 frigates, 1 supply vessel China: 2 frigates, 1 supply vessel Russia: 6 Slava-class guided-missile cruisers, 1 Krivak-class frigate, 2 Ropucha-class landing ships</td>
<td>navigation safety, ship protection, at-sea replenishment, air defense, ASW and ASuW, escort missions and live-fire exercises</td>
</tr>
<tr>
<td>20–28 August 2015</td>
<td>Russia/Sea of Japan</td>
<td>China: 2 destroyers, 2 frigates, 2 amphibious landing ships, 1 replenishment ship, 5 aircraft (PLAAF: J-10 fighters and JH-7 fighter-bombers) Russia: 1 cruiser, 1 destroyer, 2 frigates, 4 corvettes, 2 submarines, 2 tank landing ships, 2 coastal mineweepers, 1 replenishment ship</td>
<td>ASW, AAW, amphibious assault, MCM</td>
</tr>
<tr>
<td>12–20 September 2016</td>
<td>China/South China Sea</td>
<td>China: 2 destroyers, 3 frigates, 1 logistics supply ship, 2 landing ships, 2 submarines, 11 aircraft, 8 helicopters, 160 marines with amphibious armored equipment Russia: 2 destroyers, 1 landing ship, 2 auxiliary ships, 2 helicopters, 96 marines and amphibious combat vehicles</td>
<td>SAR, ASW, joint island-seizing missions, amphibious assault, live-fire exercises, boarding, air defense</td>
</tr>
<tr>
<td>18–21 July 2017</td>
<td>Russia/Baltic Sea</td>
<td>China: 1 destroyer, 1 frigate, 1 replenishment ship Russia: 2 corvettes, 1 support vessel, naval helicopters (Ka-27) and land-based Su-24 fighter-bombers</td>
<td>ASW, AAW, ASuW, antipiracy, SAR</td>
</tr>
<tr>
<td>18–25 September 2017</td>
<td>Russia/Sea of Japan and Sea of Okhotsk</td>
<td>China: 1 destroyer, 1 frigate, 1 submarine escort ship, 1 rescue submarine Russia: 1 ASW destroyer, 1 corvette, 1 rescue ship, several diesel-powered submarines and supply ships</td>
<td>ASW, submarine rescue, joint marine-combat drills</td>
</tr>
<tr>
<td>11–17 September 2018</td>
<td>Russia/VOSTOK 2018 maneuver</td>
<td>China: 3,200 troops, 24 helicopters, 6 aircraft (est.) Russia: troops and units from all Russian service domains Mongolia also a participant</td>
<td>exercises in all domains; focus on command-and-control procedures and tactics, new airborne and naval assault tactics</td>
</tr>
<tr>
<td>29 April–4 May 2019</td>
<td>China/Yellow Sea and East China Sea</td>
<td>China: 2 guided-missile destroyers, 3 guided-missile frigates, 1 submarine, 1 rescue ship Russia: 1 guided-missile destroyer, 1 frigate, 1 large landing ship, 1 search-and-rescue support vessel, 1 diesel-electric attack submarine 7 aircraft, 4 helicopters, 80 marines from both parties</td>
<td>live-fire exercises, SAR, ASW, submarine rescue</td>
</tr>
<tr>
<td>14–17 October 2021</td>
<td>Russia/Peter the Great Bay, Sea of Japan</td>
<td>China: 2 destroyers, 2 frigates, 1 supply ship, ASW-capable planes and helicopters Russia: several vessels from the Pacific Fleet, including ASW ship Admiral Panelev; several corvettes, 1 submarine, mineweepers, ASW-capable planes and helicopters</td>
<td>communications, MCM, air defense, live firing, ASW</td>
</tr>
</tbody>
</table>

Notes: AAW = antiair warfare; ASuW = antisurface warfare; ASW = antisubmarine warfare; MCM = mine countermeasures; MSO = maritime security operations; PLAAF = People’s Liberation Army Air Force; SAR = search and rescue; VBSS = visit, board, search, and seizure.

and European competitors.\textsuperscript{31} For China, such exercises provide especially valuable lessons, because until recently the People's Liberation Army Navy (PLAN) lacked experience in blue-water operations.\textsuperscript{32} But the Chinese leadership understands the necessity to be able to project power beyond its littoral waters, not only to balance U.S. power in the western Pacific, but also because its economy is export oriented and dependent on global maritime security.\textsuperscript{33} Given China's geoeconomic objectives associated with the twenty-first-century Maritime Silk Road, Beijing needs to be able to underwrite its global maritime infrastructure commitments with suitable offshore operational capabilities. These exercises are also important for Russia, because it wishes to reestablish its navy's credibility after a decline owing to economic and political problems in the 1990s and early years of the following decade, a dynamic that also is exacerbated further by its war in Ukraine.\textsuperscript{34}

In 2015, there were two exercises: one in May in the Mediterranean Sea, and one in August in the Sea of Japan, both hosted by Russia. The exercise in the Mediterranean Sea was the first time Chinese vessels participated in such an exercise in European waters; it was seen as a demonstration of China's ability to protect the Belt and Road Initiative, in which the Greek port of Piraeus had become an important link.\textsuperscript{35} The role of this port—and the Mediterranean Sea as a faraway sea that matters to China's global strategy—can be seen in the Chinese shipping company COSCO's acquisition of 51 percent ownership of the port in 2016.\textsuperscript{36} In September 2016, China hosted joint exercises in the South China Sea. The South China Sea is of immediate strategic priority to China as the only place where China's ballistic-missile submarine fleet—which plays an integral role in China's nuclear deterrent—has direct access to waters deeper than two hundred meters without having to pass through the first island chain, where detection is possible by U.S. and allied sensors.\textsuperscript{37}

In September 2018, Chinese and Russian naval units participated in the cross-domain exercise VOSTOK 2018, along with vessels from the Mongolian navy. It was not a naval exercise per se, but it included a maritime dimension in Russia's Far East. The focus was on command-and-control procedures and tactics, as well as new airborne and naval assault tactics.\textsuperscript{38} In April and May 2019, China hosted naval exercises in the Yellow and East China Seas.\textsuperscript{39} In October 2021—after having paused in 2020—the Chinese and Russian navies conducted another joint sea exercise in the Sea of Japan, with Russia as host. The two navies practiced communications, mine countermeasures, air defense, live firing against maritime targets, joint maneuvering, and antisubmarine warfare (ASW).\textsuperscript{40} After the exercise, the vessels of both navies conducted a joint patrol around the Japanese archipelago, passing through the Tsugaru Strait and the Osumi Strait together for the first time.\textsuperscript{41} During this operation, the joint Sino-Russian patrol conducted
helicopter drills, which triggered the Japan Self-Defense Force to scramble fighter jets to respond to a possible intrusion into Japanese airspace.\textsuperscript{42}

Naturally, joint military exercises are an excellent tool for mutual learning as well. Notably, China has organized its force structure and developed key military-strategic doctrines derived from Russian experiences and practices, and military exercises have played a key role in China's adoption of Russian military best practices.\textsuperscript{43} Examples of this include China's adoption of the Soviet nuclear submarine bastion concept in the South China Sea, as well as hybrid measures such as the use of fishing boats by the maritime militia to infiltrate the maritime domain of Southeast Asian states as a form of gray-zone coercion.\textsuperscript{44} China's gray-zone tactic of using fisherman militia members as “little blue men” in the South China Sea possesses striking similarity to Russia's “little green men” used in eastern Ukraine since 2014.\textsuperscript{45} ASW also has been a recurring theme in their joint exercises, as both states share concerns about U.S. attack submarines, and China has purchased Russian ships and attack submarines optimized for ASW. The growing number of defense-technological transfers from Russia to China since 2015 demonstrates that Russian military technology, until now, has retained an edge over China's defense industry in some areas.\textsuperscript{46} Particularly, Russia's expertise in building submarines, such as the Project 677 Lada-class attack submarine, “will help China to overcome enduring deficiencies in hull design, quieting technologies, land attack, and automation.”\textsuperscript{47} Russia's advanced experience in tracking U.S. submarines, in both the technological and operational dimensions, is of increased interest to the PLAN.\textsuperscript{48} Military exercises fulfill the immediate purpose of sharing experiences and integrating operational practices—notably, also in new geographical environments.\textsuperscript{49}

Finally, as discussed in the following sections, joint exercises and operations are sometimes not about positive internal balancing, even if their ostensible goals are improvement of capabilities and information gathering. For instance, the Sino-Russian joint operations on 23 July 2019 in the airspace over Dokdo/Takeshima and near the Senkaku/Diaoyu Islands may have been marginally useful in the improvement of China's and Russia's military power vis-à-vis South Korea and Japan, but they were primarily a political act of signaling—for both positive and negative external balancing.

**Positive External Balancing and Sino-Russian Maritime-Security Cooperation**

Positive external balancing refers to moves to strengthen one's military alignment with another actor in preparation for a potential war against an adversary. Formation of a new alliance is considered to be the quintessential act of positive external balancing, but this balancing can be done naturally without forming an alliance or among states that are already formally allied.\textsuperscript{50} As scholars Andrea Kendall-Taylor and David Shullmann point out, “Russia is amplifying America's China challenge,”
and “Russia, too, is using its growing ties with Beijing to offset vulnerabilities in its relationship with the United States.” Sino-Russian maritime-security cooperation works as positive external balancing by deepening the two nations’ functional mutual dependence and by signaling their cooperative intent to each other and to third parties. We have discussed the deepening of mutual dependence in the previous section, as it relates to positive internal balancing as well; here, we focus on the signaling aspect.

Actions in the maritime domain are highly visible, and China and Russia also have made conscious efforts to amplify the strength of their signals. For instance, Presidents Xi and Putin attended the opening ceremony for the May 2014 joint naval exercise, which had the objective of showing Russian support for Beijing’s claims on the Senkaku/Diaoyu Islands, as well as Beijing’s air-identification zone (ADIZ) over the East China Sea. In addition to the confidence-building dimension as well as the acquisition of skills and testing of capabilities, these exercises serve political purposes that go beyond simply demonstrating capabilities and signaling military cooperation. The locations of the exercises were chosen deliberately, as they were tied to specific political and territorial contentions that China and Russia have with other regional states in the western Pacific and European theaters. Participation thus signaled support for the host’s territorial claims.

Sino-Russian joint naval exercises often exhibit clear expressions of support by one party for the other’s geopolitical position and ambition in the region where the exercise takes place. The western Pacific theater—with its subregions of the Yellow Sea and the East and South China Seas—is the most important geographical area relative to China’s national security. Beijing sees itself confronted with a strong coalition of the United States and its allies along the first island chain, threatening to block China’s SLOCs and complicating Beijing’s objective to become a dominant power in the region. Russia’s participation in maritime exercises hosted by China serves as an explicit expression of Russian political support for China’s position relating to territorial disputes with other regional states, as well as for China’s opposition to the U.S. military presence in the region. To make this even more clear, shortly before the start of the September 2016 joint exercise in the South China Sea, Putin criticized the ruling of the arbitration court in The Hague in July 2016, which rejected China’s territorial claims in the South China Sea. The exercise that followed included amphibious operations intended to deter other claimants, and the two militaries for the first time communicated via a common command-information system. To underwrite the support of one party for the other, Sino-Russian naval exercises usually receive ample news coverage by Chinese, Russian, and foreign media, and the foreign and defense ministries of both countries publish press releases celebrating these
exercises. But the strongest expression of mutual support of this sort arguably was the above-mentioned attendance by President Putin at the 2014 JOINT SEA exercise in China, providing him and President Xi ample opportunity for photos and public statements highlighting the strength of the bilateral relationship.

Similarly, China’s participation in maritime exercises in the European theater is an important expression of Chinese support for Russia’s goals in Europe. The Baltic Sea, the Mediterranean Sea, and the Black Sea are subregions of the European theater that profoundly impact Russian national security. In the case of the Baltic Sea, the presence of NATO navies may complicate and even block Saint Petersburg’s and Kaliningrad’s SLOCs, as well as the Russian Baltic Fleet’s ability to sail into the Atlantic. The Mediterranean Sea is also a NATO-dominated body of water in which Russia seeks to retain undisputed access. This desire for access is demonstrated by Moscow’s support for the Assad regime in Syria, where Russia maintains its only Mediterranean naval base, at Tartus. The strategic significance of the Black Sea has risen, especially since Russia’s annexation of Crimea, and it is notable that China sent ships to the Russian Black Sea coast before the May 2015 joint exercise in the Mediterranean Sea, although they did not visit Crimea itself.

The July 2017 exercise in the Baltic Sea was significant for its geographical proximity to many NATO member states, and it received much attention and media coverage in Europe and the United States. In the words of Michael Paul, it brought the PLAN “surprisingly close to one of the most turbulent fault lines in the East-West relationship.” The participating vessels met in the Russian enclave of Kaliningrad and then sailed together to Saint Petersburg. This joint exercise also showed Chinese political and military support for Russia, which was under increased pressure from the European Union and NATO after Russia’s annexation of Crimea. As Richard Weitz points out, “[T]hat Beijing sent a flotilla halfway around the world to some of the globe’s most sensitive waters demonstrated how important China sees its defense ties with Moscow.”

In September 2017, Russia hosted joint exercises in the Seas of Japan and Okhotsk. Prior to this time, Russia had closed the Sea of Okhotsk (the body of water lying west of the Kuril Islands and the Kamchatka Peninsula) to foreign shipping and fishing, after it won a favorable decision from the Commission on the Limits of the Continental Shelf in 2014. During the 2017 maneuver, several Chinese and Russian warships, including submarines, set out in the Sea of Japan and sailed into the Sea of Okhotsk, where they trained on ASW and submarine-rescue missions and conducted joint marine-combat drills. Russia’s ability to defend its own interpretation of the United Nations Convention on the Law of the Sea and create facts on the ground in the Sea of Okhotsk furthermore is considered to serve as a precedent and strengthen China’s position to do the same in the South China Sea.
On 23 July 2019, Russia and China conducted what was—according to Russia’s Defense Ministry—the first long-range joint air patrol in the Asia-Pacific region with China. According to the ministry’s statement, “The joint patrol was carried out with the aim of deepening Russian-Chinese relations within our all-encompassing partnership, of further increasing cooperation between our armed forces, and of perfecting their capabilities to carry out joint actions, and of strengthening global strategic security.”

What is striking about this joint “patrol” is the flight path of the Russian and Chinese planes (see the map). First, two Chinese H-6 strategic bombers entered the South Korean ADIZ and were joined by two Russian Tu-95 strategic bombers, remaining within the ADIZ for about twenty-four minutes. A few hours later, a Russian A-50 long-range surveillance plane entered the ADIZs of both South Korea and Japan and subsequently intruded into the airspace over the Dokdo/Takeshima islets, over which South Korea and Japan have a territorial dispute. The Russian surveillance plane entered the airspace over the contested islands twice, at 9:09 AM and 9:33 AM local time. In response, the South Korean air force scrambled F-15F and KF-16 fighter jets to intercept the Russian plane, sending altogether thirty warnings, and firing warning shots—eighty during the first violation and 280 during the second. The Japan Air Self-Defense Force (JASDF) also scrambled fighter jets to intercept the Russian and Chinese bombers and the Russian surveillance plane but did not shoot at them. However, Japan voiced a
strong protest to Russia. Notably, Japan also issued a diplomatic protest against South Korea, whose fighter jets, in Tokyo’s view, not only violated Japanese airspace but fired shots within it. At the time of the incident, international attention was focused predominantly on the operation in the airspace over Dokdo/Takeshima, but Chinese and Russian warplanes subsequently continued to fly toward the Senkaku/Diaoyu Islands, which are claimed by Japan and China. More than two months after the operations, Japanese defense officials began to reveal that JASDF fighters scrambled as Chinese and Russian warplanes approached the Senkaku/Diaoyu Islands. Thus, on the same day, China and Russia conducted two operations over the Sea of Japan and East China Sea that had significant divisive political impact on U.S. allies and expressed Russian support for Chinese territorial claims.

These actions constitute an important instance of positive external balancing because they sent strong signals of cooperation between China and Russia directed at South Korea, Japan, the United States, and other countries. Both operations were highly effective in strengthening the perceived strategic alignment between China and Russia. The operation over Dokdo/Takeshima was also a high-profile case of negative external balancing, which will be discussed in the next section. Together, these highly visible and provocative actions signaled that the two countries’ interests are aligned and that they are willing to accept the diplomatic costs and military risks involved.

Finally, we also should point out that the level of provocation and the military risks of the operations were—relative to their political significance—fairly limited because they took place in the airspace above the maritime domain. Equivalent operations on or above land that also included violations of the target country’s territorial sovereignty would be many times more dangerous. Perhaps for this reason, we do not find many cases where military exercises on or above land have violated another country’s sovereign territory. The fact that to date such coercive operations with intentional, provocative violations of territorial rights mostly have appeared on and above the maritime domain demonstrates that state actors are well aware of the benefits of conducting such operations in the maritime domain. Thus, military exercises in the maritime domain allow China and Russia to conduct visible external balancing operations efficiently and relatively safely.

**Negative External Balancing (Wedge Strategies) and Sino-Russian Maritime-Security Cooperation**

The terms wedge strategies and negative external balancing refer to moves to divide and weaken opponents’ coalitions. There are two major types of wedge strategies. On the one hand, wedge strategies can be created on the basis of reward (“selective accommodation”), using “concessions and other inducements to lure
a target away from other adversaries, which are dealt with more firmly”; on the other hand, wedge strategies can result from coercion, which helps the divider “expose and exacerbate gaps in the adversaries’ strategic interests, increasingly strain their ability to cooperate, and precipitate defections.” As discussed below, coercive wedging is more relevant to our case.

Sino-Russian security cooperation in the maritime domain, especially the coercive joint air operations over the western Pacific, drives a wedge into U.S. alliances. The July 2019 joint operation over the Sea of Japan—notably, the Russian reconnaissance planes’ repeated flights in the airspace over Dokdo/Takeshima—caused considerable damage to the Seoul-Tokyo relationship, which had been strained already. Since Japan claims Dokdo/Takeshima as its own territory, Tokyo considered Seoul’s reactions to the Sino-Russian joint operation to be an infringement of its sovereignty. The then chief cabinet secretary Yoshihide Suga issued a strong protest against Seoul as well as Moscow: “In light of Japan’s stance regarding sovereignty over Takeshima, the South Korean military aircraft’s having carried out warning shots is totally unacceptable and extremely regrettable.” Many might dismiss this as another diplomatic row between the two constantly arguing Asian neighbors, but the lack of coordination exposed by the incident—not least in a military context—should be worrisome to Washington and its allies. Japan and South Korea are not allied directly, but the political and military relations between the two East Asian hosts of U.S. military bases and troops are important to the national security of the United States and the allies.

It is highly unlikely that China and Russia conducted the “air patrol” over the disputed islets without considering the likely impact, as it came at a time of already heightened tensions between Japan and South Korea. In the fall of 2018, Tokyo and Seoul clashed over Japanese compensations for forced labor and so-called comfort women during Japan’s colonial rule, leading to the lowest point in the Japan–South Korea relationship in decades. In December 2018, a South Korean navy vessel locked its fire-control radar on a Japanese surveillance plane, resulting in a limited diplomatic crisis and mutual accusations of wrongdoing. In July 2019, the Japanese government changed its regulations about chemical exports to South Korea—a move that Seoul considered to be a retaliation and “economic warfare” against South Korean policy on the wartime forced-labor disputes.

It was at this time of heightened South Korea–Japan tensions that China and Russia conducted the joint air operation over waters and territorial features disputed between Seoul and Tokyo. South Korea decided to escalate the dispute by announcing in August 2019 the termination of the General Security of Military Information Agreement (GSOMIA) with Japan, which the countries had entered in November 2016, with strong U.S. encouragement. The intelligence-sharing agreement contributes not only to South Korean and Japanese national security
(especially vis-à-vis North Korea) but also to the United States and its regional allies’ deterrence effort aimed at China.\textsuperscript{75} While Moscow was the main culprit for the repeated intrusion into the airspace over Dokdo/Takeshima, Beijing arguably benefited most from the frictions among U.S. allies. Seoul, swayed by U.S. pressure, eventually canceled its decision to leave GSOMIA six hours before the agreement officially lapsed in late November 2019, but uncertainty over South Korea’s continuing participation in the agreement lingers.\textsuperscript{76}

On 22 December 2020, the Russian and Chinese air forces conducted a similar operation, flying two Russian Tu-95 and four Chinese H-6K bombers over the Sea of Japan and the East China Sea, entering the South Korean and Japanese ADIZs and again flying over the disputed Dokdo/Takeshima. Both Japan and South Korea scrambled fighter jets to track the joint Sino-Russian patrol mission, but Seoul and Tokyo this time were able to manage their responses and not let the situation spiral into a diplomatic disaster. The Russian Defense Ministry later published a statement explaining that the mission was intended to “develop and deepen the comprehensive Russia-China partnership, further increase the level of cooperation between the two militaries, expand their ability for joint action and strengthen strategic stability.”\textsuperscript{77}

On 19 November 2021, the Chinese and Russian air forces performed a similar joint operation over the Sea of Japan, entering South Korea’s ADIZ from the northeast. On that day, two Chinese and seven Russian military planes entered South Korea’s ADIZ, in response to which South Korea scrambled fighter jets and a refueling plane.\textsuperscript{78} Since, then, China and Russia have repeated this operation several times. On 24 May 2022, four Chinese H-6 and two Russian Tu-95 strategic bombers conducted a joint patrol, followed by a Russian Il-20 reconnaissance plane a few hours later, over the East China Sea close to South Korean and Japanese airspace, entering South Korea’s ADIZ.\textsuperscript{79} Analysts and experts concur that this was a joint Sino-Russian signal in response to the Quad summit hosted in Japan on that same day.\textsuperscript{80} On 30 November 2022, two Chinese H-6 bombers entered South Korea’s ADIZ, followed by six Russian aircraft—four Tu-95 bombers and two SU-35 multirole fighter aircraft. On the same day, Japan also scrambled fighters in response to China and Russia’s joint patrol when it entered Japan’s ADIZ. All these events received ample media attention.\textsuperscript{81}

Such joint air force operations with the objective to test the ADIZs of both South Korea and Japan represent a novel phenomenon that builds on the established practices of China and Russia to violate South Korea’s, Japan’s, and Taiwan’s territorial airspaces and ADIZs independently.\textsuperscript{82} In the assessment of the U.S. Defense Department, such operations primarily are designed to improve and demonstrate Russia’s and China’s capability to strike U.S. and allied military bases in the region—that is, they work as internal balancing.\textsuperscript{83} Yet, as exemplified by
the July 2019 incident, they also have the capacity to exacerbate political disputes among U.S. allies. When one considers the essential role that the allies play in U.S. efforts to complicate and deny China’s ability to access the western Pacific, it becomes clear that the exploited division between Seoul and Tokyo poses a real threat to the U.S. Indo-Pacific force posture. \(^84\)

Even when the location of operations is not tied to a maritime territorial dispute, Sino-Russian maritime-security cooperation can serve the function of negative external balancing. Demonstrations of military power can reveal and widen gaps in the opposing coalition’s divergent strategic interests and lead to the defection of a weak link in that coalition. In Europe, strategic interests of NATO members vary greatly. Although Russia’s invasion of Ukraine has increased dramatically the threat perception toward Russia among all Europeans, countries geographically closer to Russia still view Moscow as a more menacing actor than some Western European states. \(^85\) China, meanwhile, represents a more abstract and geographically distant security challenge to Europeans, and readiness to confront China is limited and varies across Europe. \(^86\) This leaves ample opportunity for joint Sino-Russian operations to exploit NATO members’ divergent interests toward Russia and China.

The same logic of exploiting opponents’ divergent interests applies to the western Pacific, where many states maintain an alliance or partnership with a United States increasingly geared toward containing Chinese military influence. \(^87\) With the exception of Japan, however, Asia-Pacific states do not have major disputes with Russia and do not perceive Moscow as a significant threat. Some Asia-Pacific states support Western sanctions against Russia, but this does not change the fact that Russia is not an immediate military threat to Asia-Pacific states other than Japan, just as China is not an immediate military threat to Europeans. Hence, when confronted with a Sino-Russian coalition, U.S. allies and partners in the Asia-Pacific region are less likely to resist the challenge effectively, even if they could overcome the difficulty of uniting against China. From China’s perspective, for instance, the 2016 Sino-Russian joint exercise in the South China Sea worked as a wedge in the traditionally good relationship between Russia and Vietnam, and it deterred further challenges from other claimants in the South China Sea disputes. \(^88\) By complicating the strategic calculations of U.S. allies and partners, Russia enhances China’s coercive wedging; such effects are unlikely to be obtained if China alone increases its coercive pressure in Asia. \(^89\)

Furthermore, Sino-Russian maritime-security cooperation also can work as a retaliation against cooperation within U.S. alliances, thereby discouraging the allies’ future collaboration. In fact, Michael Paul argues that China and Russia began their first joint naval exercise in the Yellow Sea in 2012 partly because of
U.S. exercises with South Korea there, which China had criticized repeatedly.\textsuperscript{90} Similarly, Sino-Russian joint naval exercises can serve as retaliations against the U.S., French, and British navies’ FONOPs in the South China Sea.\textsuperscript{91} The Sino-Russian exercise in the Baltic Sea is a prominent example in this regard. Similar to China’s frustration over the U.S. presence in the Yellow Sea, Russia’s dispute with Japan over the Kuril Islands in the Sea of Okhotsk pushes Moscow to assert military power in this subregion of the western Pacific theater.\textsuperscript{92} Putin has emphasized the threat the U.S.-Japan alliance poses to Russia’s security and has treated U.S.-Japan security cooperation as an obstacle to the return of the islands to Japan.\textsuperscript{93}

As discussed earlier, the maritime domain offers an excellent stage for China and Russia to engage in coercive wedging, because actions there are highly visible and yet entail a smaller risk of escalation to a large conflict compared with similar actions on land. Although the negative external balancing actions taken by China and Russia are provocative, they are still far from triggering a military conflict. Consequently, it is premature to conclude that China and Russia already have strong common strategic interests to overcome their fear of entanglement or entrapment.\textsuperscript{94} Beijing and Moscow do not have a harmony of interests; they consciously are cultivating shared strategic interests.\textsuperscript{95}

In this article, we offered one explanation for why China and Russia have increased their maritime-security cooperation—namely, that the characteristics of the maritime domain allow the two nations to engage in efficient and low-risk balancing. The visibility of actions in maritime domains improves the signaling necessary for positive and negative external balancing, and the geographical distance from population centers makes all types of balancing there less provocative and less risky relative to similar actions on and above land. These properties of the maritime domain are important, especially because the United States and its allies maintain the overall military-strategic advantage. Furthermore, we demonstrated that Sino-Russian maritime-security cooperation simultaneously strengthens the two countries’ individual capabilities (positive internal balancing), enhances their strategic alignment (positive external balancing), and undermines the cohesion within U.S. alliances and partnerships (negative external balancing). By analyzing the full spectrum of balancing strategies that China and Russia are pursuing in the maritime domain, this article sheds new light on the dynamics between the world’s two most important competing geopolitical groups: U.S. alliances and the Sino-Russian coalition.

For academic research on balancing, our findings suggest that different aspects of balancing strategies need to be analyzed simultaneously, because effects of a major action taken by a state can be observed in multiple dimensions. In
particular, states confronted with a powerful counterbalancing coalition (similar to the U.S. alliances) will pursue courses of action that achieve desirable effects with minimum efforts and risks. Future research also should explore trade-offs among different aspects of balancing; for instance, under what conditions will a state’s positive internal balancing harm its positive or negative external balancing? In this regard, investments in maritime capabilities offer an additional benefit to China and Russia, because these resources could have been spent on land-based capabilities that might exacerbate threats they pose to each other along their shared borders. In other cases, as seen in the Anglo-German naval race before the First World War, investments in navies can harm a state’s external balancing effort significantly.96

Our analysis of Sino-Russian joint balancing shows the many ways through which multiple actors can engage synergistically in a variety of balancing actions. Literature on positive external balancing naturally has examined multiple actors’ collaboration, but we find that internal balancing can reap significant benefits from external cooperation and that wedge strategies also benefit from having two dividers, which enables more-effective exploitation of gaps in the targets’ strategic interests; future research on balancing systematically could examine the differences between balancing by a single actor and balancing by multiple actors. If Sino-Russian joint wedge strategies continue in the Asia-Pacific and Europe, they would allow comparisons of the responses to negative external balancing by the hub-and-spoke alliances in the Asia-Pacific region and the multilateral alliance of NATO.

Our analytical framework can help policy makers of the United States and its allies better address future Sino-Russian balancing strategies. In the aftermath of Russia’s February 2022 invasion of Ukraine and China’s quiet support thereof, the issue of Sino-Russian security cooperation in both the Asia-Pacific and Europe undoubtedly has grown in salience. For instance, NATO members could learn lessons from the July 2019 Sino-Russian coercive air force operations over islands disputed between South Korea and Japan and prepare for similar, wedge-strategy-informed actions in the European theater. It would be useful to ask what NATO should do if China, Russia, or both enter the waters contested between Turkey and Greece to provoke countermeasures by both Turkish and Greek coast guards, navies, or air forces, which in turn realistically could exacerbate the Aegean dispute. As the different reactions to the Sino-Russian joint operation over Dokdo/Takeshima in December 2020 demonstrate, wedge strategies are ineffective if the target states refuse to be divided.97

The efficient and low-risk balancing strategies of China and Russia may appear to be daunting, but the United States and its allies in Europe and the Asia-Pacific should not lose sight of their own advantages. China and Russia are boosting
their strategic alignment in maritime domains not because they have a harmony of interests or are willing to get entangled in the partner’s conflict. Beijing and Moscow are smart about their balancing because they understand the risk of triggering counterbalancing by the United States and its partners. Finally, the United States and its partners have been engaging in actions in maritime domains similar to the Sino-Russian cooperation discussed in this article (e.g., FONOPs), and the West’s self-assessment will benefit from explicitly laying out the wide spectrum of balancing strategies in international relations.

NOTES

The authors presented an early version of this article at the Dreizack (Trident) 2020 Maritime Security Conference in Rostock, Germany, and received useful feedback, as well as from Anthony Rinna, Sebastian Bruns, and Jens Heinrich and the Review’s referees.


2. The argument we develop below will be falsified if China and Russia start deprioritizing maritime-security cooperation as their mutual trust grows, or if evidence emerges that they perceive maritime balancing to be more costly or risky than that which occurs on land.


4. The military expenditures of China and Russia certainly have increased significantly, but their shares of gross domestic product do not indicate heavy efforts.

5. For examples of the dominant focus on arming and alliances, see James D. Morrow, “Arms versus Allies: Trade-Offs in the Search for Security,” International Organization 47, no. 2 (Spring 1993), pp. 207–33; Randall L. Schweller, “Bandwagoning for


18. International maritime law defines territorial waters and exclusive economic zones, but there are international disputes over a range of activities allowed in these waters. This argument applies best to our current international system, because our global economy depends on maritime trade, and technological development has allowed states to monitor the maritime domain better.

19. The maritime domain allows for less visible, even covert, exercises if that is desired. But when Chinese and Russian exercises are conducted in the western Pacific or the seas contiguous to Western Europe—seas through which many countries’ SLOCs pass—Beijing and Moscow can be sure of global attention. Moreover, as exemplified below, the Chinese and Russian governments as well as their media outlets have made sure that the joint exercises receive attention through press releases and media coverage, and in some instances even through the attendance of Xi Jinping and Vladimir Putin.


28. Schwartz, *The Changing Nature and Implications of Russian Military Transfers*, p. 2. For the year 2020, however, the value returned to the pre-2015 level. The future will tell whether the year 2020 was an outlier in an ongoing trend of increased Russian arms sales to China or if China’s heightened interest in Russian arms lasted only four years. SIPRI Arms Transfers Database (for TIV of arms exports from Russia, 2010–20, accessed July 2021), armstrade.sipri.org/.


32. Ryan D. Martinson, “China’s Far Seas Naval Operations, from the Year of the Snake to the Year of the Pig,” *Center for International Maritime Security*, 18 February 2019, cimsec.org/.


21. With this definition, we see balancing as a continuous variable rather than a binary variable with a clear threshold.


37. Three-fourths of the East China Sea is less than two hundred meters (m) deep, and the Yellow Sea’s mean depth is only 44 m. The South China Sea is the only spot where China has direct access to deep waters with an average depth of about 1,200 m. The deepest portion of the South China Sea is as deep as 5,016 m. See also Sarah Kirchberger, *Assessing China’s Naval Power: Technological Innovation, Economic Constraints, and Strategic Implications* (Berlin: Springer, 2015), pp. 47–49.


55. See, for example, Yan Meng, “Chinese and Russian Marines in Special Operation Skill Demonstration,” 25 April 2012, en.people.cn/; “‘Haishang Lianhe—2012’ Zhong E haishang lianhe jun yan tuxian wushi taidu” [“JOINT SEA—2012” China-Russia joint naval exercise...


68. Consider, for example, the tensions that followed Turkey’s downing of a Russian warplane on 24 November 2015.


68. While some eastern European states have grown cautious of Chinese economic cooperation, as the failed 17 + 1 initiative shows, it can be asserted that most eastern Europeans, and in fact most European governments, value their economic relationship with China and most likely are deterred from responding to a military challenge involving China. See Andreea Brinza, "How China Blew Its Chance in Eastern Europe," Foreign Policy, 11 April 2019, foreignpolicy.com/.


70. Euan Graham, "Russia over a South China Sea Barrel," The Interpreter, 12 September 2016, www.lowyinstitute.org/. As an
anonymous referee pointed out, however, this might have motivated Vietnam to consider closer ties with the United States and to move away from Russia.


93. “Putin Calls Japan-U.S. Security Alliance a Threat,” *Kyodo News*, 20 December 2019, english.kyodonews.net/. The 1960 U.S.-Japan security treaty applies to “the territories under the administration of Japan,” and the “Northern Territories” of Japan currently are administered by Russia.


95. In fact, Beijing and Moscow also have “conflicting types of relations,” and “[t]here has been a stealthy geopolitical competition of moderate intensity wherein both China and Russia have attempted to expand the scope of their respective regional influence.” Korolev, “Systemic Balancing and Regional Hedging,” p. 390.


97. As an anonymous referee pointed out, the effectiveness of negative external balancing may decline over time as the target states become more conscious of the harm of wedge strategies.

98. Since there are clear differences in the regime types of the two opposing balancing coalitions, future research also can examine the role that democratic institutions play in balancing strategies. For instance, democratic coalitions may be better at resisting wedge strategies, because of veto players and the transparency of their political systems. See, for example, Ajin Choi, “The Power of Democratic Cooperation,” *International Security* 28, no. 1 (Summer 2003), pp. 142–53.
The European Union’s Quest to Become a Global Maritime-Security Provider

Christian Bueger and Timothy Edmunds

The European Union (EU) is recognized increasingly as both a pioneer and a major international actor in maritime security.¹ It is one of the leading global contributors to maritime-security capacity building, with estimated investments of over €620 million ($640 million).² It operates naval missions in the western Indian Ocean, the Mediterranean, the Gulf of Guinea, and the Strait of Hormuz. The EU’s ambitions in maritime security were underlined in its Global Strategy of 2016, which sets a vision for the organization as a leading “global maritime security provider.”³ The organization also is in the process of producing a new EU maritime-security strategy (EUMSS), and in summer 2022 the EU launched a public consultation process on the upcoming strategy and its action plan. Expected to be finalized in early 2023, the new EUMSS will add further impetus to the EU’s already significant global ambitions in this area.

In this article, we review the EU’s quest to become a global maritime-security actor, and we identify the strategic challenges that influence its maritime-security strategy process.⁴ The EU’s contribution to global maritime security has received growing attention in the policy community, but so far commentators have tended to focus on specific activities and operations rather than a broader strategic outlook of the EU’s overall global maritime-security policy.⁵ Key questions include whether there is a distinctive and coherent EU approach to global maritime security and how the EU should address a growing range of maritime challenges, including a multiplication of seaborne risks and threats and the intensification of militarized competition in regions such as the Indo-Pacific.
Our goal is to provide orientation to European maritime-security strategy makers and increase understanding among journalists and policy generalists of the novelty and complexity of the maritime-security agenda. We also aim to foster understanding of the EU’s achievements and challenges for key international stakeholders, including the United States, other NATO members, and global partners such as Australia, India, and Japan.

We start by providing an overview of the EU’s international maritime-security engagements, with particular focus on naval operations, security assistance, and capacity building. This reveals how substantial and complex the EU’s activities have become. We then turn to a discussion of seven challenges and dilemmas that the EU faces in its quest to become a global maritime-security provider. We focus on the challenges of achieving coherence across this complex policy and operational space; of managing relations with key partners such as NATO and the United Kingdom; and of developing responses to emerging maritime-security issues such as environmental security, climate change, and the resilience of critical subsea infrastructures.

EU GLOBAL MARITIME-SECURITY ACTIVITIES

The EU is one of the key global entrepreneurs of the contemporary maritime-security agenda. Maritime security is characterized by a holistic understanding of security at sea, it pays attention to both state and nonstate threats, and it includes issues of human and environmental security, as well as issues involved in the fight against transnational organized crime. In this sense, the contemporary maritime-security agenda comprises three key dimensions: first, an interstate dimension, which includes militarized confrontations at sea, naval diplomacy and deterrence operations, and disputes over boundaries and resources such as fisheries; second, a dimension of extremist violence at sea in the form of deliberate attacks on maritime installations or vessels, the movement of extremists or unlawful material by sea, and the spillover of violence from land into the maritime domain; and finally, a dimension of transnational organized crimes at sea, known as blue crimes, including piracy, smuggling of various types, and environmental crimes such as illegal fishing.6

As the following overview of the EU’s external maritime-security engagements shows, the EU’s approach to maritime security is anchored strongly in the third dimension: the fight against blue crime. Historically, the EU has prioritized blue crime in three key maritime regions: the western Indian Ocean, the Gulf of Guinea, and the Mediterranean Sea. Increasingly, however, the EU also is working to address extremist violence through dedicated projects on port security and a mission in the Strait of Hormuz. A more-recent focus on the Indo-Pacific and Arctic as key strategic spaces indicates a turn toward interstate concerns too. Tables 1 and 2 provide an overview of these activities. In the next sections we
### TABLE 1
THE EU’S GLOBAL MARITIME-SECURITY PROJECTS

<table>
<thead>
<tr>
<th>Acronym / Short Name</th>
<th>Full Name</th>
<th>Duration</th>
<th>Focus</th>
<th>Total Budget (millions of euros)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Western Indian Ocean</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MARSIC</td>
<td>Enhancing Maritime Security and Safety through Information Sharing and Capacity Building</td>
<td>2010–15</td>
<td>information sharing, training programs</td>
<td>6</td>
</tr>
<tr>
<td>CRIMLEA</td>
<td>Critical Maritime Routes Law Enforcement Agencies</td>
<td>2010–17</td>
<td>law enforcement, judicial sector</td>
<td>5</td>
</tr>
<tr>
<td>EUCAP Nestor</td>
<td>Regional Maritime Security Capacity Building Mission in the Horn of Africa and the Western Indian Ocean</td>
<td>July 2012–December 2016</td>
<td>law enforcement, information sharing, prisons, legal reform</td>
<td>121</td>
</tr>
<tr>
<td>MASE 1</td>
<td>Regional Programme for Promotion of Maritime Security in Eastern and Southern Africa and Indian Ocean 1</td>
<td>October 2013–October 2019</td>
<td>legal reform, coastal communities, regional coordination in information sharing and law enforcement</td>
<td>42</td>
</tr>
<tr>
<td>CRIMARIO 1</td>
<td>Critical Maritime Routes in the Indian Ocean 1</td>
<td>January 2015–December 2019</td>
<td>information sharing</td>
<td>5.5</td>
</tr>
<tr>
<td>MASE 2</td>
<td>Regional Programme for Promotion of Maritime Security in Eastern and Southern Africa and Indian Ocean 2</td>
<td>2019–23</td>
<td>regional coordination in information sharing and law enforcement</td>
<td>1.4</td>
</tr>
<tr>
<td>CRIMARIO 2</td>
<td>Critical Maritime Routes in the Indian Ocean 2</td>
<td>April 2020–April 2024</td>
<td>information sharing</td>
<td>7.5</td>
</tr>
<tr>
<td><strong>Gulf of Guinea</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRIMGO</td>
<td>Critical Maritime Routes Gulf of Guinea</td>
<td>2013–16</td>
<td>institutional setup, regional cooperation, counterpiracy, law enforcement</td>
<td>4.5</td>
</tr>
<tr>
<td>GoGIN</td>
<td>Gulf of Guinea Inter-regional Network</td>
<td>2016–21</td>
<td>regional information sharing</td>
<td>9.285</td>
</tr>
</tbody>
</table>
### TABLE 1 CONTINUED
THE EU’S GLOBAL MARITIME-SECURITY PROJECTS

<table>
<thead>
<tr>
<th>Acronym / Short Name</th>
<th>Full Name</th>
<th>Duration</th>
<th>Focus</th>
<th>Total Budget (millions of euros)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WeCAPS</td>
<td>West and Central Africa Port Security</td>
<td>2019–22</td>
<td>port security</td>
<td>8.5</td>
</tr>
<tr>
<td>EUBAM Libya</td>
<td>European Union Border Assistance Mission in Libya</td>
<td>May 2013–June 2023</td>
<td>capacity building</td>
<td>240</td>
</tr>
<tr>
<td>ESCIWA</td>
<td>Enhancing Security Cooperation in and with Asia</td>
<td>2020–24</td>
<td>policy dialogue on maritime security</td>
<td>n/a</td>
</tr>
</tbody>
</table>

**Mediterranean**

- **EUBAM Libya**
- **ESCIWA**

**Asia**

- **ESCIWA**


### TABLE 2
THE EU’S NAVAL OPERATIONS

<table>
<thead>
<tr>
<th>Acronym / Short Name</th>
<th>Full Name</th>
<th>Duration</th>
<th>Focus</th>
<th>Total Budget (millions of euros)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUNAVFOR ATALANTA</td>
<td>EU Naval Force–Somalia, Operation ATALANTA</td>
<td>December 2008–December 2024</td>
<td>protection of humanitarian aid, counterpiracy</td>
<td>4.4</td>
</tr>
<tr>
<td>EUNAVFOR MED IRINI</td>
<td>European Union Naval Force–Mediterranean Operation IRINI</td>
<td>March 2020–March 2023</td>
<td>human smuggling, search and rescue, sanction enforcement</td>
<td>4.9</td>
</tr>
<tr>
<td>EMASoH</td>
<td>European Maritime Awareness in the Strait of Hormuz</td>
<td>February 2020–present</td>
<td>surveillance and deterrence</td>
<td>n/a</td>
</tr>
<tr>
<td>CMP-GoG</td>
<td>Coordinated Maritime Presences in the Gulf of Guinea</td>
<td>2021–24</td>
<td>counterpiracy</td>
<td>n/a</td>
</tr>
</tbody>
</table>

*Source: European Union External Action, eea.europa.eu.*
discuss them in more depth to show the current complexity of the EU’s maritime-security engagements and priorities.

**Western Indian Ocean**

In the western Indian Ocean, the primary focus of EU activities has been on addressing piracy and, increasingly, on the broader spectrum of blue crimes. This is unsurprising given that the EU initiated its global maritime-security programs as a response to piracy off the coast of Somalia. Its most significant naval operation continues to be European Naval Force operation ATALANTA, which has been active in counterpiracy since 2009. During this period, the mission’s mandate has been widened to incorporate the monitoring of illegal, unreported, and unregulated (i.e., IUU) fishing activities, as well as sanctions violations. ATALANTA is supported by a dedicated coordination center—the Maritime Security Centre—Horn of Africa—to align its operations with the shipping industry.

The EU also has launched a series of capacity-building initiatives in the region. Originally focused on piracy, these initiatives have expanded since their creation to include other issues, such as smuggling. The first programs were established in 2010. The Enhancing Maritime Security and Safety through Information Sharing and Capacity Building (MARSIC) project was tasked with providing training for regional maritime-security actors under the Djibouti Code of Conduct process, while the Critical Maritime Routes Law Enforcement Agencies (CRIMLEA) initiative focused on supporting regional law-enforcement agencies. CRIMLEA was complemented in 2012 by Regional Maritime Security Capacity Building Mission in the Horn of Africa and the Western Indian Ocean, a more extensive civilian capacity-building and training mission targeted at law enforcement, courts, and prisons in countries across the region. In 2016, the mission’s remit was narrowed to focus on Somalia only and renamed European Union Capacity Building Mission in Somalia (EUCAP Somalia). In December 2022, its mission was extended through 2024.

Two additional projects, the Regional Programme for Promotion of Maritime Security in Eastern and Southern Africa and Indian Ocean (MASE) 1 and 2, have provided support to regional maritime-security organizations through legal advice, training, and maritime domain awareness. MASE 1 (2013–19), in particular, led to the establishment of two centers tasked with maritime domain awareness and operational coordination; MASE 2 (2019–23) focused on operationalizing them, and an expected third iteration of MASE will maintain them. The Critical Maritime Routes in the Indian Ocean (CRIMARIO) 1 (2015–19) and 2 (2020–24) projects have complemented these activities through the development of an information-sharing platform for maritime-security actors in the region. Finally, in 2020, the EU launched a dedicated port-security program with the goal of ensuring compliance with international conventions and improving port-state control.
inspections. Overall, the EU has invested an estimated €313 million ($370 million) in maritime-security capacity building in the western Indian Ocean since 2011.10

In February 2020, EU states launched the European Maritime Awareness in the Strait of Hormuz (EMASoH) initiative to protect shipping and deter hostile activities by Iran’s Islamic Revolutionary Guard Corps Navy.11 In 2022, it was expected that the naval component of the initiative, known as Operation AGENOR, would be complemented or replaced by a new type of naval mission under the new Coordinated Maritime Presence (CMP) concept.12

**Gulf of Guinea**

Since 2013, a substantial array of EU work has focused on the Gulf of Guinea in response to piracy in the region, including a significant investment in capacity building. Critical Maritime Routes Gulf of Guinea (2013–16) was targeted at supporting regional collaboration under the agreement known as the Yaoundé Code of Conduct.13 It was joined in 2016–21 by the Gulf of Guinea Inter-regional Network project on information sharing, then by the Support Programme to the Maritime Security Strategy in Central Africa project (2019–23) on legislation and law enforcement, and by the Support to West Africa Integrated Maritime Security project (2019–23) focused on criminal justice systems. It also launched the West and Central Africa Port Security project on port security in 2019, which ended in 2022.

Originally reluctant to deploy naval forces for counterpiracy in the region, the EU changed course in 2021 and launched its Coordinated Maritime Presences in the Gulf of Guinea (CMP-GoG). The CMP-GoG tested a new form of naval operation, with forces operating under a loose coordination structure rather than a shared operational command. Overall, the EU has invested an estimated €33 million ($39 million) in maritime-security activities in the Gulf of Guinea, excluding the cost of its naval mission.14

**Mediterranean**

In the Mediterranean, the EU’s activities have focused on countering human smuggling. In 2015, it launched a dedicated naval mission, EUNAVFOR MED, modeled on its experience in the western Indian Ocean. This comprised two operations focused on human smuggling, search and rescue, and, latterly, sanctions enforcement: Operation SOPHIA (2015–20) and Operation IRINI (launched in 2020 and expected to run until 2023).15 Both are integrated with the work of the EU’s European Border and Coast Guard Agency (FRONTEX), the broader neighborhood policy, and the strategic dialogue with Mediterranean countries. In addition, the EU launched the European Union Border Assistance Mission in Libya in 2013 (projected to run until 2023), a capacity-building program that aims to support the Libyan coast guard to prevent human smuggling.
Summary
Taken together, these initiatives illustrate the growing significance of maritime security in the EU’s Common Security and Defence Policy (CSDP) portfolio. The primary focus of the EU’s maritime-security work has been on countering blue crimes—in particular, piracy and human smuggling. The EU’s ambitions to address interstate aspects of maritime security, while already prominent in the 2014 EUMSS and in its Horn of Africa and Gulf of Guinea strategies, have gained further impetus in its 2021 Indo-Pacific strategy. This has led to proposals to advance a CMP for the Indo-Pacific as well as a series of diplomatic dialogues with partner states, most notably the Enhancing Security Cooperation in and with Asia project in Southeast Asia.

As noted in this section, the EU’s maritime-security activities are substantial but also overlapping and complex. For the most part, the immediate demands of crisis response have driven the creation and implementation of these activities. Such missions, once established, have tended to endure. This raises the question whether the EU has a coherent and strategic approach to its larger, global maritime-security activities. In the following sections, we address this question in more detail. We argue that a range of unresolved challenges continue to impede the EU from reaching its strategic goals.

STRATEGIC CHALLENGES
An Abundance of Strategies
The 2014 EUMSS and its supplementary action plans of 2014 and 2018 detail the EU’s main sources of strategic direction for maritime security. They lay out key interests and a series of concrete actions and projects by EU bodies and member states, many of which focus on intra-European problems and issues such as fisheries inspection or marine safety. However, the EUMSS is not the only EU strategy that addresses maritime-security issues; indeed, in recent years EU foreign and security strategies have proliferated.

The EUMSS first is nested in the more encompassing global security strategies of the EU. The 2014 document was written against the backdrop of the 2003 European Security Strategy, which does not prioritize the maritime domain and mentions the threat of piracy only in passing. The 2003 strategy has since been replaced by the 2016 Global Strategy in which, by contrast, the oceans feature heavily and maritime security is assigned more importance.

The 2016 Global Strategy and its implementation plan set out the role of the EU as a “global maritime security provider.” It lists maritime security alongside other issues, including hybrid threats, migration, ocean-life protection, disarmament, nonproliferation, organized crime, and terrorism. The accompanying implementation plan highlights the importance of maritime-surveillance
operations. Since 2020, the strategy has been complemented by the EU Security Union Strategy, which focuses on terrorism, crime, and infrastructure, including in the maritime domain.\textsuperscript{20} Complementing these efforts, the EU also published its Strategic Compass initiative in early 2022, which aims to provide direction for the organization’s military ambitions, including capability development.\textsuperscript{21}

Second, the EU has a series of strategies and policies that focus on ocean governance more generally. These documents lay out the EU’s approach to the maritime space and tend to foreground economic and environmental concerns. The EU’s Integrated Maritime Policy of 2007, supported by its 2012 Blue Growth strategy, for example, emphasizes the importance of marine spatial planning and marine surveillance with a global outlook. The EU’s joint communication of 10 November 2016 entitled “International Ocean Governance: An Agenda for the Future of Our Oceans” identifies blue crime as a major challenge for ocean governance, lays out the global maritime ambitions of the EU, stresses the need for integrating different policies, and calls for international cooperation and capacity building.\textsuperscript{22} The June 2022 update of the International Ocean Governance policy reemphasizes these ambitions and includes maritime security as one of its four objectives.\textsuperscript{23}

Third, the EU has concluded a series of regional strategies, many of which also have a maritime dimension.\textsuperscript{24} Regional strategies aim to develop a coherent approach to a particular political region in the world and provide overall strategy for EU agencies and member states in those regions. Examples include the EU’s Strategy for the Baltic Sea Region of 2009 and the 2011 Atlantic Maritime Strategy. Maritime security is a key dimension in the 2011 European Union Strategic Framework for the Horn of Africa and the 2014 European Union Strategy on the Gulf of Guinea, both of which identify piracy and blue crime as core concerns. The European Union Strategy for Cooperation in the Indo-Pacific, together with its updated Arctic policy, both concluded in 2021, emphasize interstate dimensions of the maritime-security agenda.

This proliferation of strategies risks pulling EU maritime-security policy and actions in diverging directions and raises the question of how the different priorities outlined in each document relate to each other. It also raises the risk for \textit{forum shopping}—that is, that concerted action may be undermined by member states, directorates, or agencies engaging only with those strategies that best fit their own interests while sidelining or even deliberately undermining others.

The EU needs to work harder to clarify the relationship among its various current and future strategies that address aspects of maritime security, negotiate the trade-offs, and even address the contradictions among them to enable the effective employment and prioritization of its resources. It also may need to rethink the purpose of such strategies to provide coherence and monitoring in light of their growing abundance.
Interagency Coordination and Competition
Maritime security cuts across different issue domains and institutional responsibilities and raises challenges of interagency coordination and competition. The number of European agencies involved in some aspect of global maritime security is substantial, owing to the diversity of member states’ organizational structures. This structure implies building bridges between security and development professionals, between military and civil law-enforcement agencies, and also among implementation, administrative, and political levels. This challenge can be especially acute in activities that incorporate multiple, sometimes conflicting, problems and tasks. An example is the tension between border protection and saving lives at sea visible in the EU’s operations in the Mediterranean. Such problems may be aggravated by interagency rivalries or competition for resources—for instance, among navies, coast guards, police, and other agencies at the national level; or, at the EU level, between military structures and civil entities such as FRONTEX.

Coordination is complicated further by the fact that EU member states often have fundamentally different approaches to how they organize their maritime-security agencies. Five EU member states are landlocked (Austria, Czech Republic, Hungary, Luxembourg, Slovakia) and do not operate dedicated agencies. Some states operate under sole-agency structures, as in Denmark and Portugal, whereby one maritime agency—usually the navy—takes responsibility for military, coast guard, and law-enforcement tasks at sea. Other states, such as Sweden and Germany, adopt a dual-agency structure with a clear division of organization and labor between military (naval) and law-enforcement (coast guard) tasks. Still others, such as Italy, operate multiple-agency structures incorporating several different maritime law-enforcement agencies alongside the navy. Such diversity can complicate strategic and operational coordination among countries and presents a challenge for effective information sharing.

Clear political leadership, well-defined and transparent mandates, and avoidance of duplicated efforts—for instance, in maritime surveillance—provide avenues for partial solutions. Yet overcoming the tensions among the different understandings of, and organizational priorities in, maritime security will remain an ongoing task. Providing a framework under which the EU’s diverse range of maritime-security actors can coordinate their activities effectively will continue to be a challenge.

Command Structures: Headquarters and Coordination Cells
A pivotal question for the EU is how to organize command structures under the CSDP. While the possibility of establishing a permanent military headquarters is debated frequently, the EU has not yet done so. The Military Planning and Conduct Capability established in 2017 provides some continuity, yet military
command-and-control (C2) structures remain organized on a bespoke basis for specific operations.\textsuperscript{30}

The EU’s first naval operation, ATALANTA, established a mission-specific headquarters with unique features in which, for example, each participating nation would assign a liaison officer. Originally based in Northwood, U.K., within walking distance of the NATO Maritime Allied Command, the headquarters was relocated in 2019 to Rota, Spain, as a consequence of the Brexit process. Given the longevity of ATALANTA, which as of 2023 has been active for more than thirteen years, it has bequeathed the EU a de facto standing naval headquarters. Yet, for its SOPHIA and IRINI operations in the Mediterranean, the EU established a separate headquarters structure in Rome.

In 2021 the EU introduced a new concept, the CMP, for which the Gulf of Guinea operation is the pilot case.\textsuperscript{31} Under the CMP, naval forces remain under national command, and coordination is on a voluntary basis and is organized through a Maritime Area of Interest Coordination Cell in Brussels. The CMP approach presents a more flexible model of coordination than that of the ATALANTA or SOPHIA operations. While this approach is still relatively novel, there are concrete plans to employ it for a new mission in the western Indian Ocean and a debate on how to adopt it for the broader Indo-Pacific.\textsuperscript{32}

The EU thus currently operates different C2 models for its naval operations. This operation-by-operation approach has the advantage of flexibility and enables EU maritime-security interventions to adapt to different circumstances, whether operational or political, but it creates risks by adding further complexity to operations. It risks duplication of effort and complicates continuity in coordination among deployed forces, between political and military levels, with international partner navies, and with external stakeholders such as the shipping industry.

**Data and Expertise Gaps**
Knowledge of operations in the maritime domain is often more limited than it is with land-based operations. Developing a unified approach to maritime surveillance, data collection, and information sharing is a vital component of maritime-security efforts that will help to identify threats and operational priorities. In line with the focus on surveillance of the EUMSS and the Global Strategy, the EU has advanced its capacity in maritime surveillance substantially.

The core actor in this regard is the European Maritime Safety Agency (EMSA), which develops satellite imagery and ship-positioning data with a global outlook. This maritime-domain picture is shared across Europe for coast-guard, fishery, and border-control functions. EMSA primarily has been used for intra-European purposes, but it also has started to provide imagery and position data for EU naval operations. EMSA also sits alongside a multiplicity
of other sources and platforms, many of them operated by individual member states. The EU has an ambition to fuse these under a common information-sharing environment (CISE); CISE also has a military component, known as the Maritime Surveillance (MARSUR) project, that the European Defence Agency has been developing since 2006.

In areas such as the western Indian Ocean, EU naval forces draw on a bespoke information-sharing platform, known as Mercury, which coordinates EU counterpiracy activities with its key partners in the region. Part of the capacity-building work of projects such as MASE and CRIMARIO is to develop maritime-domain technology and information-sharing tools for the western Indian Ocean region. These are freestanding initiatives and do not contribute directly to the EU’s maritime situational awareness picture.

Moreover, current efforts toward generating knowledge for global maritime security are very narrow. While there are substantial data in some areas such as ship-positioning data, incident data on illegal fishing, or piracy events, the sharing and analysis of data on other issues, particularly environmental crime, are less available. These data gaps derive from several factors. Some may be explained by political or commercial ignorance or disinterest. Certain blue crimes, such as piracy, are prioritized by the shipping industry—meaning that data collection is relatively easy to monetize and consequently prevalent. Others—such as waste smuggling, illegal mining, dredging, or oil bunkering—attract less commercial interest, and therefore data collection is sparse in these areas. Gaps also may result from the difficulty of collecting reliable data on self-consciously clandestine activities taking place in the relatively surveilled expanses of the oceans, or from deliberate nonreporting by states or other maritime actors. Even where data are collected, problems of interpretation and information sharing can occur because of inconsistency in reporting criteria or because of a bias toward quantifying incidents over more-detailed qualitative analyses.

Without such data, the effective and efficient employment of resources to address maritime security is difficult to achieve, and the way to address this challenge is not straightforward. Some possible responses to the issue are broadening data-collection efforts across different forms of blue crime, harmonizing classification systems, and introducing obligatory reporting requirements of incidents. The EU has made strides in this direction by developing the (voluntary) CISE and MARSUR, encouraging collaborations among FRONTEX, the EMSA, and the European Fishery Control Agency in regard to surveillance and intelligence networks, and incorporating increased global-surveillance capabilities of the European Space Agency. However, data gaps persist and information remains dispersed.

At the same time, the novelty and complexity of the maritime-security agenda mean that overall knowledge and understanding of its challenges are
comparatively low, including among journalists and the policy generalists in
governments, parliaments, and diplomatic services. This means that the pool of
experts on which decision makers can draw to assist in making informed policy
choices is often very small. It also implies insufficient public attention to the
importance of maritime-security responses and a lack of subject-matter experts
who are available for the implementation and evaluation of policies and projects.
Further education, training, and awareness-raising initiatives are required in this
area to address these deficiencies.

**Capacity Building**

The EU’s main responses to maritime-security issues beyond its borders are
capacity-building and security-assistance programs. These missions with part-
ner states incorporate multiple objectives, such as strengthening maritime law
enforcement through maritime-security sector reform initiatives; supporting
the development of legal, judicial, and penal infrastructures to help countries
tackle blue crimes effectively; and assisting in the creation of regional and na-
tional maritime-domain-awareness and information-sharing mechanisms. EU
capacity-building work in these areas includes training courses, mentoring and
technical advice, and the provision of equipment and infrastructure, but also
programs with a human-security focus targeted at coastal communities.36

The sheer number of capacity-building projects initiated and funded by the EU
is impressive, but the impact of these investments continues to be somewhat lim-
ited. Capacity building is often not well coordinated, which can lead to duplication
both within EU projects and with the activities of partner states and organizations.
The western Indian Ocean region alone currently hosts or until recently hosted
three dedicated maritime-security capacity-building programs—EUCAP Somal-
ia, MASE 2, and CRIMARIO 2—alongside multiple national-level initiatives by
EU members.37 Many activities focus on easily implemented initiatives with short
time horizons, such as equipment donations or training programs; these types
of initiatives struggle to tackle longer-term challenges of organizational reform
or the root causes of maritime insecurities.38 Often straightforward and easy-to-
measure indicators, such as the number of people trained or the amount of equip-
ment provided, are used to determine success, rather than how well a reform
process is being instituted or whether lasting structures are being established.
Programs sometimes struggle to secure local buy-in and commitment to their
activities, which raises questions about their future sustainability.39

The EU also has put a strong emphasis on building capacities on a regional
level. This entails further challenges, and especially raises the question of what
regional scope can deal best with what are generally transnational maritime-
security issues. Since regions are always political constructs, there are often
several competing and overlapping endeavors. For example, should Somali piracy be approached as a problem of the Horn of Africa, eastern Africa, the western Indian Ocean, or the Indian Ocean? In practice, the EU tends to work with competing regional constructs. It simultaneously supported the region established by MASE (centered on East Africa and the western Indian Ocean islands), but also the Djibouti Code of Conduct region through MARSIC (which, in addition to the MASE region, includes the entirety of southern Africa, the Red Sea, and Arab states), as well as the broader Indian Ocean region through its CRIMARIO 2 program. The regional focus is also problematic because the operation of regional cooperative maritime constructs is slow and often implies processes that take decades, but the majority of the supporting projects have much shorter time spans of three to five years.

There is a risk of conflating output with impact in EU maritime-security capacity building. A systematic and reflexive evaluation of what such programs need to do to succeed over the long term will be critical if the EU is to turn its capacity-building investments into sustainable maritime-security gains.

**NATO, Brexit, and the EU**

NATO and the EU share many of the same security concerns, including the need to fight terrorism on land and at sea, to prevent the proliferation of weapons, to deter and contain Russia, and to respond to the rise of China. The relationship between the EU, including its Common Foreign and Security Policy, and NATO always has been complex. This complexity applies to maritime security as well. At stake is a tension between the EU’s desire for strategic sovereignty and autonomy on the one hand, and reliance on the United States for key military resources on the other. The difference in membership between the two organizations complicates this picture further. Six EU states are not NATO members at this writing: Austria, Cyprus, Finland, Ireland, Malta, and Sweden; Finland and Sweden recently have applied to join the alliance. In addition, the ongoing dispute over Cyprus creates a delicate relationship between the EU and NATO member Turkey. Operationally, this implies that many of the capabilities of the twenty-one EU member states that are part of NATO may be bound by tasks set by the alliance, which in turn poses restrictions on the kind of naval operations the EU can run without undermining NATO objectives and plans.

However, NATO and the EU have made a number of efforts to align their security activities in recent decades. Among these efforts is the so-called Berlin Plus Agreement (2002), which guaranteed that the EU can draw on NATO assets and infrastructures, as well as a series of joint-partnership declarations in 2010, 2016, and 2018. Counterpiracy operations off the coast of Somalia provide a paradigmatic example of partnership; between 2009 and 2016, both the EU and NATO ran operations that worked hand in hand, facilitated by the geographic
NATO and the EU have run simultaneous coordinated operations in the Mediterranean too, where the EU focuses on border protection and countering human smuggling, while NATO’s Operation SEA GUARDIAN, launched in 2016, emphasizes nonproliferation, counterterrorism, and capacity building.

There is an implicit consensus that NATO should focus on tasks such as deterrence, collective defense, and counterterrorism operations while the EU deals with maritime-policing and crime-fighting tasks. Yet even if all EU member states were to agree to this division of labor, drawing clear boundaries around these tasks is not always easy. It has become more difficult still both because of the growing military and geopolitical ambitions of the EU but also because of its changing relations with the United Kingdom. Whether and how aggression by the Russian government will reshuffle the separation of labor between the EU and NATO also remains an open question.

A telling example is the failure to respond to incidents in the Strait of Hormuz through a joint operation. When two tankers were attacked in the summer of 2019, the United States and the United Kingdom led the establishment of a multinational mission named the International Maritime Security Construct (IMSC). Lithuania also joined the IMSC—the only EU state to do so. Other EU member states declined to participate and instead initiated their own EMASoH mission, which consists only of EU naval contributions. While some of these disagreements can be linked to the difficulties in the transatlantic partnership under the administration of U.S. president Donald J. Trump and its Iran policy, no agreement to move to a NATO mandate has been reached since and the EU intends to continue its mission in the region under the CMP concept. One of the reasons for this strategic choice lies in the EU’s difficult recent relations with the United Kingdom.

The Brexit process has created significant new uncertainties for the EU and its relationship to NATO. The EU lost one of its most capable navies and gained a series of new maritime borders when the United Kingdom voted to leave. With the United Kingdom in the process of reregulating the governance of its own waters, its relations with the EU at sea are increasingly complicated, as struggles over fisheries governance and small-boat migration demonstrate. The United Kingdom also shows a strong preference for developing new minilateral agreements such as the AUKUS arrangement with Australia and the United States. These have the potential to challenge EU relations with key allies further, such as those among France, the United Kingdom, and Australia in the Indo-Pacific. Continuing uncertainties around the strategic priorities and interests of the United Kingdom and how these relate to those of the EU will be challenging for the EU to manage, both within and also outside NATO.
Addressing Emerging Maritime-Security Challenges

The maritime-security environment is dynamic, with existing threats and risks continuing to evolve even as new challenges emerge. In the main, the EU has been adaptable in the face of these changes. It established the EMASoH mission in the face of asymmetric threats to shipping in the Strait of Hormuz, for example, while the EMSA has played a pioneering role setting standards in response to the rise of cyber threats to shipping and ports. In other areas, however, there is still significant work for the EU to do.

Environmental issues increasingly are of central importance to maritime security. Environmental degradation at sea can impact the food and economic security of coastal populations dependent on fishing or other maritime activities for their sustenance or livelihoods. Conservation and sustainability initiatives, such as conducting marine spatial planning and establishing marine protected areas, necessitate the enforcement of laws and regulations if they are to be viable. This is perhaps most apparent in the case of preventing illicit fishing, but it also concerns the policing of various forms of pollution crimes, including illicit disposal of oil, waste, and ballast water.

Such issues illustrate the central importance of environmental issues in EU maritime security. They suggest the need to ensure not only that such concerns are integrated better into the EU’s strategic thinking but also that maritime-security work is coordinated better with other EU ambitions, such as the sustainable economic development of the marine environment. They also imply a need to link actions at home with those abroad—for example, in managing and regulating the activities of EU fishing fleets in the waters of the “global South.”

Climate change also may lead to a wider spectrum of tasks for maritime-security forces, including new patterns of blue crime requiring a law-enforcement response. With migratory species moving into new areas, illicit fishing will occur elsewhere and new patterns of human smuggling might occur. A growing range of environmental regulations will criminalize new activities in the future and create new demands for policing compliance with those rules. Lastly, increased extreme weather events also will mean new demands for search-and-rescue operations and naval humanitarian and disaster-relief operations.

The likelihood of more extreme weather events and higher waves will increase the seakeeping demands on boats and ships, while sea-level rise will increase the flood risk to key installations such as harbors and naval bases. The U.S. Navy, which so far is the only maritime-security force that has investigated seriously the potential impact on maritime infrastructure, concluded that a majority of its facilities are at risk in this way.

The EU is making substantial efforts to address and tackle climate change under its so-called European Green Deal. However, these efforts have not trickled...
down to the maritime-security agenda. Whether and how the EU will be affected by these developments calls for a systematic review of how different climate-change scenarios will impact maritime insecurity and forces going forward.

Another issue domain new to the maritime-security agenda is the protection of critical subsea infrastructures. The sea is not only the main conduit for international transport; it also is essential for data transmission and, increasingly, that of electricity. These “invisible infrastructures” are critical to the EU economy. Up to 95 percent of all global communications, including e-mails, conference calls, and financial transactions, transit via the global submarine data cable network. Europe’s digital economy and its military operations are heavily dependent on this cable network.

This makes the protection of the cable infrastructure a vital maritime-security issue that to date has not featured strongly enough on the EU agenda. The 2014 EUMSS includes the protection of infrastructure as one of its key interests, but the organization is far from having a concerted approach to the issue. Some states, such as France and Portugal, indicate a high level of awareness of the issue, but this has not yet influenced thinking in Brussels. Subsea cables are a potential target of gray-zone warfare, terrorism, and crime. While no incident in which cables have been targeted deliberately is known so far, reports indicate that intended gray-zone campaigns may include doing so. The attack on the Nord Stream pipelines that occurred in the Baltic Sea in September 2022 reinforces this interpretation and indicates how vulnerable underwater infrastructures are.

The EU has made a considerable effort to enhance its visibility and profile as a maritime-security actor. As our review has shown, the range of actions the EU has taken as a collective-security actor is impressive and ambitious. Ongoing naval operations in different maritime regions and substantial investments in capacity building for maritime security around the world, as well as growing geopolitical ambitions reflected in the organization’s Global Strategy and the Indo-Pacific strategy, demonstrate that maritime security is a priority in the EU’s foreign and security policy. The importance the organization has given to maritime security under the EU presidencies of Portugal (2021) and France (2022) and also the preparations for revising the 2014 Maritime Security Strategy indicate that the EU is destined to continue on this path.

Yet the EU’s quest to establish itself as a global maritime-security provider remains unfulfilled and, as we have argued, a series of obstacles stand in its way. These obstacles present ongoing challenges and also might imply that international naval actors perceive the EU as a weak or unreliable partner. The first set of challenges concerns coherence and coordination at the level of strategies and operations. Here the EU clearly will have to identify whether maritime security has
become primarily an attempt to participate in strategic competition with global powers, or whether instead it should continue to prioritize advancing the rules of global ocean governance and the fight against blue crime. Given the complex organizational structure of the EU and the diversity of its member states, inter-agency coordination both internally and globally always will be a difficult challenge; harmonization, transparency, and information sharing arguably will be the key to addressing it. In terms of C2 structures, there seem to be few prospects for centralization, which in principle could lessen the coordination problem. Here, the EU will have to evaluate carefully whether its new naval coordination tool, the CMP, actually works as well as intended.

Maritime domain awareness and information sharing are both important potential force multipliers for the EU in maritime security. Efforts to strengthen intra-European architecture in these areas are under way, but governments must work to fill gaps in data and expertise. Capacity building, along with naval operations, remains the key instrument in the EU’s global maritime-security repertoire. Yet, as we have argued, EU programs have yet to fulfill their full potential, and sometimes they even risk having contradictory or conflicting objectives. The EU also must make a greater effort to order its relations with NATO, the United States, and with its most important neighbor, the United Kingdom, and ask when and how coordination and an appropriate division of labor is possible. Finally, while the EU has been agile and responsive to emerging challenges in the past, it must continue to be so in finding appropriate answers to the problems of environmental security at sea, climate change, and critical infrastructure at sea.

If the EU can address these challenges, it has the potential to cement its position as one of the world’s leading maritime-security providers. The new EU maritime-security-strategy process that began in 2022 offers a key moment of opportunity for it to do so. If it is to be effective, it will require an honest reflection on the strengths and limitations of EU maritime-security activities to date, a willingness to tackle problems and contradictions where they exist, and a coherent sense of strategic purpose across and between different foreign- and security-policy priorities.

NOTES

An earlier version of this article was presented at the EU Military Committee Mini Away Day on Maritime Security in Brussels on 6 February 2021. We also thank Dwight Robinson for research assistance and Scott Edwards, Tobias Liebetrau, Jan Stockbruegger, and representatives of the European Commission and the European External Action Service for comments and suggestions that have improved the manuscript. Our research has benefited from a grant from the U.K. Economic and Social Research Council’s
Partnership for Conflict, Crime and Security Research, ref. ES/S008810/1, and the Danish Ministry of Foreign Affairs under the Analyzing Maritime Insecurity in Ghana project administered by the Danida Fellowship Centre.


2. Authors’ estimate, drawing on the available budgets and documentations. See table 1 for further details.


4. Our focus is explicitly on the global role and external dimension of the EU, not on intra-European maritime-security provisions or the work of agencies such as the European Maritime Safety Agency, European Border and Coast Guard Agency, or the European Fisheries Control Agency. A useful recent overview of the activities of these entities is provided in European Commission and High Representative of the Union for Foreign Affairs and Security Policy, Joint Staff Working Document: Report on the Implementation of the Revised EU Maritime Security Strategy Action Plan, SWD (2020) 252 final (2020).

5. This includes three book-length treatments that focus on the geostrategy of the EU’s maritime-security policy (Basil Germond, The Maritime Dimension of European Security: Seapower and the European Union [Basingstoke, U.K.: Palgrave Macmillan, 2015]; reconstruc


10. Authors’ estimate, drawing on the available budgets and documentations. See table 1. This calculation excludes programs that target maritime security indirectly, such as ocean conservation or fishery management and marine-spatial-planning initiatives.


13. For the agreement, see Hüseyin Yücel, “Sovereignty and Transnational Cooperation in the Gulf of Guinea: How a Network Approach

14. Authors’ estimate, drawing on the available budgets and documentations.

15. The operations are discussed in detail in Dombrowski and Reich, “The EU’s Maritime Operations,” pp. 860–84.


19. Ibid., p. 37.


22. European Commission and High Representative of the Union for Foreign Affairs and Security Policy, Joint Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: The Conceptualization of the EU towards the Maritime Domain, ResearchGate, September 2017, www.researchgate.net/.


32. Rettman, “EU Eyes Indian Ocean Naval Adventure.”


34. Tyler Lycan and Lexie Van Buskirk, What We Know about Maritime Environmental Crime (n.p.: SafeSeas and Stable Seas, July 2021), www.safeseas.net/.


44. Marta Marafona, European Reactions to AUKUS and Implications for EU Strategic Autonomy (Rome: Istituto Affari Internazionali, 2021), available at www.iai.it/.

45. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Blue Growth; Opportunities for Marine and Maritime Sustainable Growth, COM (2012) 494 final (13 September 2012).


50. Reports of Russian naval activities close to cable routes highlight the likelihood of such attacks. See Christian Bueger, Tobias Liebetrau, and Jonas Franken, Security Threats to Undersea Communications Cables and Infrastructure—Consequences for the EU, PE 705.557 (Brussels: European Union for the SEDE Sub-committee, European Parliament, June 2022), available at www.europarl.europa.eu/.
In 1946 and 1947, George F. Kennan outlined the psychological and ideological mainsprings of action by the elites of the Communist Party in the Soviet Union. Kennan ascribed their “neurotic view of world affairs” to deep-seated geopolitical and cultural circumstances: “Originally, this was insecurity of a peaceful agricultural people trying to live on a vast exposed plain in a neighborhood of fierce nomadic peoples. To this was added, as Russia came into contact with the economically advanced West, fear of more competent, more powerful, more highly organized societies in that area.”

Kennan coupled this geopolitical insight into the origins of the Russian neurosis with an appreciation of the impact of current events. As the Soviet dictatorship took hold after the communist revolution in Russia, it destroyed capitalist and other forms of independent socioeconomic organizations, leaving the Communist Party with a profound need to justify its continued despotic rule. Stalin, therefore, shifted the capitalist threat that was ever present in Marxist ideology from domestic capitalists to an external, encircling enemy. According to Kennan, “This began at an early date. In 1924 Stalin specifically defended the retention of the ‘organs of suppression,’ meaning, among others, the army and the secret police, on the ground that ‘as long as there is a capitalist encirclement there will be danger of intervention[,] with all the consequences that flow from that danger.’”

Given this worldview of unrelenting antagonism between capitalist and communist powers, Kennan believed that the Soviet Union inevitably would...
challenge the United States. The threats emanating from the Soviet Union were numerous and varied. He argued that the Soviets soon would seek control over strategically important locations such as “Northern Iran, Turkey, [and] possibly Bornholm,” an island off the coast of Denmark in the Baltic Sea. In addition, the USSR would attempt to “stimulate” the “resentment” of colonial peoples as they secured their independence from Western powers: “Soviet dominated puppet political machines will be undergoing preparation to take over domestic power.” To meet these international challenges posed by the Soviet Union, Kennan insisted that the main element of any United States policy toward the Soviet Union must be that of a long-term, patient but firm and vigilant containment of Russian expansive tendencies.

... Soviet pressure against the free institutions of the western world is something that can be contained by the adroit and vigilant application of counter-force at a series of constantly shifting geographical and political points, corresponding to the shifts and manoeuvres of Soviet policy, but which cannot be charmed or talked out of existence. The U.S. policy of containment directed at the Soviet Union emerged from Kennan’s remarks. Before Kennan outlined his vision of containment, which was merely reactive to Soviet military and political adventures, Sir Halford John Mackinder articulated a vision of maritime geostrategic logic that prioritized some geographic locations over others. Although Kennan usually is credited with having articulated first the idea of “containment,” Mackinder should be acknowledged as having advanced an understanding of containment grounded in a geopolitical theory. Mackinder is an authoritative author whose theory of the Eurasian “heartland” is found in his major book, Democratic Ideals and Reality: A Study in the Politics of Reconstruction (1919), and two other important articles (1904 and 1943). His theory of containment does not rest primarily on the psychology of elites or the ideology of a transitory regime but rather stands on the enduring significance of the territory that the tsarist and Soviet states occupied and the Russian state now does.

The purpose of this article is not merely to recapitulate Mackinder’s understanding of containment, as important as that enterprise may be in the realm of intellectual history. Instead, because Mackinder’s writings have been marshaled to assess the current U.S. commitment to Ukraine, it is of paramount importance to appreciate how his theory applies to the current crisis. For instance, an insightful commentator on geopolitics, Francis P. Sempa, recently claimed that Mackinder would have advised our government not to intervene in Ukraine. Sempa’s argument boils down to the fact that Mackinder admired imperial German statesman Otto von Bismarck for engaging in three successful wars against Denmark, Austro-Hungary, and France and then unifying Germany. Bismarck
then managed to avoid any further European wars by maintaining a balance of power. Bismarck supported noninvolvement in wars fought in remote lands where one’s national interest was involved marginally at best, and Mackinder, Sempa alleges, would make the same recommendation.

Despite changing circumstances over the past century, Mackinder is read and reread precisely because Democratic Ideals and Reality explained the development of two distinct geostrategic logics—those of territorial and of maritime powers—and how acting according to the precepts of those competing logics may result in conflict. Although Mackinder rarely mentions Ukraine in his published work, the focus of his 1920 “Report . . . on the Situation in South Russia” is extremely relevant. Mackinder, who deserves to be appreciated as an early anti-communist author and politician, served as the British high commissioner to the anti-Bolshevik forces located in Ukrainian territory. His report summarized his findings and recommendations, which are an elaboration of his geostrategic logic relative to the Ukrainian situation in 1920. This article highlights Mackinder’s containment theory and demonstrates how he provides a useful geostrategic assessment of the 2022–23 Ukraine crisis.

MACKINDER’S THEORY OF CONTAINMENT

The Geographic Pivot

In 1904, Mackinder presented his major scholarly work, “The Geographical Pivot of History.” It focused on the vast, inland Eurasian plain—the geographic pivot—stretching north from the Tibetan highlands to the icebound, frozen wastes of the Far North and from the Mongolian highlands to just east of the Black Sea. Rivers there flowed into inland seas or north to the Arctic waste, thereby insulating Russia—the state occupying the pivot—from naval power. This region, according to Mackinder, was newly organized and undergoing a major transformation—one that probably would result in the emergence of a major, modern land power. Tsarist Russia had just completed the construction of the Trans-Siberian Railway—an infrastructure project that was expected to accelerate the growth of three things: first, newly tilled land would be accessible for raising foodstuffs; second, the population would increase; and third, new and significant natural resources would be discovered and exploited. Even though the Trans-Siberian Railway had serious deficiencies—initially, it was a one-track line—it nonetheless permitted interior lines of communication and transportation from which armies could move between Russia’s European provinces and its Pacific territories and along all points in between, thereby applying pressure to the states arrayed along the Eurasian littoral.

Mackinder feared that a land power occupying the geographic pivot one day might conquer an oceanic coastline and threaten Great Britain, which was the
foremost naval power of the time. In a prescient passage, he presented the essence of his maritime geostrategic perspective:

The oversetting of the balance of power in favour of the pivot state, resulting in its expansion over the marginal [i.e., coastal] lands of Euro-Asia, would permit of the use of vast continental resources for fleet-building, and the empire of the world would then be in sight. This might happen if Germany were to ally herself with Russia. The threat of such an event should, therefore, throw France into alliance with the over-sea powers, and France, Italy, Egypt, India, and Corea [sic] would become so many bridgeheads where the outside navies would support armies to compel the pivot allies to deploy land forces and prevent them from concentrating their whole strength on fleets.16

Notice Mackinder’s use of bridgeheads. This is a medieval military term that means more than a mere foothold or a beachhead; rather, it implies the construction of fortification on a strategic location at the far side of a river or waterway from which a defense or an offensive campaign might be mounted. The likely alliance between the foremost maritime power and such onshore bridgeheads became the core of Mackinder’s notion of containment.

**Mackinder’s Heartland and Strategic Geography**

Mackinder wrote *Democratic Ideals and Reality* (1919) in the aftermath of World War I. He used it to elaborate further his concept of the geographic pivot. He highlighted the fact that war on the eastern front between imperial Germany and tsarist Russia had created a strategic extension of the geographic pivot to the Baltic and Black Seas and the lands along their respective coastlines. According to Mackinder, two cities on the European continent were critical to projecting maritime power onto the heartland: Copenhagen and Constantinople.

The Islanders of the world cannot be indifferent to the fate either of Copenhagen or of Constantinople . . . for a great Power in the Heartland and East Europe could prepare, within the Baltic and Black Seas, for War on the Ocean. During the present War it has taken the whole naval strength of the Allies to hold the North Sea and the Eastern Mediterranean. An adequate submarine campaign, based on the Black Sea from the beginning of the War, would probably have given security to an army operating overland against the Suez Canal.17

Mackinder termed this redefined and enlarged pivot area—which included the Baltic and Black Seas—the Eurasian heartland.18

In *Democratic Ideals and Reality*, Mackinder mapped in greater detail the extent of the Black Sea littoral on the basis of its control by a territorial power, such as Russia, versus the boundaries of the heartland on the basis of access to the Black Sea from the Mediterranean by a naval power, such as Great Britain. According to Mackinder, the outcome of a heartland extending to the Baltic and Black Seas was possible as a result of what just had occurred: “When the
Dardanelles are closed by land-power to the sea-power of the Mediterranean, as they have been in the Great War [1914–18], that condition of things is in effect realised so far as human movements are concerned. Thus, when the Ottoman Empire closed the straits to the Black Sea, the Black Sea littoral and potentially the Danube River basin were at risk of falling prey to a territorial power. Russian policy makers long have sought control over the Bosphorus and the Dardanelles, and if those straits ever are conquered the heartland power could extend its influence over the entire Black Sea basin.

Mackinder sought to indicate how the European balance of power—in his mind, a necessity for the preservation of peace—might be reestablished by the delegates at the Versailles Peace Conference. Submerged non-German ethnic groups in the territories of imperial Germany and the Austro-Hungarian Empire would receive sovereign status. Mackinder stipulated that this “tier” of new European states falling between the basins of the Baltic and Black Seas should have sufficiently educated, wealthy, numerous, and unified populations to maintain their security. He recommended statehood for “the Poles, the Bohemians (Czechs and Slovaks), the Hungarians (Magyars), the South Slavs (Serbians, Croats, Romanians, and Slovenes), the Rumanians [sic], the Bulgarians, and the Greeks.” An accompanying map, titled “The Middle Tier of States between Germany and Russia,” suggested borders for two Baltic states, Estonia and Latvia, and called attention to the presence of Ukraine. However, he did not specify a border for Ukraine, thus rendering its status ambiguous. Mackinder’s goal was not merely to separate the Germans from the Russians but also to curb German power while limiting, for as long as possible, the interference of the heartland power (i.e., the Soviet Union) in Europe. To achieve this goal, Mackinder recommended that these newly independent states enter an alliance with the Western maritime powers, thereby restoring the European balance of power.

**Mackinder’s Sojourn in Ukraine and Its Aftermath**

Mackinder’s effort to contain the Soviet Union was not limited to mere intellectual exercises. After the publication of *Democratic Ideals and Reality*, he was appointed late in November 1919 the British high commissioner to South Russia, where an anti-Bolshevik (“White”) Russian force was based. In a letter from Foreign Secretary Earl Curzon appointing him, Mackinder was reminded that the situation there was “a notoriously complex, and temporarily insoluble, problem.” Specifically, in Curzon’s assessment of the armed conflict between the Bolshevik and anti-Bolshevik forces, “there is . . . no reason to conclude that the wheel of fortune has finally turned in favour of the Bolshevik armies and against their opponents.” However, Mackinder also was informed that “you will have, in all probability, to deal on arrival with a receding force.” In the midst of this uncertainty, Mackinder was charged with an unenviable task: “to elucidate [the
reasons] more fully” why the supply of British war material for the anti-Bolshevik forces would end on 31 March 1920. After that date, Britain was prepared to provide only advice and moral and political support. Finally, he was apprised that—although the British government had not formulated a definitive policy toward the newly founded states carved out of the territory of tsarist Russia—the desire of these communities for “a separate national existence” should be met, provided such independence was in accord with a final peace settlement.22

Before Mackinder arrived, the anti-Bolshevik forces led by General Anton Ivanovich Denikin managed to advance to within approximately 250 miles of Moscow, but by the time Mackinder reached Crimea to discuss Britain’s interest in the civil war Denikin’s armies had been defeated and forced to retreat south.23 After returning to Britain from his sojourn in Ukraine, Mackinder briefed Prime Minister David Lloyd George and the cabinet on 29 January 1920.24 In his formal report, Mackinder offered several recommendations for bolstering the finances and administration of the anti-Bolshevik war effort. Those proposals, which largely fall beyond the scope of this essay, sought to bolster the anti-Bolshevik forces without a further British commitment of finances or war materials.

Of paramount importance here are Mackinder’s geostrategic and geopolitical recommendations. According to Mackinder’s report,

[Denikin’s military forces] hope . . . to preserve as a base for future action a row of three relatively small territories, which they are seeking to defend by a war of position, namely: (1) the peninsula east of the Strait of Yenikali [i.e., Yenikale, the Kerch Strait], including the important port of Novorossisk, with a wide and fertile glacis in the Cossack country east of the Sea of Azov; (2) the peninsula of the Crimea south of the Isthmus of Perikop; and (3) the city and district of Odessa. Naturally, the question arises whether the Government of such a relatively small group of territories is worth supporting.25

In geostrategic terms, Mackinder insisted that “[t]he first military movement forward [by anti-Bolshevik forces] should be limited to an advance from the Odessa–Perikop direction to a line which would include the Donetz Basin. The wheat country which feeds Odessa would be recovered and . . . the coal of the Donetz Basin. If supplied with manufactured articles[,] the Kuban would in the meantime probably feed the whole area—Novorossisk, Crimea and Odessa.”26 The geography of this region deserves further elaboration. The Strait of Yenikale (or the Kerch Strait) connects the Sea of Azov to the Black Sea.27 The Isthmus of Perikop (or Perekop) is the narrow neck of land connecting the Crimean Peninsula to the rest of Ukraine. Odessa and Novorossisk (or Novorossiysk) are ports; the former is on the coast, to the west of Crimea, and the latter is on the northeastern coast of the Black Sea, situated not far from the Strait of Yenikale and the Kuban River region.

Mackinder coupled this geostrategic proposal with the belief that merely seizing territory from the Bolsheviks was insufficient. The militia needed to be
reorganized into a standard military. In addition, a formal administration needed to follow each military advance to consolidate areas won, impose order, and encourage the resumption of economic exchange. He noted that “[t]he exchange of goods has been so paralysed that the peasant will willingly sell neither grain for human food nor horses for the cavalry, and this Russian warfare is largely a matter of food and cavalry.” Mackinder’s goal was to “establish a contrast on the two sides of the defensive line, a contrast as it were between Heaven and Hell.” By emphasizing the sequencing of anti-Bolshevik military advance inland from the Baltic Sea coastline and the subsequent imposition of local and regional good governance, Mackinder was articulating a policy that today would be understood as counterinsurgency.

In making these geostrategic recommendations, Mackinder was bringing his maritime perspective on the Black Sea (as outlined in Democratic Ideals and Reality) to bear on the situation in southern Russia. His recommendation was tantamount to bolstering the White Russian regime along the Ukrainian coastline in locations where sea power—entering the Black Sea from the Mediterranean—could provide “naval and technical” support for the armed forces commanded by General Denikin. He highlighted the reasons for his support of the White Russians: “I must draw attention to the fact that Sevastopol in the hands of the Bolsheviks would, to say the least, be very inconvenient to us as a sea power in the Black Sea.”

Geopolitically, Mackinder also had a plan. Despite raising grave concerns about the possibility of communist revolutions in Transcaucasia, the loyalty of the Cossacks, and the overall effectiveness and leadership of the anti-Bolshevik cause, he urged the creation of a “Polish-Denikinite League of Governments.” To facilitate the creation of this anti-Bolshevik alliance among the borderlands of the Soviet Union, Mackinder secured a key territorial concession from General Denikin: the newly independent state of Poland’s “eastern frontier shall be determined on ethnographical grounds.” In discussions with Mackinder, Denikin had been adamant that such concessions would prejudice the formation of a unified Russia once the Bolsheviks were defeated. Yet, without this concession regarding the unification of the Polish irredenta with the Polish state, no alliance was possible. Furthermore, Mackinder believed that several new states should be brought into the Polish-Denikinite alliance: “The Baltic provinces, Georgia and Azerbaijan,” with Armenia and Daghestan also as possible members.

Mackinder wanted to establish a cordon sanitaire of secondary powers around the Russian cultural core that had fallen to the Bolsheviks. The Baltic States and Poland along the Baltic Sea formed the northern bulwark against the expansion of the Soviet Union—the post–World War I heartland power. The combination of Bulgaria, Romania, Ukraine’s coast with the Donetz (or Donets) Basin, the
Kuban region on the far side of the Sea of Azov, and Georgia along the Black Sea formed the southern bulwark. Insofar as a proposed alliance with Poland and the Baltic States might lead to coordinated campaigns against the Bolsheviks, that alliance might enable General Denikin to expand his bridgehead in Ukraine and once again threaten the Soviet regime from the south. For Mackinder, the three remaining Transcaucasia states—Daghestan, Azerbaijan, and Armenia—were an additional insurance policy, presumably to keep Soviet power at a distance from British interests in post–World War I northern Persia. In Mackinder’s understanding, these powers were “essential links in the chain confining the enemy.”31

Had his plan been implemented fully and had it succeeded, a geopolitical alliance stretching from the Gulf of Finland to the Black Sea would have opposed further Soviet expansion westward and provided a springboard from which—in Mackinder’s memorable phrase—the “new Russian Czardom of the proletariat” might have been swept into the dustbin of history.32 However, the Bolsheviks deployed brutal tactics to dominate disaffected local populations and thus defeat their opponents. They proceeded to conquer Ukraine and the Transcaucasia republics, incorporating their territory into the Soviet Union. Meanwhile, British prime minister Lloyd George and his cabinet were hard-pressed by war weariness and the expense of the Great War, and so they rejected Mackinder’s proposal. Soon thereafter, Mackinder resigned his commission.33

*Mackinder’s Final Thoughts on Maritime Power and the Heartland*

Despite this setback, Mackinder never abandoned his commitment to containing the power that occupied the Eurasian heartland. In his book written for a popular audience, *The World War and After* (1924), Mackinder advanced a counterfactual analysis that suggested the geopolitical consequence of a victory by imperial Germany in Western Europe: “Had the Eastern Empires succeeded in crushing the free peoples of Western Europe, a naval rivalry on the ocean between Imperial Europe and Republican America would have been inevitable. . . . The victory of the oceanic nations has brought it about that the line between east and west, between the continental and the oceanic nations, runs to-day along the Rhine and not through [the] Mid-Atlantic.”34

He also noted that, as of the early 1920s, Western Europe and the eastern United States were “physical complements to one another,” with approximately 90 percent of the world’s coal mined in these two regions bordering on the North Atlantic and approximately 90 percent of the world’s steel produced there as well. Maritime travel, transport, and undersea communications already tied the two regions together. He then claimed that “Western Europe and North America now constitute for many purposes a single community of nations. That fact was first fully revealed when American and Canadian armies crossed the Atlantic to
fight in France during the Great War.” The importance of these economic and cultural changes for geopolitical developments could not be overestimated.

Given the emergence of the North Atlantic community of nations, Mackinder, in his final essay, addressed how this community should defend itself. What should be the geostrategic principle for North Atlantic defense, and against which power? In “The Round World and the Winning of the Peace,” published in 1943, Mackinder recapitulated his arguments about the nature of the Eurasian heartland that Germany once again, almost, had conquered. Although he did not envision an end to the alliance of Western powers with the Soviet Union in the aftermath of World War II, he did recognize the danger that the Soviet Union, as the post–World War II occupant of the heartland, presented: “All things considered, the conclusion is unavoidable that if the Soviet Union emerges from this war [i.e., World War II] as conqueror of Germany, she must rank as the greatest land Power on the globe. Moreover, she will be the Power in the strategically strongest defensive position. The Heartland is the greatest natural fortress on earth.”

To meet the dangers of the post–World War II era, Mackinder argued for a “Grand Strategy” that relied geographically on what he called the Midland Ocean of North Atlantic powers. This alliance would rest on the following: “a bridgehead in France, a moated aerodrome in Britain, and a reserve of trained manpower, agriculture and industries in the eastern United States and Canada. So far as war-potential goes, both the United States and Canada are Atlantic countries, and since instant land-warfare is in view, both the bridgehead and the moated aerodrome are essential to amphibious power.”

Britain, as Mackinder must have realized, was no longer the dominant maritime power. Instead, its role in a North Atlantic alliance was characterized as that of an aerodrome, or a stationary aircraft carrier, off the European coast. France was to be the bridgehead—a spatial function that was reestablished on D-day with the Allied Expeditionary Force landing at Normandy—and Canada and the United States together were to be a strategic reserve of resources, agricultural and industrial production, and population. Curiously, Mackinder, within four years of his death, did not identify the United States explicitly—in this final essay on the heartland thesis—as the power that had assumed the thalassocratic responsibility for keeping the sea-lanes open and for containing the power occupying the heartland.

Bridgeheads and Confining the Enemy
Mackinder’s geostrategic logic informed his lifelong commitment to containing the extent of the control of powers that occupied the Eurasian heartland. Whether it was tsarist Russia, imperial Germany, Nazi Germany, or the Soviet Union,
he feared that as the heartland was organized and exploited more effectively, an occupying power eventually would secure the necessary resources, experience a decisive growth in population, and gain the resultant strength to alter the balance of power in its favor. In his 1904 essay, “The Geographical Pivot of History,” he highlighted how the building of the Trans-Siberian Railway began this process. The prospect that the heartland power would mobilize its resources to build a large enough fleet to threaten the dominant maritime power—which during most of his lifetime was Great Britain—amplified his concern. How to disrupt or forestall that possibility informed his geostrategic analyses.

Mackinder recommended (in “The Geographical Pivot”) that Britain form alliances with a number of countries encircling the Eurasian heartland—that is, bridgeheads. In the immediate aftermath of World War I, when it appeared that the entire European world might undergo reconstruction, Mackinder called (in Democratic Ideals and Reality) for an alliance along a line of newly independent Eastern European states with the Western European maritime powers. These new states—an anchored along the Baltic and the Black Seas—would serve to limit Germany’s power and keep the Soviet Union from exercising a deleterious influence in Europe. During World War II—when Mackinder remained worried about a postwar German resurgence—he conceptualized a North Atlantic alliance in which the power of the North American states was mobilized on behalf of Western European maritime powers, with Great Britain functioning as an offshore aircraft carrier and France as the European bridgehead. The details of establishing onshore bridgeheads to distract the power occupying the heartland or establishing forward positioning to confine a heartland power to its territorial base depended on the geopolitical circumstances of the moment.

In his 1920 “Report . . . on the Situation in South Russia,” Mackinder directly addressed the importance of geostrategy. His report was not entitled “General Denikin’s Situation,” although he addressed the issue of the anti-Bolshevik leadership. Given the sensitivity of the demands for national autonomy by the ethnic groups living along the Russian periphery, his report was not entitled “The Ukrainian Situation.” In fact, Curzon, in his appointment letter to Mackinder, noted a significant feature of the emergence of Ukrainian national sentiment amid the civil war and the associated popular support for the rival Ukrainian government that was competing with Denikin’s: “It is generally believed that the so-called Ukrainian Government does not command much popular support, a conclusion which is borne out by the rapid success of the volunteer army in the territory which the Ukrainians claimed as strongly Nationalist. General Denikin has therefore always treated the Ukrainian Government as hostile to United Russia.”

Denikin, the Russian nationalist, opposed all demands for national autonomy—including, presumably, Ukrainian demands—and Mackinder recognized
this constraint. Accordingly, Mackinder offered the following assessment in his report: “There might also result, I would point out incidentally, something in the nature of a Federal System, since the part of Russia first reorganised would coincide with the Ukraine, in the large sense, and the Cossack territory. But such federal projects should not be spoken of publicly in England. They will be realised, I think, but at present they merely tend to divide Denikin’s supporters.”40 Therefore, Mackinder chose in the title to highlight “South Russia” as a Black Sea bridgehead.

He emphasized that an alliance in southern Russia among General Denikin, Poland, the Baltic countries, and potentially the other newly independent Eastern European and Transcaucasia states might lead ultimately to a defeat of the Bolsheviks. He insisted that, until then, this alliance would create an essential territorial chain to confine the Soviet Union—the power then threatening to establish an uncontested occupation of the Eurasian heartland. In the meantime, Denikin might be able to reconquer the industrial Donbas region, thereby keeping the Bolsheviks at a distance from the Black Sea littoral.

A MACKINDERITE ANALYSIS OF THE UKRAINE CRISIS

Were Mackinder alive today, what policy recommendations would he make to NATO and the United States regarding the war between Russia and Ukraine? Such questions cannot be answered with any degree of precision. Why? In the immediate aftermath of World War I, Mackinder insisted that the fluidity of circumstances allowed for international reconstruction, as the subtitle of his 1919 book (A Study in the Politics of Reconstruction) suggests. As high commissioner to South Russia, Mackinder attempted to address the question he raised at the beginning of Democratic Ideals and Reality: “Is it possible for us so to grade the stream bed of future history as that there shall be no more cataracts?”41 The subsequent White Russian military failures, coupled with British financial and political exhaustion, nullified Mackinder’s attempts to advance a geographically informed containment policy.

In today’s crisis, Mackinder probably would make two points suggesting caution. First, he would indicate that the moment for a decisive intervention in Russian affairs and in its near abroad passed long ago. Russia is—to use an expression that Mackinder deployed frequently—“a going concern”; the term suggests that the Russian Federation has “social momentum,” or directionality of purpose and acceleration in reaching that goal.42 President Vladimir V. Putin seeks to restore Russian imperial greatness by reincorporating breakaway territories in a Eurasian Union.43 In advance of Putin’s recent attack on Ukraine, nothing short of direct NATO involvement with troops on the ground or a massive infusion of advanced weaponry coupled with appropriate training might have deterred Russia from invading Ukraine. Second, because Mackinder was acutely aware
of how new technologies transform geopolitics and geostrategy, he might have recommended prudence, given Putin's repeated threat to use nuclear weapons against Ukraine and NATO powers. If Ukraine, backed by NATO (including U.S.) weaponry, should threaten to expel Russia from Ukrainian territory, Putin might calculate that using tactical nuclear weapons to destroy Ukraine's economy and society completely would be preferable to the domestic political consequences likely to follow a military defeat. Given Mackinder's concern for changed military technology and his awareness of "social momentum," he probably would regard Western calls for regime change in Moscow as extremely provocative and dangerous.

Even if policy recommendations cannot be inferred from his writings with a high degree of certainty, a Mackinderite analysis of the current conflict seems possible on the basis of his geostrategic logic. In fact, Mackinder believed that his geographic analysis provided a transhistorical method to assess changes in the balance of power. "The actual balance of political power at any given time is, of course, the product, on the one hand, of geographical conditions, both economic and strategic, and, on the other hand, of the relative number, virility, equipment, and organization of the competing peoples. . . . And the geographical quantities in the calculation are more measurable and more nearly constant than the human. Hence[,] we should expect to find our formula apply equally to past history and to present politics." He summarized this point by stating, "My aim is not to predict a great future for this or that country, but to make a geographical formula into which you could fit any political balance." The political occupant of the heartland may change—it is an ephemeral factor—but the geography as a determinant of the balance of power is more enduring. It is in the spirit of these remarks that the following Mackinderite analysis of the current Ukrainian crisis is presented.

In the current situation, a Mackinderite assessment would highlight how President Putin is implementing the territorial geostrategic logic from his particular heartland perspective. Territorial powers generally seek to make neighboring states either clients or buffers that could slow down and perhaps stall a conventional enemy attack before it reached the heartland power's cultural and demographic core area. With the formation of the Warsaw Pact in 1955, the Soviet Union formalized its relationship with several conquered satellite states in Central and Eastern Europe. In 1991, the Soviet Union imploded, and Russia lost its status as a great power. The Warsaw Pact countries embarked on destinies independent of that of the Soviet Union, and the Baltic States, Belarus, and Ukraine secured independence. Without control of Ukraine, Russia remains a secondary power that has only two significant sources of strength: a large stockpile of nuclear weapons and vast deposits of oil and natural gas, the latter of which it uses as an economic weapon to attempt to bend the energy-dependent European states to its will.
The heartland geostrategic perspective of the Russian Federation dictates domination of Ukraine. Securing control over Ukrainian industrial and agricultural productivity serves Russian interests; it is perceived as critical to reversing Russia’s decline as a great power. National pride requires reunification with Russian minorities living in the near abroad, such as across the border in Ukraine. A similar justification for intimidation and invasion eventually might be leveled at the Baltic States, which also have large Russian minority populations. The Russian government fears that sometime in the future Ukraine will join NATO. NATO's relentless eastward expansion prompts Russian policy makers to redress a situation that—despite NATO's claims to being a purely defensive alliance—presents Russia with the possibility of a two-front war: a northern front with Poland and the Baltic States and a southern front with Ukraine. Russians offer several reasons for their aggression against Ukraine: their fear of NATO, a desire to restore their country's great-power status, a belief that Ukrainians are in fact Russians and would welcome reincorporation but for the influence in Ukraine of a Nazi regime, and, perhaps, a geostrategic and geoeconomic interest in dominating their neighbors.

In contrast, Russian aggression and Ukraine's resistance have strengthened NATO's resolve and prompted Sweden and Finland to apply for membership in NATO. Should Sweden and Finland ultimately join NATO, Russian concern over the threat that NATO might pose to Russia will be exacerbated, particularly because Finland's entrance into NATO represents a third potential military front for Moscow. NATO must weigh the risk involved against the potential geopolitical advantages. With Sweden and Finland as members, the Gulf of Bothnia and most of the Gulf of Finland also fall into NATO's ambit. The Baltic Sea becomes almost entirely a NATO lake. The Russian naval base at Kaliningrad is suddenly at risk because it is surrounded by Poland and Lithuania—NATO allies—and potentially cut off by sea from Saint Petersburg. This NATO expansion aligns strongly with a Mackinderite maritime geostrategic logic.

Because Mackinder’s geostrategy rests on a geographic distinction between maritime and territorial powers, his understanding of containment differs fundamentally from Kennan’s. In 1997, the Czech Republic, Hungary, and Poland were under NATO membership consideration, but Kennan opposed NATO expansion. He insisted that expanding NATO would be the most fateful error of American policy in the entire post-cold-war era.

Such a decision may be expected to inflame the nationalistic, anti-Western and militaristic tendencies in Russian opinion; to have an adverse effect on the development of Russian democracy; to restore the atmosphere of the cold war to East-West relations; and to impel Russian foreign policy in directions decidedly not to our liking.
Kennan remained concerned with the psychology of Russian international policy makers. After the Soviet Union imploded, containment, for Kennan, was no longer desirable. Kennan's initial approach to containment was aspatial and reactive and rested on military means; therefore, he could question the policy of containment in 1997. In contrast, Mackinder's theory of containment was proactive, prioritized location, and recognized the utility of military force in achieving political ends—therefore, his geostrategic logic has applicability to our current circumstances.

From his theoretical work on the Eurasian heartland and his diplomatic mission to one of the bases of the anti-Bolshevik forces in 1919–20, Mackinder developed a firm appreciation for the strategic importance of the Crimean Peninsula, the nearby seaports, and the industrial and agricultural regions in their vicinity. From this potential bridgehead on the Black Sea, he thought it might have been possible to forge an alliance with the anti-Bolshevik forces situated in Poland and newly independent states along the Baltic Sea, and eventually to confine the power of the Soviet communists. With Lloyd George's decision in 1920 to end support for the anti-Bolshevik forces, that geopolitical opportunity passed. Yet Mackinder's territorial and maritime geostrategic logics enable us to assess why Ukraine remains a geopolitical flash point along the littoral of the Eurasian heartland.

If, by the end of the current campaign in Ukraine, Russia secures recognition of its control over the naval port of Sevastopol and the Crimean Peninsula, the land bridge to Crimea, the Black Sea littoral out to Odessa and beyond to Moldova, and the industrial base in the Donbas of eastern Ukraine, then in a number of years—after its military has been rebuilt—Russia may take the next step. It may attempt to gain control over all Ukraine or present NATO with a fait accompli by seizing control over the Baltic States, which lack the strategic depth for defense that Ukraine has. A successful, lightning-fast invasion of these NATO allies would present NATO policy makers with the choice of engaging in a direct confrontation with a nuclear power or suffering a defeat that could break the alliance. If Russia gains a greater naval presence on the Black Sea or Baltic Sea, the prospect for the heartland power to turn NATO's flank by virtue of access to the eastern Mediterranean or the North Sea cannot be dismissed.

Mackinderite analysis rests on an imperative of checking the territorial power—either alone or in alliance—occupying the heartland. The elements of Mackinderite maritime geostrategic perspective endure, and they are as follows: onshore bridgeheads, offshore (island) aerodromes and military bases, maritime denial of threatened seas, and the United States reestablished as a thalassocracy. Today, what that means is a strategy of containment that is designed to forestall Russia—in alignment with China—from becoming an amphibious power.
for as long as the Eurasian heartland remains relatively impervious to the operations of naval power, the clash of maritime and territorial imperatives will produce geopolitical flash points emblematic of a cold war.\(^6\)

However, the United States must deal with several geopolitical flash points beyond the Baltic and Black Seas. China is exploiting its frontage on the Pacific Ocean to challenge American naval power. With Russia and China deepening their strategic alignment, the United States is presented with the prospect of a multifront war.\(^6\) Former Deputy Assistant Secretary of Defense for Strategy and Force Development Elbridge A. Colby has suggested that the United States strengthen alliances with states along the South and East China Seas.\(^6\) Meanwhile, the United States and NATO should continue to create and equip a territorial force in Ukraine—a “continental sword” sufficient to degrade the Russian war machine such that many years must pass before it can threaten NATO allies.\(^6\) Such a development would give the United States an opportunity to turn its attention to other geopolitical flash points—such as the Taiwan Strait—without having to worry about Russia launching a revanchist war simultaneously with a Chinese war against Taiwan.\(^6\)

**NOTES**

The authors wish to thank Paul Rahe for his encouragement, John Mearsheimer for providing an outline for a book, Brian Blouet for confirming the location of the Strait of Yenikali (Yenikale), and the many speakers at the recent Mackinder Forum online seminars who have discussed the Ukraine war. Leonard Hochberg thanks the participants in the Liberty Fund Socratic Seminar (held 10–11 March 2022) devoted to the thought of Halford John Mackinder. Any mistakes remain our own.


John J. Mearsheimer also references George Kennan’s opposition to NATO expansion: “Why the Ukraine Crisis Is the West’s Fault: The Liberal Delusions That Provoked Putin,” Foreign Affairs 93, no. 5 (September/October 2014), pp. 77–89.


13. Crucial documents may be found here: Earl Curzon to Mr. Mackinder, November 1919,


18. Ibid., p. 135, fig. 24. For a map depicting the geographic extent of the pivot versus the strategic heartland see Megoran and Sharapova, Central Asia in International Relations, p. 2, fig. 1, and “Halford Mackinder’s Pivot in 1904 and 1919," fig. 1 in Eldar Ismailov and Vladimir Papava, Rethinking Central Eurasia (Washington, DC: Central Asia–Caucasus Institute & Silk Road Studies Program, 2010), p. 87, available at www.researchgate.net/.


20. Ibid., p. 206, and p. 207, fig. 31.


22. Curzon to Mackinder, November 1919, pp. 672–74, 676.

23. Given these constraints, was Mackinder’s mission doomed to fail? Historians disagree on the timing of British disillusionment with the efforts of the White Russian armies. Bradley, Allied Intervention in Russia, pp. 164–65, argues that “[b]y November 1919 the British became convinced that General Denikin and his volunteers could not win the civil war and began to draw logical conclusions from this finding. . . . Mackinder’s appointment was in fact that of the liquidator.” On the other hand, Kenez, in Civil War in South Russia, p. 208, claims that “[i]n January and February 1920 the Whites still had substantial territory and possessed sizable forces, but their fighting spirit was broken, and friend and foe alike sensed that the end of the Volunteer Army’s struggle was near.”

24. Sloan, Geopolitics, Geography and Strategic History, p. 74. See also Blouet, Halford Mackinder, pp. 172–77; Parker, Mackinder, pp. 168–72; and Kearns, Geopolitics and Empire, pp. 194–222.


26. Ibid., p. 782.

29. Ibid., pp. 784, 786.
30. Ibid., pp. 772, 786.
31. Ibid., p. 784.
32. Ibid., p. 779.
33. On 16 March 1921, Soviet Russia and the British government signed a trade agreement. According to Geoffrey Sloan, this policy initiative “was based on the deeply flawed assumption that the best way to achieve a lasting peace on the European continent was to try and integrate the Soviet Union into the family of European states. . . . [T]his agreement did little to ameliorate the ideological hostility that was directed towards the west.” See Sloan, Geopolitics, Geography and Strategic History, p. 75.
35. Ibid.
37. Ibid., pp. 603, 604.
41. Mackinder, Democratic Ideas and Reality, p. 2.
42. Ibid., pp. 10, 14.
44. Spengler [David Goldman], “Cardinal Richelieu Explains Vladimir Putin,” Asia Times, 2 April 2022, asiatimes.com/.
47. Mankoff, Empires of Eurasia, pp. 16–79.
49. The two paragraphs above summarize some key points found in Hochberg and Hochberg, “Tragedy, National Insecurity, and War in Ukraine.”
50. Jared Malsin and Sune Engel Rasmussen, “Turkey’s President Approves Finland’s NATO Membership Bid,” Wall Street Journal, 17 March 2023, www.wsj.com/. As of this writing, Finland’s accession to NATO was not yet complete.
51. One further development has occurred regarding the Baltic Sea, as demonstrated in Sune Engel Rasmussen, “Denmark Votes to Deepen Military Cooperation with EU amid Ukraine War,” Wall Street Journal, 1 June 2022, www.wsj.com/.
52. This passage was written before 17 June 2022, when Lithuanian authorities announced the implementation of a ban imposed on the movement of goods to Kaliningrad. Andrius Sytas, “Kaliningrad Sanctions to Take Effect, Lithuania Says,” Reuters, 18 June 2022, www.reuters.com/.
53. In an assessment of the advantages of Sweden and Finland joining NATO, the impact of their membership on the Arctic Sea must not be overlooked. See Arthur Herman, “Sweden and Finland Will Help NATO Counter Russia in the Arctic,” Wall Street Journal, 9 June 2022, www.wsj.com/.
55. Was Kennan familiar with Mackinder’s work in the period prior to 1946–47? Kennan, in Memoirs: 1925–1950 (Boston: Little, Brown, 1967), p. 308, states that, while he was in residence at the National War College, he and his colleagues “had the admirable compilation Makers of Modern Strategy, edited by
E. M. Earle to draw on; and in my own case, at least, this proved invaluable. But it was obvious that in no instance was the thinking of these earlier figures fully relevant or remotely adequate to the needs of a great American democracy in the atomic age.” The contributors to *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler* (Princeton, NJ: Princeton Univ. Press, 1944) mentioned Mackinder in passing (pp. 148, 391, 452, 515) and discussed his thought in three brief passages (pp. 390, 404–405, and 444–45). In addition, Giles D. Harlow and George C. Maerz, in the introduction to their edited volume, *Measures Short of War: The George F. Kennan Lectures at the National War College, 1946–47* (Washington, DC: National Defense Univ. Press, 1991), p. xx, claim that Kennan, while in residence at the National War College, “became involved in the study of Clausewitz, Mackinder, and other classical military strategists.” Francis P. Sempa notes that Kennan read Earle’s edited volume *Makers of Modern Strategy* in the mid-1940s, a volume that “included essays on Clausewitz, Jomini, Mahan and Mackinderesque geopolitics.” See Sempa’s “Kennan’s ‘Measures Short of War’ Applied to U.S.-China Cold War,” *RealClearDefense*, 22 July 2021, www.realcleardefense.com/. Colin Gray, in “Keeping the Soviets Landlocked: Gestrategy for a Maritime America,” *National Interest*, no. 4 (Summer 1986), pp. 24–36, insists that “Mackinder was the intellectual father of the U.S. policy of containment.” On the other hand, David Mayers, in *George Kennan and the Dilemmas of US Foreign Policy* (New York: Oxford Univ. Press, 1988), p. 130, opines that “Kennan’s views in 1947 about America’s place in the world were unclear and unfinished. Although he had long agreed with Halford Mackinder, whom he studied, that geography was an aid to statecraft, it was not until [Walter] Lippmann prodded him [in 1947] that Kennan began really to grapple with the questions of what constituted power and how foreign centers of power related to US security.” Mayers does not cite a source indicating that Kennan actually “studied” Mackinder or how he deployed Mackinder’s geostategic thought prior to Lippmann’s critique of “The Sources of Soviet Conduct.” Commentators have argued that after Kennan left the State Department his work incorporated some of Mackinder’s perspectives.

For instance, Richard L. Russell in *George F. Kennan’s Strategic Thought: The Making of an American Political Realist* (Westport, CT: Praeger, 1999) quotes a Mackinderite analysis on page 52 that originally appeared in George F. Kennan, *Realities of American Foreign Policy* (Princeton, NJ: Princeton Univ. Press, 1954), p. 65; similarly, Geoffrey Sloan in *Geopolitics, Geography and Strategic History*, p. 160, quotes a lecture Kennan delivered at the University of Chicago in 1951, in which there was a passage with—in Sloan’s words—“a close congruence to the . . . Heartland Theory.” Both Russell and Sloan reference materials that suggest Kennan’s familiarity with Mackinder’s theory, but the materials they cite were published or presented after the appearance of the “Long Telegram” and “The Sources of Soviet Conduct.” For a summary of the columns appearing in 1947 in the *New York Herald Tribune*, see Walter Lippmann, “The Cold War,” *Foreign Affairs* 65, no. 4 (Spring 1987), pp. 869–84. In the final analysis, although some of Kennan’s thoughts appearing in the 1950s were congruent with Mackinder’s ideas, there is scant evidence that Mackinder’s geostategic thinking influenced Kennan’s assessment in the three critical documents: “Long Telegram,” “The Sources of Soviet Conduct,” and the 1997 *New York Times* op-ed column, “A Fateful Error.”


60. Stephen Kotkin makes a similar point using the Russian war with Finland, the Korean War, and the Ukraine crisis in “The Cold War Never Ended: Ukraine, the China Challenge, and the Revival of the West,” Foreign Affairs 101, no. 3 (May/June 2022), pp. 64–68.


On the night of 27–28 October 1962, an American antisubmarine warfare (ASW) carrier task force that included multiple destroyers compelled a Soviet diesel-electric submarine (designated B-59) to come to the surface in the Sargasso Sea outside the quarantine line during the Cuban missile crisis. B-59 had been tracked by the destroyers and aircraft flying overhead, and it was directed to surface by loud sound signals produced from the destroyers’ ultrahigh-amplitude sonar equipment and by the detonations of harmless “practice depth charges” (PDCs) dropped in repeated series. The submarine’s captain, Valentin Savitsky, eventually brought his vessel to the surface because of a shortage of both power and breathable air. The incident ended peacefully and passed relatively unnoticed by history for four decades.

But in 2002, on the occasion of an anniversary conference on the lessons of the missile crisis, the Western public first learned that B-59 carried a nuclear torpedo and that in a moment of panic below the surface, Savitsky briefly had considered firing the atomic weapon at his American pursuers in retaliation for their harassment of his vessel from above. At this critical juncture, other Soviet naval officers on board who had kept their heads, including a man named Vasily Arkhipov, managed to calm Savitsky down. Ultimately, no torpedo was fired, and the vessel
subsequently was brought to the surface amid a crowd of USN destroyers and ASW aircraft. Shocked conference commentators and members of the news media in 2002 quickly awarded the cool-headed Arkhipov the title “the man who saved the world.” This dramatic story of below-the-surface heroism suddenly became epic in world history, and some later historians would perceive it as an almost-miraculous stroke of luck as the world teetered on the brink of a potential World War III.

However, subsequent reports soon would reveal that there was yet a second shocking drama to come—this time above the surface—and it curiously would mirror the first Savitsky-Arkhipov face-off. B-59’s below-surface episode occupied a four-hour interval that began at 4:59 PM on Saturday afternoon, 27 October, when an American ASW destroyer dropped a sequence of five PDCs above the submarine. The U.S. State Department had announced this signaling practice both to the Soviet Union and to the rest of the shipping world several days before. The below-surface events ended just short of four hours later at 8:52 PM when the submarine finally rose into the night air and started the second, above-surface phase of the drama, which lasted for a shorter but less-well-defined period of a few hours thereafter—most likely ending well before midnight the same day. During this further episode, while Savitsky and Arkhipov were standing outside on B-59’s conning tower, the captain once again was seized by panic and called for deployment of his atomic weapon, but for a second time Arkhipov was there to restore calm, as will be recounted later in this article.

The two sets of dramatic revelations have been explored in nine scholarly books and papers over the two decades that followed the 2002 anniversary conference. The expanding B-59 story has become one of the more widely recognized cautionary tales about the escalatory risks posed by nuclear weapons. Yet these nine analyses also have provided an array of noticeably divergent eyewitness accounts and exposed numerous unexplained factual gaps and contradictions on key points. These problems have been especially notable for the contrasting testimonies of the American and Soviet naval participants. Many of the U.S. servicemembers created individual, contemporaneous, written logs and narratives of what they did and observed, while their Russian counterparts executing Operation ANADYR mainly have come forward decades after the fact with only their unaided recollections.

This article will provide a first comprehensive assessment of the many conflicts and contradictions that emerge from a close reading of the nine published accounts of the B-59/ASW unit confrontation. The assessment leads to two main conclusions: first, that despite the conscientious efforts of multiple thoughtful scholars, there remains insufficient credible evidence to anoint any participant in the B-59 incident “the man who saved the world”; and second, that there is no substantial basis for the assertion that the peaceful conclusion of this naval confrontation should be attributed to good luck.
2002, PETER A. HUCHTHAUSEN, OCTOBER FURY
Two major accounts of the B-59 saga were published in 2002; Huchthausen’s October Fury was the first, but only by a matter of months. Huchthausen briefly mentioned the below-surface events experienced by the submarine’s officers and crew on 27 October 1962.

The USS Cony began to drop practice depth charges, in accordance with the U.S. notice to mariners. Savitsky had received the notice on the submarine broadcast two days earlier.

The first contact with the hunter-killer group was at about ten in the morning, and by four the next morning the Russians were practically suffocating and had thrown in the towel. After nearly a day of those simulated attacks, Savitsky was finally forced to surface amid his hunters to charge batteries. Savitsky surfaced slowly and carefully on the prescribed easterly course; there was little else they could do. They were heavily outnumbered by ships and aircraft.

Huchthausen did not mention any hostile actions by ASW aircraft; he wrote only that a P2V Neptune surveillance aircraft “suddenly swooped out of the darkness and dropped several small incendiary devices, presumably to activate its photoelectric camera lenses.” This led to an unsettling incident that subsequently would be described in greater detail by Gary Slaughter (see below) in which B-59 “wheeled” toward Cony, “unmask[ed] her forward torpedo tubes and looked about ready to launch,” drawing an immediate apology from Cony’s captain, which defused the incident.

Huchthausen also mentioned a minor, innocent incident that occurred the next morning while the Soviet submarine was moving on the surface that caused the sub’s captain to become fearful.

The next morning Savitsky permitted his signalmen to ask Cony for bread and cigarettes. The destroyer moved in to about eighty feet alongside the submarine to set up a light line transfer. Then Cony’s bosun’s mates fired a shot line to the sail of the submarine (the shot line is fired from what appears like a sawed-off shotgun, which projects a weighted “monkeyfist” which is made up to another line, a considerable distance). When the bosun fired the line gun the Russians in the sail cockpit ducked and scampered below. They thought the Americans had opened fire on them. When the Russians realized what Cony was trying to do, they settled down.

Huchthausen relied in part on an interview from 5 October 2000 with Vadim Orlov, who had served as B-59’s communications intelligence officer. Orlov’s interview apparently had provided no indication that there were any tense moments between B-59 and the American warships either before or after B-59 surfaced. He talked about his initial difficulty in identifying the correct name of the American aircraft carrier of which his communications team had become aware while below
the surface by intercepting “carrier radio call signs and the pilots’ chatter as they
launched and landed aboard.” Orlov told Huchthausen that as soon as B-59 sur-
faced, “Savitsky realized they were not in a state of war.” He also described how the
American sailors seemed “good-natured” as “a jazz band paraded” on a destroyer’s
torpedo deck. The “whole scene” appeared to him to be “comical.”

Two years later, however, Orlov would provide a remarkably different version of the event.

2002, WILLIAM BURR AND THOMAS S. BLANTON,
“THE SUBMARINES OF OCTOBER: U.S. AND SOVIET NAVAL
ENCOUNTERS DURING THE CUBAN MISSILE CRISIS”

This second published analysis of the B-59 incident, prepared by George Wash-
ington University’s National Security Archive, drew heavily on Orlov’s first-person
account, amplified by new revelations from him, which dealt mainly with events
that occurred while B-59 still was submerged and being hounded by the U.S. Navy’s
ASW task force directly above. Orlov’s undated statement bearing the title “Recol-
clections of Vadim Orlov (USSR Submarine B-59): We Will Sink Them All, but We
Will Not Disgrace Our Navy” was included in an account written by Aleksandr
Mozgovoy and published in Moscow in 2002. Orlov described a chaotic scene
below the surface as B-59’s captain and crew began to succumb to stifling condi-
tions that were growing steadily worse in the trapped submarine. Referring to the
PDCs being dropped by the USN destroyers overhead, Orlov stated the following:

We were suffering like this for about four hours. The Americans hit us with something
stronger than the grenades [depth charges]—apparently with a practical depth bomb.
We thought—that’s it—the end. After this attack, the totally exhausted Savitsky, who
in addition to everything, was not able to establish connection with the General Staff,
became furious. He summoned the officer who was assigned to the nuclear torpedo,
and ordered him to assemble it to battle readiness. “Maybe the war has already started
up there, while we were doing summersaults here[”]—screamed emotional Valentin
Grigorievich [Savitsky], trying to justify his order. “We’re going to blast them now! We
will die, but we will sink them all—we will not disgrace our Navylv” But we did not fire
the nuclear torpedo—Savitsky was able to rein in his wrath. After consulting with Sec-
ond Captain Vasili Alexandrovich Arkhipov [deceased] and Deputy political officer
Ivan Semenovich Maslennikov, he made the decision to come to the surface.

The captain’s outburst suggesting a determination to “blast them” with a
nuclear torpedo was certainly alarming. But did Savitsky seriously consider firing
the nuclear torpedo at an aircraft overhead or a nearby destroyer, as opposed to
simply giving vent to an outburst of anger and frustration? The latter interpreta-
tion seems more probable given the certain, simultaneous self-annihilation that
use of a nuclear weapon against such a nearby target would have meant for B-59
and its crew. And there is some fragmentary evidence that it was indeed a nearby
destroyer that was the subject of Savitsky’s outburst in his moment of panic and frustration.\textsuperscript{14}

It is also noteworthy that Orlov’s first recorded recollection of Savitsky’s seemingly unhinged order was that the torpedo should be “assembled” rather than “placed” or “loaded” in the firing tube. Does this indicate that the nuclear warhead actually may have been stored in the submarine separately from the torpedo body so that it needed time-consuming assembly or coupling to a torpedo body before use? There is some suggestion in the technical literature that this may have been so.\textsuperscript{15} But if assembly was necessary, how long would this operation have taken to accomplish? Aboard $B-59$, was the assembly order actually carried out, and if so who performed the task? Orlov’s account published by Mozgovoy did not provide answers to any of these questions. Orlov concluded his Mozgovoy narrative by detailing Arkhipov’s timely counsel, aided by $B-59$’s political officer Maslennikov, “rein[ing] in” Savitsky’s wrath and getting the captain to reverse his panicked order.

The “Submarines of October” editors did not resolve directly the timing question of when the nuclear torpedo actually had been “placed” or “loaded” into a tube (much less “assembled”) for possible later firing. Regarding both questions, however, Burr and Blanton introduced a seed of doubt: “Orlov’s description of the order to assemble the nuclear torpedo is controversial and the other submarine commanders do not believe that . . . Savitsky would have made such a command.”\textsuperscript{16} Despite these important reservations, the public readily accepted the later Orlov rendition of Arkhipov’s heroism in persuading Savitsky to desist from his Armageddon plan and adopted the shocking image of the world being saved at the very brink of nuclear catastrophe.\textsuperscript{17} In 2012, the Arkhipov story was featured in a PBS documentary entitled “The Man Who Saved the World.”\textsuperscript{18}

Helpfully, Burr and Blanton’s paper also provided links to USN destroyer deck logs and naval aircraft pilot narratives covering the periods when $B-59$ was submerged and after it surfaced. These logs and narratives provide a contemporaneous, detailed record of key events during the night of 27–28 October 1962. The following excerpts are from USS Beale’s deck logbook for 27–28 October:


. . . [8:50 PM] Submarine, identified as USSR type “FOXTROT[,]” surfaced at [location coordinates] on easterly course, slow speed. [8:52 PM] Aircraft commenced illumination and photographic runs on submarine. . . . [10:00 PM] Commenced approach from astern of submarine for close-in photo run. Maneuvering to pass 500 yards on parallel course. Commenced illuminating with 24 [inch] searchlight and aircraft searchlights.

. . .
Aircraft from the USS RANDOLPH (CVS-15) are illuminating and photographing the submarine.

The following excerpts are from USS Cony’s deck logbook for 27–28 October:

27 October, 5:29 PM: “Challenged submarine contact by dropping five (5) hand grenades.”
8:52 PM: “Submarine surfaced.”
10:27 PM: “Passed submarine 100 yards to starboard for better identification.”
11:08 PM: “Maneuvering to remain within 3000 yards.”

Previously, on 24 October 1962, the U.S. Naval Oceanographic Office had transmitted a special notice to mariners (NOTMAR), 45-62, directed “to all ships and stations” and “placed it on the international warning lists for all countries to copy.” The NOTMAR specified the submarine surfacing and identification procedures (SSIPs) that would be used in conjunction with the naval quarantine of Cuba. The SSIPs included the following steps: “Quarantine Forces will drop four or five harmless explosive sound signals which may be accompanied by the international code signal quote IDKCA unquote meaning quote Rise to Surface unquote. . . . Submerged submarines, on hearing this signal, should surface on Easterly course.”

It is important to note that the two separate drops of five “hand grenades” mentioned in the Beale and Cony logs—with the Cony series dropped approximately a half hour after the Beale series—demonstrate that each destroyer was observing the precise instruction for the number of PDCs (five grenades) to be dropped as spelled out in the SSIP transmitted by the NOTMAR. Also, the deck logs confirm the equally noteworthy fact that B-59 did not surface immediately after Cony dropped the second round of grenades at 5:29 PM but waited a further three hours and twenty-three minutes before doing so, at 8:52 PM.

The Burr and Blanton paper also contained in its annex the official postaction “narratives” written by three of the Tracker aircraft pilots who participated in the surveillance of B-59 on 27 October 1962: Commander L. M. Millsaps, the executive officer of Tracker aircraft squadron VS-36 assigned to the carrier USS Randolph, who launched his Tracker at 4:35 AM; Lieutenant Commander James L. Miller of Randolph’s Tracker squadron VS-26, who launched his aircraft at 7:00 PM; and Commander John F. Gillooly, flight leader of Tracker squadron VS-26, who launched his aircraft at midnight on 27–28 October. All three pilots were flying the S2F-3 model of the Tracker aircraft.

Commander Millsaps located a Russian trawler named Shkval about one hundred miles east of Randolph, decided to concentrate on the area around the Soviet vessel, and laid out a “JEZEBEL Sonobuoy pattern.” Sonobuoys were passive acoustic buoys dropped into the sea. They first were developed during World War II and were designed to be dropped from ASW aircraft or surface ships in various shaped patterns in the sea. Sonobuoy system technology advanced rapidly during
the 1950s along with techniques for overflying aircraft to process the signals they were receiving from the sounds of submerged submarines. Jezebel was the code name for one of several such signal processing techniques used for “search and localization” of the target submarine.22

Lieutenant Commander Miller launched his Tracker aircraft from the carrier USS Randolph on 27 October at 7:00 PM. His flight narrative, “concerning participation in prosecution of contact C-19,” stated:

[W]eather marginal. Rain and low ceilings had been [prevalent] most of the day. . . .

. . . [Beginning shortly after 8:50] [w]e passed close enough . . . to see definitely that the contact was surfacing. . . .

. . . Numerous illumination and photographic runs were made as the contact made no effort to evade. He even showed running lights and maintained a steady course to the East. . . .

. . . The [OAU?] advised the aircraft to complete an adequate number of runs and then orbit the area while the Small Boys closed for illuminating and photographing. They also used a signal light to ask the contact if he needed any assistance. . . .

Just prior to being relieved on station the aircraft made more illumination and photographic runs with different small boys alongside. Throughout most of the illumination runs personnel were observed topside as well as an obviously displayed national ensign.23

Miller’s aircraft remained over B-59 until relieved at 11:20 PM; no gunfire was noted in Miller’s report.

Commander Gillooly launched his Tracker from USS Randolph at midnight on 27–28 October 1962 to maintain surveillance of a surfaced Soviet “FOXTROT” submarine 20 miles north of the RANDOLPH. . . .

Ringing the submarine in a 3 mile circle were five destroyers. . . . [Flight leader] made searchlight illuminating and photographic runs on the submarine for the entire on station time [12:20 AM to 4:30 AM]. . . .

For the first hour on station the submarine maintains a course of 090 at five knots. As rain and poor visibility hampered the entire mission USS MURRAY (DD 576) provided close-aboard searchlight illumination of the submarine to aid in positive identification on the first three photographic runs.

. . . At 0120 hours, the submarine and the destroyers approached a heavy squall line rainstorm.24

No gunfire was noted on Gillooly’s report at any time, whether from machine gun or cannon.
2003, GARY WEIR AND WALTER BOYNE, RISING TIDE: THE UNTOLD STORY OF THE RUSSIAN SUBMARINES THAT FOUGHT THE COLD WAR

Gary Weir and Walter Boyne, like Huchthausen and the editors of “Submarines of October” before them, relied heavily on a “first-person view of B-59” provided by Orlov, the “radio surveillance officer” on board the Soviet submarine who headed an “OSNAZ group of ten highly qualified radio officers” who were responsible for monitoring, sending, and receiving radio transmissions. Orlov took care of “transmission with Moscow and the Northern Fleet during Operation Anadyr; interboat communication if that became necessary; radio transmission surveillance of the American forces at sea; radar detection; the surveillance of American commercial radio; and intelligence derived from high-frequency direction finding.”

Over the course of two months during the late summer of 2002, Orlov provided Weir and Boyne with an “oral history” of the event and with a “personally prepared source essay” entitled “The Story of a Radio Surveillance Officer,” and he would continue to be a primary source for almost all the later writers who covered the B-59 story. Notably, however, the details provided in Orlov’s varying accounts would expand and change shape as time went by. Here are the key elements on which Weir and Boyne relied:

Savitsky would surface his diesel-powered Foxtrot at night to recharge the batteries, remaining submerged during the day with both snorkel and antenna up, to renew the air, recharge if necessary, and maintain communications.

As they approached the eastern coast of the United States, Orlov’s group concluded from their intercepts that the U.S. Navy had initiated an alert and four aircraft carrier task groups would address any ASW challenge. They informed both Savitsky and Northern Fleet headquarters. The latter reacted by confirming their orders to Mariel.

An American aircraft carrier ASW group detected B-59 on October 19, 1962. Savitsky found himself in water about 1,800 feet deep and far too warm for comfort. The tropics began to have their effect and the necessity to remain submerged quickly rendered the air hot and stale. At about 2300 hours, Savitsky’s efforts to elude began to fail in the face of overwhelming force. He found himself at 450 feet with an eight-ship American task group just above. The destroyers rattled them with active sonar pings and the customary three-grenade explosion signal ordering them to surface.

The Rising Tide Orlov account notably provided the wrong date and time (20 October at 4 PM) for B-59’s surfacing. This error was especially glaring since 20 October was two days before U.S. president John F. Kennedy’s speech to the nation (and the world) announcing the discovery of the Soviet missiles in Cuba and four days before the institution of the naval quarantine. Orlov also did not mention any ASW aircraft firing machine guns or cannon. He did report, according
to Huchthausen, that a P2V Neptune “suddenly swooped out of the darkness and dropped several small incendiary devices.” This led to the unmasking incident mentioned above.

Orlov also excluded and included colorful details that subsequently would lend further drama to the event and thereby lead to confusion and controversy as later commentators attempted to reconstruct what happened. For example, Orlov failed to tell Weir and Boyne about Savitsky’s moment of panic or Arkhipov’s calming intervention below the surface. Here is how that scene was described: “Extremely angry at his situation and the behavior of the Americans, Savitsky ordered the nuclear torpedo placed in the tube in the forward torpedo room just before surfacing. He did not know what to expect and would take no chances.”

Weir and Boyne noted that the then-new Soviet nuclear torpedoes had been tested to “detonate by means of a time fuse and not on contact” with the target. How could the time fuse have been set while B-59’s captain was below the surface and not yet prepared to fix on any particular target?

Similarly, Orlov neglected to tell Weir and Boyne about threats or hostilities between the submarine and the U.S. Navy’s ASW task force after B-59 surfaced (which actually occurred at 8:52 PM on the evening of 27 October):

The captain began signaling his intention to surface with his active sonar in conformity with international rules. He surfaced at 1600 on October 20th into a whirlwind of dazzling lights, a near circle of surface ships, and a helicopter hovering about ninety feet above his head. The sudden surge of fresh air made Savitsky, his political officer, the watch officer, the signalman, and Orlov feel drunk as they filled their lungs on ascending to the sail bridge. As these senior officers watched the circus on the surface, Orlov’s people worked furiously to communicate with the Northern Fleet. It took them a while to get through, but when they did it took Gorshkov only twenty minutes to respond. The admiral ordered them to escape, evade, and head for Bermuda. He advised them that no war had begun, so they should avoid starting one at all costs.

Orlov did, however, provide for Weir and Boyne this important description of B-59’s system of control over the nuclear torpedo it was carrying: “When Savitsky ordered the torpedo loaded only hours before[,] the crew remained calm and followed orders. Three officers aboard the boat held the keys necessary to use the weapon—the commander, the executive officer, and the political officer. A KGB officer on board guarded the torpedo and never left it, sleeping next to the device in what could often become the coldest compartment on the boat.”

This “three key” requirement was the Soviet adaptation of what was becoming an international “two-man rule” or “dual key” system standard for regulating the use of nuclear weapons and preventing accidental or malicious launches. The United States had institutionalized a comparable initial regulatory framework in President Kennedy’s 6 June 1962 National Security Action
Memorandum (NSAM) 160. NSAM 160 introduced a rule requiring the use of permissive action links (PALs) to regulate the process for arming a nuclear weapon prior to its use by introducing time-consuming steps and a redundancy of independent operators to reduce risk of a hasty decision or the intervention of an unauthorized or unstable actor. NSAM 160 referenced and appended a 29 May 1962 memorandum to the president, authored by his chief science adviser, Jerome B. Wiesner, that stated, “In evaluating the utility of this [PAL] equipment, it must be recognized that it is simply intended to buy time. . . . I believe it would give further (and probably decisive) protection against individual psychotics and would certainly cover unauthorized use by military forces holding the weapons during periods of high tension or military combat.” Various adaptations of the two-man rule soon would become common in the nuclear age as additional nuclear powers endeavored to maintain tight control over their atomic weapons.

Orlov’s rough description of Savitsky ordering the nuclear torpedo to be “placed in the tube in the forward torpedo room just before surfacing” leaves more questions than answers. When was that order issued? Did Arkhipov approve? Was the order obeyed by the responsible torpedo department officers and crewmembers and by the KGB or other intelligence officer who continuously guarded and even “slept next to” the nuclear weapon at all times? Orlov did not provide any of these details, and, as detailed below, subsequent researchers would provide differing answers to these questions.

If the torpedo loading did occur, when and under what circumstances was the nuclear device removed from the torpedo tube? The Orlov account in Weir and Boyne did not say exactly, other than to observe that this occurred while the submarine’s captain was on the surface and able to see for himself that “no war had started and it did not seem as if one would,” and that the placing or loading had occurred “only hours before.” Orlov also added his own personal feeling of being “physically relieved” when Savitsky “ordered the forward torpedo room to remove the nuclear torpedo and place it back on its reserve rack.” Once again, this account did not provide details regarding the timing or other circumstances when this subsequent order was issued, nor were the officers or crewmembers who carried it out identified.

2005, SVETLANA V. SAVRANSKAYA, “NEW SOURCES ON THE ROLE OF SOVIET SUBMARINES IN THE CUBAN MISSILE CRISIS”
Savranskaya was the first scholar to tell the B-59 story using her access to extensive records from both U.S. and Soviet archives and her personal interviews of many of the Soviet naval officers. Her narrative focused solely on events that took place while B-59 was below the surface.
Savranskaya’s article made an important contribution toward scholarly understanding of the Soviet navy’s instructions to the captains of the four Foxtrot-class submarines regarding the circumstances under which the nuclear-armed torpedo could be used. She noted there was a distinction between what the surviving witnesses “recalled” being their instructions and what the official written instructions issued to each captain actually said. Regarding individual recollections, she wrote: “The only instructions concerning nuclear weapons that the captains remember receiving were given in that briefing [the day before departure]. As Nikolai Shumkov recalls, he heard Admiral Fokin say ‘if they slap you on the left cheek, do not let them slap you on the right one.’”

A second captain, Ryurik Ketov, who was a friend of Captain Savitsky, had a different memory: “Vice-Admiral Rassokha . . . said, ‘Write down when you should use these. . . . In three cases. First, if you get a hole under the water. A hole in your hull. . . . Second, a hole above the water. If you have to come to the surface, and they shoot at you, and you get a hole in your hull. And the third case—when Moscow orders you to use these weapons.'”

As for the official written orders, there were “packets with secret orders,” which each captain “could only open at sea.” These “secret orders” provided that “[c]onventional weapons could be used on the orders of the Commander-in-Chief of the USSR Naval Forces, and the nuclear weapons could be used only on special orders from the Defense Minister.”38 Savranskaya’s research found no evidence of resort to force by the U.S. Navy: “It is important to note that . . . the U.S. ASW forces were following strict orders on engagement with Russian submarines, did not use any weapons other than practice depth charges (PDC) to signal the Soviet submarines to come to the surface, and did not intentionally use any provocative tactics.”39

Nor did she identify any overt show of hostility by B-59 other than repeating Orlov’s account of Savitsky’s outburst and Arkhipov’s calming intervention.40 And while her account did not provide full closure on the question whether the submarine’s nuclear warhead was ever either “assembled,” or “armed,” or “placed,” or “loaded” in a torpedo tube, Savranskaya did contribute additional reason to doubt that B-59’s crew ever actually obeyed Savitsky’s frantic order by taking any specific steps to ready an atomic torpedo for firing.

Importantly, however, it appears that no action was taken during those emotional minutes [under the surface], other than the commander’s outburst described above [by Orlov]. The captain guarding the torpedo did not receive the orders to flood it or otherwise manipulate the weapon to prepare it for possible use. . . .

At the conference on the 40th anniversary of the Cuban missile crisis in Havana in October 2002, Vadim Orlov recounted his story in detail but emphasized that the
utmost danger came not from an intentional launch of a nuclear torpedo, which even in the tense atmosphere of the last days before the surfacing remained very unlikely, but from malfunctioning equipment or an accident, which could have happened even under less trying conditions.\textsuperscript{41}

What did Savranskaya mean by her phrase “or otherwise manipulate the weapon to prepare it for possible use”? She did not explain. Furthermore, the current historical record of the B-59 saga does not make clear what specific steps were needed under Soviet navy rules either in the general case or in the explicit instance of B-59 to ready a nuclear-armed torpedo for launch.

\textbf{2008, MICHAEL DOBBS, \textit{ONE MINUTE TO MIDNIGHT: KENNEDY, KHRUSHCHEV, AND CASTRO ON THE BRINK OF NUCLEAR WAR}}

\textit{One Minute to Midnight} by Michael Dobbs became the first scholarly account to add a further dramatic naval confrontation that occurred above water.\textsuperscript{42} But Dobbs’s rendition still lacked any hint that Savitsky might have experienced a second moment of panic above the surface, or that Arkhipov had to calm him down a second time.

\textit{B-59} actually started interacting with the U.S. Navy on the afternoon of 27 October while \textit{above} the surface with “[s]everal men . . . visible in the tower,” but it had to submerge suddenly after being spotted by an S2F Tracker aircraft from USS \textit{Randolph}. “By the time the S2F came round for a second pass, the Soviet sailors had disappeared and the decks of the Foxtrot were underwater. On the third pass, the sub was fully submerged.”\textsuperscript{43}

Dobbs stated, without citation, that \textit{B-59} had been “unable to communicate with Moscow for more than twenty-four hours,” which indicates that the submarine \textit{had} been able to be in touch with its headquarters the day before, on 26 October, likely in the afternoon. Dobbs speculated, however, that Savitsky might have feared an outbreak of nuclear war in the meantime. With Savitsky’s having missed his daily contact with Moscow on the afternoon of 27 October because of the sudden appearance of the Grumman Tracker, helicopter, and destroyers, Dobbs imagined that “[f]or all [Savitsky] knew, World War III might have broken out while he was underneath the waves.”\textsuperscript{44}

Although Savitsky passed away before \textit{Midnight} was published, Dobbs opined—apparently on the basis of his interview with Orlov—that the captain had been totally unaware of the U.S. Navy’s announced SSIPs: “Savitsky was in the control room, along with Arkhipov and the chief of the signals intelligence team, Vadim Orlov. He knew nothing about the signaling procedures introduced by the U.S. Navy.”\textsuperscript{45}

Dobbs quoted Orlov’s recollection of Savitsky’s rage or panic attack and his outburst (“We’re going to blast them now!”) in response to the grenade
detonations he heard outside B-59, coupled with the highly challenging heat and airlessness inside the vessel, as had been reported by earlier scholars. Orlov added, without citing Savitsky’s specific words, that he “summoned the officer who was in charge of the nuclear torpedo, and ordered him to make it combat ready.” But he did not mention what then actually happened to the nuclear torpedo that was on board—in particular, whether it had been assembled, armed, or loaded into the firing tube. Nor did he identify the “officer” whom Savitsky had “summoned.” Was it B-59’s torpedo officer, Anatoly Leonenko? Or a KGB or other intelligence officer? Rather, Dobbs closed out this stage of the episode by noting that B-59’s captain conferred with his colleagues, was persuaded to “calm down,” and “finally concluded that the only reasonable choice left open to him was to come to the surface.” Dobbs’s account provided no timing for this sequence of events. Thus, he did not offer any explanation for why there was more than a three-hour delay between the last PDC discharge outside B-59 and the time the submarine surfaced. Nor did he describe what, if any, actions were taken during that interval regarding the order to make the nuclear torpedo “combat ready.” Nor did Dobbs provide any specific information on the torpedo’s actual location or status at any time while the submarine was below the surface.

Dobbs’s depiction of B-59’s reception on surfacing was brief but vivid. He described the U.S. Navy’s disconcertingly “powerful searchlights” flooding B-59 as it rose to the surface, combined with flares being dropped from aircraft that were executing “low-level runs” over the submarine and making “a brilliant incendiary display.” He also commented that, “[f]rom the bridge of B-59, it seemed as if the planes were making practice bombing runs. Lookouts reported that the Americans were spraying the sea with machine-gun tracer fire.”

Dobbs’s account of the surface action made no mention of Savitsky suffering a repeat panic attack and made no suggestion that the captain needed a second calming intervention by Arkhipov. Nor did Dobbs mention any aggressive “wheeling” or swerving maneuver by B-59, followed by an apology from USS Cony, as would be reported by Gary Slaughter. Rather, Dobbs brought his description of the surface events to a close by noting that “[a]fter an hour or so, a radio message arrived from Moscow instructing B-59 ‘to throw off your pursuers’ and move to a reserve position closer to Bermuda,” and by adding descriptions of a few other benign events as time went by, including a musical interlude performed for B-59’s crew by a “jazz band on deck” of one of the destroyers, and U.S. efforts to transmit cigarettes and cans of Coca-Cola to the submarine’s beleaguered sailors, which in combination made it clear, and “a relief to know,” that indeed “World War III had not broken out.”

Gary Slaughter’s 2016 Sea Stories account of the B-59 naval confrontation offered his eyewitness perspective as an ensign and watch officer stationed on the bridge of USS Cony, an American destroyer that tracked B-59 closely.51

Unlike the destroyer deck logs and aircraft narratives that provided exact times when events occurred, Slaughter’s account gave mostly general time frames. Cony had “acquired a solid sonar contact” on B-59 at approximately 5:00 PM on 27 October and promptly began signaling the submarine to surface. Following the instructions in the Navy’s NOTMAR, Cony “dropped five Practice Depth Charges (PDCs) in close proximity to B-59,” and in addition used an “underwater radio transmitter (Gertrude)” to transmit “the International code IDKCA, which also meant come to the surface.”52

B-59’s captain appeared to ignore these signals over the ensuing four hours, and Slaughter described how Cony “pounded the submarine with ultra-high-amplitude sound waves from the huge sonar dome under our bow.” The submarine eventually surfaced at 9:00 PM, whereupon its main deck hatches “popped open” and the “sub’s crewmen streamed out of the open hatches, stripping off their sweat-soaked uniforms.” Slaughter observed all this up close “as we followed alongside B-59 from a position about 200 feet off the submarine’s starboard beam” and bathed it in the “blue-white light from our huge 24-inch search lights.” Slaughter noted that “[s]oon after” the submarine surfaced, he began to interrogate B-59’s conning tower by flashing light “employing the Cyrillic transliteration table, the International Signals Book, and Morse code,” asking, “Do you require any assistance?” to which Savitsky “answered with a curt, ‘Nyet.’”53

The two vessels continued to move slowly side by side “[f]or the next hour” (i.e., most likely between around 9:30 and 11:00 PM) as “Savitsky and I simply stared at each other, and the situation settled into an uneasy standoff.” Then: “Suddenly, out of the pitch-black night sky, . . . [a] P2V Neptune . . . dropped several incendiary devices which sounded like a string of large firecrackers exploding. Bam! Bam! Bam! While the light flashes were absolutely blinding, they activated [the Neptune’s] photoelectric camera lenses to photograph the submarine.”

At this moment Slaughter saw things take a dangerous turn: “Believing he was under attack, Savitsky cleared his conning tower and wheeled his boat around, bringing his forward torpedo tubes to bear on Cony. Cony’s commanding officer, Captain Morgan, immediately directed me to signal Savitsky and apologize for the provocative nature of the P2V’s unannounced arrival. . . . Savitsky returned to his conning tower and acknowledged my apology. Closing his torpedo-tube doors, he wheeled to port and returned to his easterly heading.”54
Like James Miller, who had been flying overhead in his Grumman Tracker, Slaughter made no mention of machine-gun fire or cannonading by aircraft, or of any indication that the submarine was preparing to submerge.

2020, MARTIN SHERWIN, GAMBLING WITH ARMAGEDDON: NUCLEAR ROULETTE FROM HIROSHIMA TO THE CUBAN MISSILE CRISIS

With the arrival of Martin Sherwin’s 2020 account of the B-59 story, an entirely new narrative of the naval confrontation took shape, derived from several previously unavailable accounts of the above-surface events. Sherwin relied on Orlov’s Mozgovoy account but also on further comments by the communications officer provided to Savranskaya and recorded in “New Sources on the Role of Soviet Submarines.”

Sherwin wrote that B-59’s captain had been unaware of the U.S. Navy’s special, quarantine-specific, global NOTMAR proclamation describing the SSIPs for signaling submarines to come to the surface. He cited as support of his conclusion an article by Peter T. Haydon, a Canadian naval historian who had analyzed the NOTMAR procedure from the perspective of Canada’s participation in enforcement of the U.S. naval quarantine of Cuba. Haydon focused on a somewhat elliptical and ambiguous statement by Alexis Johnson at a 24 October 1962 White House meeting of the Executive Committee of the National Security Council about the NOTMAR proclamation’s delivery to Moscow: “I have not got acknowledgment of [Moscow’s] receipt of that . . . It was delivered to the embassy here last night. We have not yet received it back.” Haydon’s article then stated equivocally: “[I]t appears that the Soviet submarines were unaware.”

Sherwin repeated much of the below-surface story covered by earlier authors, including that Savitsky summoned “the officer who was assigned to the nuclear torpedo, and ordered him to assemble it to battle readiness.” But did the “special weapons officer” who supposedly was tasked with accomplishing this “assembling” step in fact carry out the captain’s order before it was retracted? Sherwin offered no further information.

According to Sherwin, Captain Ryurik Ketov, who commanded another of the Soviet submarines and was Savitsky’s close friend, “provided the most detailed description of the dramatic events that took place in those critical minutes aboard B-59.” Ketov had not been present on B-59 and therefore must have been providing a secondhand account using information Savitsky presumably told him. Should historians credit his hearsay testimony? According to Sherwin, Ketov stated that while surfacing, B-59 “came under machine-gun fire from . . . Tracker aircraft.
The fire rounds landed either to the sides of the submarine's hull or near the bow. All these provocative actions carried out by surface ships in immediate proximity, and ASW aircraft flying some 10–15 meters above the boat, had a detrimental impact on the commander, prompting him to take extreme measures...the use of 'special weapons.'”

But the final ellipsis in the above-quoted passage, extracted from Ketov’s 2005 article in the *Journal of Strategic Studies*, exaggerates the nuclear threat. Adding the words Sherwin’s limited quote had deleted (which are italicized below) makes this clear: “All these provocative actions carried out by surface ships in immediate proximity and ASW aircraft flying some 10–15 meters above the boat had a detrimental impact on the commander, prompting him to take extreme measures. *Mere chance prevented Savitskii [sic] from resorting to the use of ‘special weapons.’*”

As can be seen, Savitsky did not specifically "take" the “extreme [measure]” of assembling, loading, or otherwise deploying his single nuclear-armed torpedo; rather, he experienced a moment of panic, “prompting” him in that direction, immediately whereafter Arkhipov calmed him down.

Moreover, even Ketov’s account—which was secondhand at best, since he was not aboard *B-59*—clearly confuses the facts even further. He first stated that it was “while surfacing” that the submarine “came under machine-gun fire from *Tracker* aircraft.” Yet in the very next paragraph Ketov asserted that Savitsky “sent a radiogram to the surface ships, demanding that all provocative actions be halted by ASW aircraft, and pointing out the boat’s allegiance to the USSR, *after which the boat surfaced and began to recharge the battery.*” Thus, not only was Ketov the only Russian commentator to have claimed that *B-59* came under machine-gun fire while it was still in the process of surfacing, but he promptly contradicted himself by asserting that Savitsky had experienced the hostile “provocative actions...by ASW aircraft” *even before* surfacing, prompting him to demand by radiogram that the firing and other aggressive tactics be stopped while his vessel was still below the surface. It is hard to give credit to any part of this confused secondhand account.

Sherwin said, however, that he had “no trouble believing Ketov’s account,” even though he acknowledged that firing live ammunition at a Soviet submarine “was strictly prohibited. Secretary [Robert S.] McNamara had made that clear to the chief of naval operations (CNO), Adm. George Anderson...four nights earlier (October 23).” Sherwin speculated that “perhaps the crew of the Tracker had ‘not gotten the word,’” or “perhaps the combustible mix of adrenaline, testosterone, and frustration led the Tracker crew to demonstrate clearly to that ‘Commie sub’ just who had won the cat-and-mouse game.”

Sherwin cited a previously unheralded speech by Arkhipov to a missile crisis thirty-fifth anniversary conference in Moscow on 14 October 1997 that
mentioned the presence of aggressive American P2V and Tracker aircraft overflying B-59. This early account by Arkhipov did not reach a Western audience until it was reported by Sherwin in late 2020. Prior to Sherwin’s revelation, historians who commented on the B-59 incident largely had overlooked events that occurred after the submarine surfaced.

Sherwin also located a contemporaneous Soviet written account of the above-surface events in a December 1962 after-action report by the “USSR Northern Fleet Headquarters” that stated: “Airplanes and helicopters from the aircraft carrier Randolph flew over the submarine 12 times at the altitude of 20–100 meters [65–328 feet]. With every overflight they fired their aviation cannons (there was a total of about 300 shots). . . . The destroyers maneuvered around the submarine at a distance of 20–50 meters demonstratively aiming their guns at the submarine, dropped depth bombs and hydro-acoustic buoys when they crossed the course of the submarine.”

Sherwin quoted Arkhipov’s 1997 presentation as describing aggressive overflights by “four P2Vs, three Tracker airplanes.” Here is the key Arkhipov passage that closely tracks the 1962 after-action report: “Overflights by planes just 20–30 meters above the submarine’s conning tower, use of powerful searchlights that blinded Savitsky, fire from automatic cannons (over 300 shells), dropping depth charges, cutting in front of submarines by destroyers at dangerously [small] distance, targeting guns at the submarine, yelling from loudspeakers to stop engines, etc.”

Sherwin went on to state that, “[c]onvinced that he was under attack, Savitsky ordered an ‘urgent dive’ and ‘arm torpedo in the front section [the nuclear torpedo].’ But when he tried to descend he was [luckily] blocked by the signaling officer. . . . During that short delay Arkhipov realized that the planes were firing ‘past and along the boat.’ It was not an attack. ‘Cancel dive, they are signaling,’ he countered.”

There are at least four curious features of the 1962 Soviet after-action report and Arkhipov’s 1997 account that may raise doubt about the two reports’ reliability. First, Arkhipov’s 1997 comments closely tracked the after-action report, but they left out any mention of what Sherwin reported as Savitsky’s second panicked moment while on B-59’s exposed bridge and Arkhipov’s cancelation of the captain’s urgent dive or torpedo-arming orders. To the contrary, Arkhipov’s comment was that because of the overflying aircraft’s “powerful searchlights” that “blinded the people on the bridge,” the “commander physically could not give any orders, could not even understand what was happening.” Arkhipov made no mention of countermanding any order but rather noted that after the commander “blinked his eyes and could see again, it became clear that the plane was firing past and along the boat. And the subsequent similar actions . . . were not as worrisome any longer.”
Second, Arkhipov’s listing of the overflying P2V Neptunes and Grumman Trackers failed to mention another important class of aircraft that was present on the scene and would have been readily apparent and exceptionally noisy: American ASW helicopters deployed from USS Randolph. Hovering directly over B-59, these would have been every bit as threatening as, if not more so than, the Neptunes and Trackers.

A third curiosity is Arkhipov’s and the after-action report’s identical and precise statements about the large cannon shell count (“over 300 shells”). How would Arkhipov or any other Soviet witness have managed to keep count of such a high number of cannon shells, and from what location would they have been able to count while undergoing the fusillade? If the location was from the exposed eyewitness position Arkhipov held on the bridge of the submarine, why would he have remained in such a vulnerable spot throughout so prolonged a cannon-fire attack? And if the one keeping count was located inside the submarine and unable to see what was going on outside, how would he have known what noises he was counting? Could he have been hearing the loud thump-thump-thump of a hovering helicopter’s main rotor blades rotating a mere ninety feet above the submarine?68

Fourth, what did Arkhipov mean by his 1997 references to alleged U.S. provocations against the surfaced and slowly moving submarine, including “dropping depth charges” and destroyers “cutting in front” at a “dangerously [small] distance”? Why would a destroyer drop depth charges on a surfaced submarine? And why would it cut sharply in front of a slow-moving vessel that was conforming to the NOTMAR-mandated easterly direction and with which it was keeping close, side-by-side company?

2021, SERHII PLOKHY, NUCLEAR FOLLY: A HISTORY OF THE CUBAN MISSILE CRISIS

Serhii Plokhy’s recounting of the B-59 events used both U.S. and Russian accounts and covered actions occurring both below and above the surface. He cited an apparently new statement by Orlov and several previously unavailable or overlooked statements by two additional Russian officers aboard B-59 that were published at an unspecified date in a Russian blog: one by Anatoly Leonenko, who was “the officer responsible for the torpedo launchers,” and another by Viktor Mikhailov, who was B-59’s navigator.69 Plokhy’s most-noteworthy new contributions are summarized below.

“Captain Dubivko [who commanded another one of the four Soviet submarines sent to Cuba] recalled a written order that read: ‘Use standard weapons on orders from the Commander in Chief of the Soviet Navy or in case of an armed attack on the vessel. Torpedos with nuclear warheads are to be used only on
special orders from the USSR Ministry of Defense or the Commander in Chief of the Soviet Navy.”

Plokhy concluded that “[i]n fact Savitsky and Arkhipov had received the [U.S.-announced NOTMAR identification and surfacing] procedures but had trouble distinguishing the practice charges from the real ones.”

The decisions to cancel Savitsky’s orders to “prepare” the nuclear torpedo and later to surface the submarine were made by consensus. “According to Orlov, the order to prepare the nuclear-armed torpedo was rescinded after Savitsky calmed down and discussed the situation with Arkhipov and the political officer, Maslennikov. The three of them decided to bring the submarine to the surface.”

Plokhy’s account still left at least three points of uncertainty or confusion about the status of the nuclear-capable torpedo at the critical juncture when the submarine surfaced. First, what was meant by Savitsky’s initial order to “prepare” the nuclear-armed torpedo? Was it necessary to attach a separately stored nuclear warhead to the body of a not-yet-armed torpedo? And if so, could this operation have been performed during the short time that elapsed before Savitsky “calmed down” and his order was “rescinded”? Plokhy did not explain. Second, was the “prepare” order rescinded before any steps could be taken to “prepare” the torpedo and load it into tube number 1? That seems likely, but, again, Plokhy’s account did not provide clarification.

Third, did anyone on B-59 ever in fact try to carry out the below-surface “prepare” order? Plokhy’s narrative account of the events made a surprising and ambiguous chronological shift on this point away from the “atomic torpedo,” which could be fired only from tube number 1 located in the bow of the vessel, to a different order by Savitsky to load the stern tubes. Citing a written account by Anatoly Leonenko, who was in charge of B-59’s torpedoes, Plokhy wrote: “Leonenko recalls that Savitsky ordered him to get the torpedoes in the seventh stern compartment of the submarine ready to fire.” The torpedo officer’s written account emphasized that this was Savitsky’s “previous order,” which “had concerned regular torpedoes,” as opposed to the later order concerning tube number 1 that he may or may not have issued while on B-59’s conning tower after the submarine had surfaced.

Plokhy recounted the trouble Leonenko faced in carrying out even the order involving only regular, nonnuclear torpedoes in the stern tubes. When Leonenko reached the stern compartment he “was met with bewilderment by his subordinates” and “was faced with something close to insubordination.” The torpedo officer persisted, however, using “every term of abuse,” and the crew eventually “fell into line.” Leonenko then “reported to Savitsky that his order had been carried out” and the submarine “began to surface.”
The decision to surface the submarine came at around 8:52 PM, approximately four hours after U.S. destroyers dropped two series of grenades while circling the ocean surface overhead. According to Plokhy’s account, “The sub’s navigator, Viktor Mikhailov, and the officer responsible for the torpedo launchers, Anatoly Leonenko, agree that the decision to surface was prompted not by the American practice charges and grenades, which the vessel could withstand, but by the simple fact that its batteries had run down and it could no longer remain underwater.”

Leonenko’s account in the Savranskaya-provided portion of the V. V. Naumov collection included an additional comment that appears to confirm that B-59’s officers were aware that the detonations they were hearing were signaling grenades, not attacking depth charges. Leonenko’s statement was: “By exploding grenades Americans sent us signals to surface. But only, when accumulators produce[d] water instead of electricity and batteries ha[d] been completely depleted of electricity, the decision was made to surface.”

It seems clear that the deteriorating ambient conditions in B-59, however awful, did not become absolutely unbearable until 8:52 PM—long after the last grenade sound was heard—when Savitsky finally felt compelled by the stricken condition of his overheated and fainting crewmembers to make the hard decision to surface and thereby place his vessel at the mercy of his American pursuers.

Here is how Plokhy described the moment B-59 came to the surface:

The Soviet officers . . . on the bridge of the submarine on the night of October 27 were its captain, Valentin Savitsky, and the commander of a task force of four Foxtrot-class submarines lurking in the warm waters of the Atlantic on the approaches to Cuba, Vasilii Arkhipov. They were of equal rank, with their parade uniforms displaying the shoulder boards of captain second grade, equivalent to lieutenant colonel in the army. Savitsky was in charge of the submarine, but Arkhipov was his superior.

Plokhy concluded that the dramatic episode involving a USN P2V aircraft dropping loud flares occurred “approximately an hour and a half after the submarine came to the surface”—which would have placed the time of that incident at about 10:30 PM, consistent with Slaughter’s narrative of events.

But Leonenko’s and Mikhailov’s accounts reported in V. V. Naumov gave no indication of a period of calm following the surfacing. Instead, they described an immediate frightening display of overhead aircraft “threatening and harassing the slow-moving Soviet submarine” by firing “tracer bullets” and a “cannonade.” Mikhailov said the aircraft “flew low down the length of the submarine and, illuminating it with their searchlights, fired tracer bullets ahead of it.” Leonenko provided a confusingly divergent account in which the aircraft “circled the submarine from the right in hedge-hopping maneuver,” rather than flying down the vessel’s
length, and “approaching the deck, opened fire with such force that voice communications at the central post were drowned out by the roar of the cannonade.”

Notably, however, neither officer was on B-59’s bridge, and thus both men presumably were below deck performing their duties as navigator and torpedo officer. Thus, neither officer would have been able to see the light paths distinguishing tracer bullets being fired at night, nor would they have been able to delineate the precise flight paths of overhead aircraft or determine the location where tracer bullets were entering the sea. And neither officer mentioned a P2V aircraft dropping loud flares. Plokhy’s references to Mikhailov’s and Leonenko’s statements did not specify whether either man was in a position to witness for himself the action taking place outside the vessel.

Leonenko’s testimony is further suspect because his written account indicates that he heard the captain’s “emergency dive” order “that Savitsky gave after climbing down from the bridge,” whereas—according to Sherwin’s research—Savitsky had been unable to climb down from the bridge because both he and Arkhipov had been “blocked” by the signals officer, whose descent was being impeded by his signaling equipment.

Although Savitsky’s statement, as recalled by Leonenko, did not mention the nuclear torpedo specifically, the torpedo officer surmised that the captain necessarily had been referring to the nuclear torpedo specifically because he remembered that “tube no. 1 contained the nuclear-armed torpedo.” This account did not make clear, however, what Leonenko may have meant by his use of the word “contained” (e.g., when, if ever, did B-59 tube number 1 physically “contain” a nuclear-armed torpedo, or did he merely mean that tube was designated for the nuclear-armed torpedo if that weapon ever was to be deployed?). Nor did Leonenko make clear why he understood Savitsky’s order to specify readying the nuclear-armed torpedo necessarily for firing, since the captain’s order simply called for two torpedo tubes to be prepared, both of which could have handled conventional torpedoes. Moreover, even if the nuclear-armed torpedo had been loaded into tube number 1, there would have been a conventional torpedo loaded simultaneously into tube number 2. That fact presumably indicates that, at a minimum, Savitsky would have been preserving his option to fire a conventional torpedo rather than the nuclear weapon for which he had received no approving order from Soviet naval headquarters.

There is a final contradiction of great significance between the accounts provided by Sherwin and Plokhy regarding Arkhipov’s crucial observation from B-59’s bridge that prompted him to rescind Savitsky’s order to “submerge immediately.” Sherwin stated that Arkhipov “realized that the planes were firing ‘past and along the boat’” so he called out to Savitsky, “Cancel dive, they are signaling.” By contrast, Plokhy concluded, derived from Leonenko’s
recollection, that Arkhipov “noticed Slaughter’s searchlight and read the message. It was an apology. As Leonenko recalled, Arkhipov, realizing that the American frigate had begun signaling us by searchlight to respond, gave the order to stop preparations for firing.”82

2022, MAX HASTINGS, THE ABYSS: NUCLEAR CRISIS CUBA 1962
In the most recent account of the B-59 episode, Hastings was more cautious than Sherwin and Plokhy in reaching conclusions about what transpired. He concluded that Savitsky and his officers “had been informed of [the U.S. submarine challenge procedure]” yet rejected it “as a matter of pride.” Hastings cited Orlov’s testimony about Captain Savitsky’s enraged outburst in response to the PDC detonations outside his vessel, but then moved on to the order to surface B-59 at 8:50 PM on 27 October without mentioning any order or action taken to arm or load the nuclear torpedo. Thereafter, Hastings described the “explosive incendiary devices” dropped by the overflying Neptune aircraft, noted that a “second version of events aboard B-59 holds that Savitsky’s loss of temper” occurred at this point on the surface, and speculated that possibly “it was then that he ordered the nuclear torpedo to be readied.” Yet he concluded with the following skeptical observation:

No definitive account of what took place aboard B-59 during those hours is possible, unless or until further Russian documentation becomes available. Some Soviet submarine veterans of those days have cast doubts on Orlov’s account; they question whether his boat or its captain ever came anywhere near to precipitating a nuclear explosion. Three keys were required to arm the weapon on board, and the evidence seems overwhelming that this process was never completed—probably not even commenced.83

WHERE DO MATTERS NOW STAND REGARDING THE KEY QUESTIONS SURROUNDING THE B-59 INCIDENT?

When Did They Know about the U.S. Notification?
Did Savitsky and Arkhipov know prior to 27 October about the U.S. notification that PDCs would be used to signal a need to ascend? Historians’ verdict on this important question is mixed, yet the preponderance tilts decidedly in favor of Savitsky and Arkhipov indeed learning about the U.S. notification prior to 27 October.

In 2002, Huchthausen concluded that they did know: “Savitsky had received the notice on the submarine broadcast two days earlier.”84 Also in 2002, Weir and Boyne suggested that Orlov and his team had learned of the notification because of “their intercepts that the U.S. Navy had initiated an alert,” and they “informed both Savitsky and Northern Fleet headquarters.” Although some
later commentators have argued that the four Soviet Foxtrot submarines could not communicate with Moscow during daytime hours, because they had to be continuously below the surface to avoid detection. Orlov’s testimony was that B-59 was able to conduct daytime operations with snorkel and antenna above the surface, enabling the submarine’s OSNAZ group “to maintain communications.”85 The *Rising Tide* authors also described the noise signals being propagated by the ASW destroyers as “active sonar pings and the customary three-grenade explosion signal ordering [B-59] to surface.”86

In 2005, Savranskaya demurred, noting that Huchthausen assumed that the B-59 officers “must have known about the signaling procedures and were familiar with the way PDCs sounded.”87 Dobbs in 2008 stated flatly, yet without explanation, apparently citing Orlov, that the two Soviet officers did not know about the notification.88 Sherwin reached the same conclusion as Dobbs, relying on the incomplete and ambiguous Haydon paper mentioned above.89 Plokhy concluded that the Soviet officers did know about the notification: “In fact Savitsky and Arkhipov had received the procedures but had trouble distinguishing the practice charges from the real ones.”90 Plokhy noted that USN surveillance had detected B-59 on the surface several times in the days following the notification when the submarine would have been able to access electronic messages.

Hastings agreed that Savitsky did know about the surfacing procedure. It is also noteworthy that B-59 came to the surface on an easterly course that complied precisely with the U.S. NOTMAR notification.91 Orlov seemed to demonstrate indirectly the Soviet officers’ awareness of the U.S. notification in his statement published by Mozgovoy, first by using the terms “depth charges” and “grenades” interchangeably, and then by distinguishing these from what he called “a practical depth bomb.” Thus, Orlov stated that “following all the canons of the military art, they surrounded us and started to tighten the circle, practicing attacks and dropping depth charges. . . . The Americans hit us with something stronger than the grenades [depth charges]—apparently with a practical depth bomb.”92

Is it plausible that the loud sounds they were hearing with no physical impacts could have led officers on B-59 to conclude that they were under actual attack and in danger of being destroyed? They had been tracked closely for hours yet had been exposed only to periodic explosive noises in regular numeric sequences. Despite its location almost certainly having been fixed precisely by its pursuers for some significant period, B-59 actually had not been hit or even damaged by any depth charge or other weapon, even once. Could the submarine’s officers genuinely have believed that their USN tormenters were at the same time acting so malevolently as to be trying to sink their vessel, and yet proceeding so incompetently that they had not even come close to inflicting damage on, far less
destroying, the submarine despite having available a full suite of advanced ASW weapons, and having the further advantage of attacking so defenseless a target at such close range?\textsuperscript{93}

The most plausible answer to such questions is no. Apprehension that B-59 was under lethal attack would have been unjustified in the circumstances, especially to trained sailors and officers, because of what actually was happening. Savitsky’s fellow officers were able to calm him down and persuade him to bring the submarine to the surface—an act that would have been suicidal if there had been a plausible reason to believe the vessel was under active, murderous attack. Moreover, B-59’s officers clearly had prolonged their passive resistance below the surface for a further three and a half hours after the last PDC sounds (until 8:52 PM) before Savitsky finally signaled his intention to surface.\textsuperscript{94}

**What Was the State of the Nuclear Torpedo?**

Were any actual, concrete steps in fact ever taken by B-59 specifically to assemble, ready, or load a nuclear-armed torpedo into a firing tube? Weir and Boyne reported, using Orlov’s testimony, that “Savitsky ordered the nuclear torpedo placed in the tube in the forward torpedo room just before surfacing.” Orlov also said that at some point hours later, offering no specific time frame, “The captain ordered the forward torpedo room to remove the nuclear torpedo and place it back on its reserve rack.”\textsuperscript{95} Curiously, however, Orlov did not mention either of these two orders in his Mozgovoy account.

Savranskaya’s research found no evidence that B-59’s crew ever actually readied the nuclear torpedo for use. “The captain guarding the torpedo did not receive the orders to flood it or otherwise manipulate the weapon to prepare it for possible use.”\textsuperscript{96}

Plokhy broadly and somewhat confusingly asserted that “Savitsky indeed gave the order to prepare the atomic torpedo for firing and only then agreed to have the vessel surface.” But Plokhy almost immediately contradicted this conclusion in the very next sentence of his account when he cited Leonenko as having said that Savitsky directed him with a below-surface order to “get the torpedoes in the seventh stern compartment of the submarine ready to fire.” The nuclear torpedo was located in the bow compartment and could be fired only from tube number 1, which was in the bow, not the stern, compartment.\textsuperscript{97}

When Leonenko endeavored to comply with this specific order, he was met with protestations from two members of the stern compartment torpedo group. They eventually “fell into line,” however—presumably loading conventional torpedoes in the stern tubes—and Leonenko “reported to Savitsky that his order had been carried out,” whereupon B-59 “began to surface.” Plokhy identified no specific action taken regarding the nuclear torpedo in B-59’s bow compartment—no assembly, no arming, no loading.
When Plokhy then, on the next page of his book (p. 270), moved on to discuss subsequent above-surface events, he recounted—like Sherwin—that Savitsky became panicked while on the bridge after concluding that his vessel was under attack from the air. He then ordered, “Emergency dive! Prepare torpedo tubes 1 and 2 for firing!” Plokhy explained at this point, citing Leonenko, that Savitsky’s “previous order had concerned regular torpedoes,” but “this one” (now being announced from the bridge with B-59 above the surface) was intended “for the first compartment, and tube no. 1,” which Plokhy interpreted to mean the nuclear torpedo. This narrative, which admittedly is confusing, tends more to support than to contradict the conclusion that nothing had been done at any time to “prepare” the nuclear-armed torpedo for firing. Why “prepare” something that has been prepared already? Moreover, as will be seen below, Savitsky’s later panicked order from B-59’s conning tower, similar to his earlier panicked order issued while still below the surface, almost immediately was countermanded by Arkhipov, presumably before any other officer or crewmember on the submarine could have taken any of the steps necessary to execute a nuclear arming order.

Moreover, there is no indication in the accounts of any of the Soviet officer witnesses regarding who may have tried to execute Savitsky’s supposed nuclear arming or assembly orders or what would have been involved in completing that process. The Soviet navy’s first operational nuclear torpedo used “a ‘universal’ nuclear warhead” that “was developed for 21-inch torpedoes.” These “were placed on board submarines beginning in late 1962,” and the warheads “could be fitted to specific torpedoes in place of high-explosive warheads while the submarine was at sea.”

Orlov’s statement that Savitsky ordered the nuclear torpedo to be “assemble[d]” for “battle readiness” is consistent with the notion that the nuclear warhead on B-59 was stored separately from its torpedo so that it would require installation before firing (similar to the handling of the Soviet nuclear missile warheads that were shipped to Cuba and stored there in locations separate from the missiles themselves). If this were so, how long would that process have taken to accomplish? Most likely it could not have been done within the few moments between Savitsky’s first reported panic attack while below the surface and Arkhipov’s first, immediate calming intervention, nor between his second above-surface moment of panic when he heard (or was blinded by) the detonating flares and again was restrained quickly by Arkhipov’s second intervention and countermanding order.

Finally, consider what Savitsky would have been thinking as he “wheeled” B-59 around and pointed its open forward torpedo tube in the direction of Cony, a mere two to three hundred feet away. Certainly, that must have been a shocking moment for Slaughter, even if he was contemplating only a conventional torpedo facing him. But from Savitsky’s perspective, one must ask, what was the chance
that he actually planned to ready a nuclear-armed torpedo for firing at a target so inconsequential in the larger scheme (a destroyer) and so close at hand in those circumstances? Surely, that chance would have had to be mighty small. To reach this conclusion, one only need consult the words of another Soviet submarine captain who found himself in similar circumstances not far away from B-59: Aleksey Dubivko, the commander of B-36. His submarine, too, had found itself on the surface and in the undesirable company of a nearby American ASW destroyer that had attached itself to his vessel on a parallel course. Dubivko noted in his narrative of the event a sequence of actions and an outcome remarkably similar to the story recounted by Gary Slaughter: “They transmitted a Russian text in light Morse alphabet ‘Do you need help?’ We responded in the same mode, ‘We do not need any help. Asking you not to interfere with my actions.’ We have to be fair to the enemy—the destroyer did not bother us, but was following a parallel course in the distance of 50 to 150 meters. They did not move farther away, knowing that that was the dead zone for the torpedoes on the submarine.”

Dubivko’s insight coupled with common sense would appear to confirm that a submarine’s torpedoes of any kind are not practical against targets within the point-blank range of 150 to 450 feet. There is a more plausible explanation for B-59’s sudden maneuver. If Savitsky did in fact wheel his submarine about to face Cony, he did so most likely as a gesture to inspire momentary fear (or, to echo Admiral Fokin’s expression, to deliver a corresponding “slap on the cheek” to his adversaries), not to fire a torpedo at such close range, much less one that was nuclear armed. As noted above, Hastings concluded that “the evidence seems overwhelming” that no action ever was taken to arm the nuclear torpedo or otherwise prepare it for firing. That conclusion seems eminently sound.

**Did the Overflying U.S. Tracker Aircraft Ever Fire Their Cannon or Machine Guns at or near B-59?**

Neither Huchthausen, nor Burr and Blanton, nor Weir and Boyne, nor Slaughter mentioned U.S. aircraft firing at or near the submarine. Detailed logs prepared by the Tracker pilots who were overhead during the relevant time frame on the night of 27 October mentioned no gunfire by aircraft. Savranskaya concluded: “It is important to note that . . . the US ASW forces were following strict orders on engagement with Russian submarines, did not use any weapons other than practice depth charges (PDC) to signal the Soviet submarines to come to the surface, and did not intentionally use any provocative tactics.”

Dobbs discussed events that occurred after B-59 surfaced, but he did not mention the fact that crewmembers of B-59 immediately had emerged from deck hatches onto the submarine’s deck as they gasped for fresh air. Furthermore, he did not note the three flares that were dropped from U.S. aircraft making loud, explosion-like sounds, nor that there was any sudden order by Savitsky from the
Slaughter, stationed on the bridge of Cony, would have been in an ideal position to witness any gunfire from ASW aircraft during the night of 27–28 October if such had occurred, yet he mentioned none. He did describe the flares being dropped from an overflying P2V Neptune aircraft, which made loud “Bam! Bam! Bam!” sounds as the flares illuminated. Slaughter witnessed the B-59 officers on the conning tower become alarmed at the sound (and perhaps also the blinding effect) of the flares, and he observed B-59 then “wheeling” around, with its forward torpedo tubes in an “open,” ready-to-fire position, pointed at Cony. But he also stated that Cony immediately sent an apology signal that was acknowledged promptly by the submarine’s captain, who then closed “his torpedo-tube doors, . . . wheeled to port and returned to his easterly heading.”101 None of these actions involved gunfire.

Sherwin was the first Western historian to assert that there was extreme danger of nuclear escalation while B-59 was on the surface and supposedly came under cannonade attack from U.S. aircraft. Sherwin relied on a 1997 Arkhipov statement that Savitsky ordered an “urgent dive” and to “arm torpedo in the front section,” which Sherwin interpreted as meaning the nuclear-armed torpedo. Savitsky issued these orders, according to Sherwin, while still outside on the bridge and never managed to descend, because he was blocked by the signaling officer. But Arkhipov, who also was delayed in his descent, countermanded these orders almost immediately. Sherwin concluded that Arkhipov was able to see, despite the night darkness, that the U.S. aircraft were “firing ‘past and along the boat’” rather than aiming for the submarine, and he ordered, “Cancel dive, they are signaling.”102 Sherwin did not mention that Arkhipov received any apology signal from Cony. Nor did Sherwin reference or comment on B-59’s turning or “wheeling” about to aim its forward torpedo tubes at Cony, as reported in Slaughter’s account of these events.

As noted earlier, Sherwin had “no trouble” believing Soviet captain Ketov’s hearsay statement that machine guns had fired on B-59. But there are numerous reasons for disbelieving this statement. Jan Drent—a retired commodore of the Canadian navy and former Canadian naval attaché in Russia, Finland, and Poland who wrote a 2003 journal article on the ASW operations around the Cuba quarantine line—rejected the machine-gun fire account as “not credible,” given his understanding that “Trackers did not carry these weapons.”103 There are numerous materials available online calling attention to the fact that the armaments with which the S2F-3 Trackers and P2V Neptunes were equipped in 1962 during the Cuba quarantine operations did not include cannon or machine guns.104 Yet the scholars who have relied on statements by Orlov and Arkhipov indicating
that B-59 encountered cannon and machine-gun fire from U.S. aircraft failed to address this fundamental problem with the Russian story.

But even if one of the Neptune or Tracker aircraft had been armed with cannon or machine guns, why would the pilot have fired spontaneously on a submarine that an ASW task force just moments before had forced to the surface at night and that was surrounded by U.S. destroyers, especially if the assignment the pilot had been given (and was dutifully executing) simply was to illuminate and photograph the vessel? And why would B-59’s crew, having crowded onto the submarine’s deck to breathe fresh air, then remain there for a lengthy period (per the pilot narrative reports) if they were coming under machine-gun or cannon fire from overflying aircraft? And why would B-59’s captain have continued to maneuver slowly in the NOTMAR-required easterly direction with a USN destroyer alongside at one hundred yards’ distance if machine-gun or cannon fire was raining down on him from above?

Sherwin also cited Arkhipov’s 1997 statement that an overflying American plane had fired three hundred cannon rounds at B-59.105 Plokhy made no mention of this 1997 evidence, but he relied on Mikhailov’s and Leonenko’s somewhat conflicting reports of “tracer bullets” being fired “ahead” of B-59 (Mikhailov) and a plane “open[ing] fire with such force that voice communications at the central post were drowned out” (Leonenko).106 Plokhy did not comment, however, on whether either man—both of whom were assigned to below-deck operations—could have been in a position to witness the aircraft action. Nor did he attempt to explain why Arkhipov would have remained on the submarine’s bridge while cannon fire and machine-gun tracers were raining down.

It would appear that the balance of the evidence refutes the accusation by Russian sailors located inside B-59—even if repeated by Arkhipov forty years after the fact—that gunfire and cannon fire were being delivered outside the vessel.

*Were the Russian Witnesses Simply Spooked by the Loud Sounds of Three Nighttime Flares (or Possibly by Helicopter Rotors) Rather Than by Cannon Fire?*

In the Russian accounts, there are a number of anomalies and many variances between the December 1962 Soviet navy’s after-action report and the testimony of other witnesses. Orlov mentioned no aggression by the Americans after B-59 surfaced. Why would destroyers have been dropping “depth bombs” around a surfaced submarine, as stated in the Soviet report? How could three hundred cannon shots have gone unreported by Orlov and unnoticed by Slaughter standing on nearby Cony?

That leaves only the statements of three Soviet navy witnesses (Arkhipov, Mikhailov, and Leonenko) that rely on their memories decades after the fact. Of the three, only Arkhipov was outside on the B-59 bridge and able to see and hear...
the events with his own eyes and ears; the other two presumably were confined inside the submarine and thus were not eyewitnesses (unless they, with regular crewmembers, had climbed through the hatches on the deck, which theoretically is a possibility, although it is unsupported by any of the available evidence). One thus also must ask the following regarding Mikhailov and Leonenko: How could they know exactly what was happening outside? And as for Arkhipov: Is it plausible that he would have remained in an exposed, outside position on B-59’s bridge throughout the period of twelve separate overflights by hostile aircraft if they were firing three hundred cannon shots at or near the submarine? During his 1997 presentation, Arkhipov apparently repeated almost verbatim the details of the Soviet after-action report.\(^\text{107}\) It would appear that he merely may have been reciting the highlights of the “official” Kremlin record mechanically.

Regarding all three men, one also must ask: How much weight should be accorded to their memories evoked decades after the fact, given the readily apparent inconsistencies among their statements about the same event? And what temptation to stray from the actual facts might they have been subject to as they tried to re-create these long-ago events in their later years? Would they not have been vulnerable, at least to some extent, to an incentive to dramatize retrospectively the events in ways that would provide a more appealing, even a heroic, portrayal of the circumstances they faced that precipitated their captain’s voluntary decision to bring B-59 to the surface, thus placing the crew and their vessel at the mercy of the Americans?

In the contrasting American accounts, the USN officials on the scene produced copious documentation of their actions and perceptions in contemporaneous, formal, after-action destroyer deck logs and similar narrative reports of aircraft pilots.\(^\text{108}\) The reports are remarkably consistent, containing only very minor disparities. These USN witnesses would have had a strong incentive to report details correctly, because their many fellow officers would have observed the same incidents, and any false reporting or omissions would have been detected easily. Furthermore, there would have been no opportunity for destroyer officers or crewmembers to harmonize their logs with the carrier pilots’ narratives. Why, for example, would both the officers on Cony’s bridge and the airmen flying above have neglected to report strafing and cannon fire from the ASW aircraft if such had been unleashed?

Slaughter’s 2016 statement placed the detonating flares incident within a brief period beginning approximately one hour after the 8:50 PM surfacing of B-59 (i.e., at around 9:50 PM). He also noted that “main deck hatches popped open to allow the fresh night air to flow inside and cool the submarine. The sub’s crewmen streamed out of the open hatches, stripping off their sweat-soaked uniforms.”\(^\text{109}\) USN pilot Miller’s report placed his aircraft overhead of B-59
making illuminating/photographing runs almost continuously from 8:50 PM to 11:20 PM that night, and he mentioned that “[t]hroughout most of the illumination runs personnel were observed topside.” So, B-59 crewmembers would have been continuously present, on deck, and exposed to any gunfire if such had been occurring. Yet neither Miller nor Gillooly included any reference to gunfire from their aircraft (or other U.S. planes) that night.

Relatedly, why would an overflying P2V or Tracker aircraft, even if suitably armed, have opened fire in these circumstances, against their orders to avoid aggressive action, in nighttime darkness, and with USN destroyers tracking B-59 at a distance of somewhere between two and three hundred feet? With such a predominance of U.S. naval power on the scene, what would have been the point of aircraft opening fire on a surfaced and slow-moving Soviet submarine that was bearing in the mandated easterly direction and presenting no obvious threat to any U.S. military assets? Would it also not have been concerning to the pilots that friendly U.S. destroyers and helicopters were close to the line of fire of their aircraft? Would not the risk of “friendly fire” casualties have been a prominent, top-of-mind deterrent to them, especially given the darkness and the poor weather conditions? And if the P2V indeed had been attacking the slow-moving submarine with cannon or gunfire from low altitude and at close range, how could the aircraft have missed its target entirely? The stories of gunfire from overhead aircraft simply do not add up. It would appear from the predominance of credible evidence that no guns were fired on or around B-59 during the night of 27–28 October 1962.

*Was the Brief Delay Occasioned by the Signal Officer’s Difficulty in Descending from the Conning Tower Really a Meaningful Factor in Assessing How Close B-59 Came to Firing a Nuclear Torpedo?*

Let us suppose, for the sake of argument, that Savitsky’s panicked order from the bridge had been communicated instantly to Leonenko and the torpedo officer obediently had tried to comply. Would he once again have encountered the same or even greater resistance from the KGB or other weapons watch officer and other crewmembers in following orders to prepare the nuclear torpedo for firing, given what had transpired earlier when another order involving only a conventional weapon had generated resistance? Would the KGB or intelligence officer and crewmembers not have been even *more* likely to resist, given what had happened the last time their captain had panicked? Was B-59’s situation while on the surface—with its crewmembers out on deck catching their breath, direct communications being conducted with nearby U.S. vessels, and radio contact having been reestablished with superiors in Moscow—not significantly more reassuring than that which the submarine had faced while below the surface, where contact with the outside world was limited or impossible?
Separately, what was the significance of Savitsky having ordered that two torpedo tubes be prepared, with the second tube necessarily having to receive a conventional torpedo, since there was only one nuclear weapon on board? Was Savitsky planning to fire the conventional torpedo first, and was not yet sure whether he ever would have to fire the nuclear torpedo? Was he mindful of the written order from headquarters to which Captain Dubivko referred, which specified different authorizations for use of conventional versus nuclear-armed torpedoes? The record detailed in Plokhy’s account neither addresses these questions nor provides answers to them.¹¹¹

Nor did Plokhy discuss whether—even if there had been no apology signal from Cony, and even if Arkhipov had come down from the bridge—Savitsky could have persuaded his fellow officers to follow through on launching the nuclear strike that he was urging against a peaceful nearby ship, an attack that surely would have obliterated B-59 and its entire crew simultaneously with the American destroyer. Why should it be assumed that Arkhipov or Leonenko would have responded obediently to this second emotional outburst from a seemingly distraught captain, especially during a period when the following were true: communication with Moscow headquarters had become possible once again; B-59 had sustained no damage from flare drops, depth charges, bombs, cannon shells, or machine-gun bullets; and an apparently peaceful hiatus had been holding for over an hour, with a quiescent USN destroyer only one hundred yards to starboard?

**Did Good Luck or the Odds or Contingency Play a Leading Role in Averting a Possible Nuclear Incident?**

Over the years, many have tried to ascribe the peaceful outcome of the Cuban missile crisis, and implicitly of the B-59 incident, to luck. Dean Acheson famously said that the peace was kept as a result of “plain dumb luck.”¹¹² President Kennedy tried to put “the odds” of preventing nuclear war during the crisis as ranging “between one-in-three and even.”¹¹³ One must ask, however, whether Kennedy could look to a sufficiently large set of comparable cases, or credibly apply any accepted and even remotely relevant probability metric, to estimate the odds of nuclear war breaking out at any time, let alone the odds of a first-ever nuclear war in October 1962. After all, there had been no prior outbreak of nuclear war in world history. More likely, the most that can be said of the president's pronouncement is that his opinion was ex cathedra. Even Martin Sherwin, who devoted significant attention to asserting an arguable role of luck in the Cuban missile crisis, acknowledged that “historians tend to overlook those deviations caused by inexplicable luck, both good and bad: They are too hard to discern, even harder to contextualize, and—most problematic—they resist rational explanation.”¹¹⁴

Contingencies, both large and small, occur with great frequency at all times and in all places, most assuredly including all international conflicts. The main
problem with attempts to consider the role of contingency is that such events are ubiquitous. Focusing for the moment on potentially lethal contingencies in the military context, this necessitates careful planning, training, practice exercises, the provision of redundant protective measures, and readiness to adapt in the face of new developments. But, of course, even the best planning, training, and adaptation cannot avoid absolutely the risk of adverse outcomes arising from the sudden occurrence of unexpected contingencies.

In the B-59 episode, the most obvious contingency was the unobserved presence of a nuclear-armed torpedo in a Soviet submarine whose captain proved to be unstable when he came under pressure. What stopped the captain from firing the torpedo? Was it merely luck? Of course not. To ascribe the outcome to luck, one would have to overlook the nearly universal management practice—accepted at the time by both the Soviet Union and the United States and put into practice in the four Foxtrot submarines sent to Cuba—of ensuring that both headquarters would have to authorize and multiple ranking officials present at the scene where such a decision would need to be made and executed would have to agree and cooperate with the captain before his order to fire a nuclear weapon could be carried out. This management practice was in effect on B-59, and it worked out as planned on the night of 27–28 October 1962.

But the effect of good management practice governing the use of a nuclear weapon was not the whole story of how intentional peacekeeping operated during the naval confrontations that occurred during the Cuban crisis. In their book Cold War Submarines, Norman Polmar and K. J. Moore cite the Navy’s official after-action analysis of the ASW operation during the Cuba quarantine, which was given the code name CUBEX (Cuban Exercise). Although the analysis “provided considerable insight into Soviet submarine capabilities and tactics as well as problems,” the Navy’s report concluded the following: “The reliability of results of CUBEX evaluation is affected by . . . two major artificialities. The factitious aspects of the operation included the non-use of destructive ordnance and the priority scheduling of aircraft during daylight hours for the visual/photographic needs of the Cuban quarantine force. The unnatural case of not carrying a contact through ‘to the kill’ affected the tactics of both the hunter and hunted, as did the unbalanced day/night coverage.”

This “artificiality[y]” in the “unnatural case” of the Cuba quarantine affected the Soviet side no less than the American one. As Polmar and Moore state of the submarine commanders: “But knowing that they probably were safe from attack with lethal weapons, and not being required to carry out attacks against U.S. ships, the Soviet submarine captains were not realistically tested in a conflict situation.”

What is most striking about the different stories laid out in Soviet and American firsthand accounts is their commonality on a basic point: each side’s witnesses
claim to have heard or seen their opponent committing what they thought was a reckless, violent aggression threatening potentially uncontrollable escalation, and yet they desisted from responding in kind, choosing instead the path of peaceful accommodation. When Arkhipov, Savitsky, and Maslennikov may have had at least some reason to worry that their vessel might be coming under attack by real depth charges, two of them (Arkhipov and Maslennikov) remained calm and the third (Savitsky) quickly was persuaded by his colleagues to recover his calm. Thereafter, all three abided stoically and peaceably for more than three additional hours, bearing up under increasingly horrendous atmospheric conditions inside the submarine, until they finally elected to surface, despite the Soviet navy’s nearly absolute aversion to doing so in a place where it was likely the submarine would be placing itself at the mercy of its opponents.

Later, one or both of Arkhipov and Savitsky may have thought, however briefly, that their submarine was being strafed by low-flying American aircraft. Once again, Savitsky reflexively panicked, while Arkhipov stayed cool. Within a matter of seconds Arkhipov’s steadiness prevailed, the perception of attacking gunfire was dispelled (or, to accept an alternative account, a prompt American apology was discerned and then accepted), B-59 stayed on its course, and the Soviets stood down from mounting any military response.

The Americans, for their part, also acted with exceptional restraint in the face of what, according to Slaughter, they believed to be an audacious act of aggression and lethality: a nearby, surfaced enemy submarine suddenly “wheeling” about and aiming its “open” forward torpedo tubes at the unprotected flank of a destroyer cruising slowly only one hundred yards away. Whether the Americans knew they might be facing a nuclear torpedo or only a conventional one, they found themselves staring imminent death in the face. And what was the American response? No attacking aircraft were summoned. No naval gun was fired, although many were armed, trained on the target, and exceedingly capable of doing so. Nor was an emergency escape or evasion maneuver even attempted. Rather, the threatened destroyer’s captain immediately ordered transmission of an apology signal, and his apology was accepted instantly.

None of these actions or instances of remarkable self-restraint from taking reprisal action was simply a magical stroke of good or dumb luck. Rather, all were the product of a Cold War environment in which the two contending sides shared an extreme reluctance to engage in military action that might threaten escalation to nuclear warfare. And in this tense situation, both sides adopted similar versions of a dual- or multiple-key rule of constraint whereby the decision to use a nuclear weapon could not be made by one individual acting alone. Multiple actors were required to reach agreement, thereby reducing the risk of reckless action. And it must be added that, in the minds of Russian naval officers aboard B-59, there was
almost certainly an extra measure of reluctance to take action using their own nuclear weapon that would have been the equivalent of committing suicide.

So, what were the odds of this thankfully nonviolent outcome occurring sequentially at three successive junctures occurring within the space of less than four hours? While no reliable calculation can be made, history does provide a remarkable, decades-long track record of consistent nuclear nonuse that offers a baseline for at least a tentative assessment. After America's intentional dropping of atomic bombs on two Japanese cities in August 1945, there has not been a single occasion in which an intentional or even accidental detonation of a nuclear weapon of any kind has occurred in international conflict. This unbroken pattern has held true despite the fact that many thousands of nuclear weapons of all potencies have been held by a growing number of nations throughout that period. Is this consistent pattern of nonuse simply a matter of luck? If it were, human beings—who have been extraordinarily unlucky in their international relations in so many other respects—have managed to sustain an almost magical stroke of uninterrupted good luck in this one domain.

Rather, if chance or odds are to be considered, we must acknowledge that the chance of nuclear war breaking out for the first time ever on the night of 27–28 October 1962 was exceedingly small. It would seem that the most likely explanation for nonescalation that day was the almost universal abhorrence of nuclear escalation that had kept these weapons silent since August 1945, coupled with each nuclear nation taking care to reserve the decision on actual nuclear use to its top executive authority, in consultation with a coterie of senior military advisers, and with hypercareful management down the chain of command (including application of a mandatory “two-man rule” or “dual key” system on the scene) over the decision to pull the nuclear trigger. Arkhipov, Maslennikov, and the KGB (or Sixth Department) minder were present on B-59 along with the vessel's captain not because of chance or luck, but rather because of simple, sensible, realist planning to prevent an untoward contingency of human malevolence or frailty from producing a needless, horrific outcome.

NOTES


14. See Sherwin, Gambling with Armageddon, p. 27. “[I]n March 2004 Arkhipov’s widow, Olga Grigoryevna, a physics teacher in Baku, reported that her husband had told her the story of how Captain Savitsky almost fired a nuclear torpedo at an American destroyer.” It would be pure speculation, but nevertheless is tempting, to surmise that if Arkhipov indeed did tell this story to his wife, he would have spoken the word “destroyer” in a derisive tone to accentuate the evident instability of the captain’s state of mind and the utter senselessness of the plan he was groping to formulate.

15. See Norman Polmar and K. J. Moore, Cold War Submarines: The Design and Construction of U.S. and Soviet Submarines (Lincoln: Univ. of Nebraska Press, 2004), p. 28. The first nuclear warheads designed for use in Soviet submarines “were placed on board submarines beginning in late 1962,” and the warheads “could be fitted to specific torpedoes in place of high-explosive warheads while the submarine was at sea” (emphasis in original).


17. Maslennikov’s role quietly was overlooked.


21. Carrier Division 16, “Report of ASW Barrier Operations during the Cuban Missile


26. Weir and Boyne, Rising Tide, p. 98.

27. Ibid., p. 334.


29. Ibid., p. 79.

30. Ibid., p. 102.

31. Ibid., p. 103. Indeed, the Soviet version of this precautionary rule was, if anything, even more conservative than the American rule. The Russians required agreement of three officers rather than two, and as a practical matter may have had what amounted to a “four key” rule if the KGB officer guarding the nuclear weapon is considered a further safeguard against inappropriate use.


34. See Lewis and Tertrais, The Finger on the Button, p. 2, “While the two-person rule is common throughout the chain of command, several nuclear-armed countries choose to concentrate the legal authority to order the use of nuclear weapons in the hands of a single political leader. It is important to note that authority is not the same thing as ability—in most, if not all, nuclear-armed countries, the legal authority to order the use of nuclear weapons is held at a much higher level than is the actual ability to launch those weapons. Effectively, the two-person rule divides the ability to carry out the action among multiple persons, thus increasing the likelihood that nuclear weapons will only be used on the order of the appropriate authority.”


36. Weir and Boyne, Rising Tide, p. 103.

37. Savranskaya, “New Sources.”

38. Ibid., p. 240.


40. Ibid., pp. 246–47.

41. Ibid., p. 247.


43. Ibid., p. 299.

44. Ibid., p. 301.

45. Ibid., p. 303.

46. Ibid.

47. Leonenko’s reported recollections of the incident are described below. This author met with Ms. Savranskaya on 17 August 2022 and
discussed at length our respective understandings of the B-59 incident. Savranskaya, who personally had interviewed many of B-59’s officers, expressed her opinion that the unnamed officer who was personally guarding the nuclear warhead, and whose cooperation also would have been necessary before a nuclear-armed torpedo could have been readied for use, most likely was not a KGB officer but rather an officer from within the Soviet navy’s Sixth Department responsible for nuclear weapons.

49. Ibid., pp. 317–18.
52. Slaughter, Sea Stories, p. 115. Emphasis in original.
53. Ibid., pp. 115–17.
54. Ibid., p. 118. No other commentators have picked up on Slaughter’s recollection of B-59 turning on the surface to aim its forward torpedo tubes in open position at Cony. Slaughter repeated this account in a podcast presented on 23 May 2022, adding that the two vessels were only one hundred yards apart when the incident occurred. Katy Milkman, “Under Pressure: With Guests Svetlana Savranskaya, Gary Slaughter & Modupe Akinola,” 23 May 2022, in Choicology, produced by Charles Schwab, podcast, www.schwab.com/. But Slaughter’s 2022 account left out any comment about the flares being deployed to illuminate the darkness, and he said nothing about Cony’s remarkable restraint in response to this apparent provocation. Did B-59 actually make a full 90-degree turn to face Cony directly at only one hundred yards’ distance? How could such a sharp maneuver have been accomplished in so tight a space? How long would it have taken to complete that dramatic wheel-about, and what was Arkhipov doing while it occurred? And what about Savitsky’s reported order that the submarine submerge? Was B-59 simultaneously wheeling about and plunging beneath the surface? What about all the Soviet sailors gasping for breath on the open deck of the submarine? Were they being given time to scramble back into the submarine? Or, perhaps far more likely, was B-59 simply executing a brief swerve toward the Americans to deliver a reciprocal, nominal “slap on their cheek,” so as to sow fear briefly in an opponent who—as Soviet admiral Fokin was reported to have hypothesized—may have “slap[ped] you on the left cheek”? See Savranskaya, “New Sources,” p. 240. After all, the P2V maneuver, with its loud, low, and close flyover, may have seemed to Captain Savitsky like a slap in the face. And his menacing swerve in response actually would have been harmless, considering that the only torpedoes B-59 had loaded for possible use at the time were conventional ones located in the submarine’s stern tubes.
55. Sherwin, Gambling with Armageddon, p. 477, notes to p. 27.
56. Ibid., p. 18.
58. Ibid., p. 46. Emphasis added.
59. Sherwin, Gambling with Armageddon, pp. 26–27; see also ibid., pp. 19–20, which identifies the summoned officer as the “special weapons officer.”
61. Ibid. Emphasis added.
63. Arkhipov’s presentation at Moscow conference commemorating thirty-fifth anniversary of the Cuban missile crisis, 14 October 1997, posted on the Kirov Naval Academy’s website and provided to Sherwin by Savranskaya, cited by Sherwin, Gambling with Armageddon, p. 477, note to p. 27. Sherwin also cited in the same endnote a further unpublished document that this author has been unable to review, described as “Svetlana Savranskaya’s notes on ‘Nuclear Close Calls,’ which she provided to me.”
64. Sherwin, Gambling with Armageddon, p. 477, note to p. 26. The Northern Fleet
Headquarters report subsequently was published in Svetlana Savranskaya, ed., “The Underwater Cuban Missile Crisis at 60,” Briefing Book 808, NSA, 3 October 2022, nsarchive.gwu.edu/.

65. Sherwin, Gambling with Armageddon, p. 27. Arkhipov's 1997 presentation also was published in the West for the first time in Savranskaya, “The Underwater Cuban Missile Crisis at 60.”

66. Sherwin, Gambling with Armageddon, p. 27. The source for the material quoted here by Sherwin is unclear, but is likely Savranskaya’s “Nuclear Close Calls,” which this author has not been able to review.

67. Vasili Arkhipov [Vice Adm.], “Presentation at the Conference on the Cuban Missile Crisis, October 14, 1997, Moscow,” trans. Svetlana Savranskaya, in Savranskaya, “The Underwater Cuban Missile Crisis at 60.”

68. See Weir and Boyne, Rising Tide, p. 102.

69. Plokhy, Nuclear Folly, p. 409 notes 15–17, 19. Plokhy cited two publication formats for the reported memories of the three B-59 officers. The two are dated one year apart, in 2012 and 2013: V. V. Naumov [Rear Adm., Soviet navy], comp., Karibskiy krizis: Protivostoyaniye; Sbornik vospominaniy uchastnikov sobytii 1962 g. [Caribbean crisis: Confrontation; Collection of memoirs of participants in the events of 1962] (Saint Petersburg, Rus.: V. V. Naumov, 2012), pt. 30; and a 30 January 2013 blog posting containing a portion of the V. V. Naumov collection accessible at flot.com/blog/. The link for the blog posting appears to contain only the Orlov recollections that had appeared in the 2012 V. V. Naumov publication. Savranskaya provided this author with the Leonenko and Mikhailov portions of the V. V. Naumov collection, which appear to have been extracted from the same 2013 blog posting. The Leonenko and Mikhailov extracts provided by Savranskaya are in a Russian-language document of thirteen hand-marked pages that appear to be formatted in the same manner as the 2013 blog posting and references on page 10 both V. V. Naumov and the date “30.01.2013” (cited hereafter as Savranskaya-provided portion of 2013 blog posting of V. V. Naumov). But the passages therein containing the recollections of these two officers cannot be found in the blog post link provided by Plokhy.

70. Plokhy, Nuclear Folly, p. 262.

71. Ibid., pp. 266–67. The U.S. identification and surfacing procedures had been “passed to the Soviet side” by telegraph on the night of 23 October, and USN surveillance had observed B-59 on the ocean surface, where the submarine’s detection of international signals traffic would have been possible, on 25 and 26 October.

72. Ibid., p. 268.

73. Ibid., p. 269.

74. Ibid., pp. 269–70.

75. Savranskaya-provided portion of 2013 blog posting of V. V. Naumov, p. 4, trans. Irina Kats.

76. Plokhy, Nuclear Folly, p. 259.

77. Ibid., pp. 269–70.

78. Ibid., p. 269.

79. Ibid., pp. 269–70; Sherwin, Gambling with Armageddon, p. 27. Savranskaya subsequently confirmed Sherwin’s account. In her 23 May 2022 podcast account referenced above, Savranskaya said Savitsky was still on B-59’s bridge, and thus within arm’s reach of Arkhipov, owing to both men being held up by the signal officer’s slowness in descending below deck. Given that Savitsky was still outside on the bridge, he was almost immediately able to see what Arkhipov said he was seeing. According to Savranskaya’s 2022 account: “Savitsky is giving the command as he is trying to get down, but in the stairwell, there is the signaling officer with a lot of equipment that he’s carrying, and he got stuck in the stairwell. Arkhipov was more calm and by pure accident, he was still standing on the conning tower when Savitsky was trying to get down, and so he had this extra minute maybe to observe the behavior of the U.S. anti-submarine warfare units, and he realized that as offensive as their behavior was, they were not trying to shoot. And he essentially reached down for Savitsky and said, ‘Wait, wait. Look, they're signaling. They're signaling.’ And Savitsky came back, and he gave the order to signal back to the Americans to stop these provocative actions.”

80. Plokhy, Nuclear Folly, p. 270.

81. Sherwin, Gambling with Armageddon, p. 27.

82. Plokhy, Nuclear Folly, p. 271.
85. Ibid.; Weir and Boyne, *Rising Tide*, p. 101. Orlov also recalled that his OSNAZ group had been able to warn B-59’s captain of the approach of a NATO surveillance aircraft “with a ten-minute margin to spare,” allowing time for the submarine to “go deep to avoid detection.” That ten-minute safety buffer suggests that the submarines could have risked daytime surface operation in instances of necessity.
89. See notes 57 and 58.
91. “Submerged submarines, on hearing this signal, should surface on Easterly course.” See text accompanying note 20.
92. See Orlov, “Recollections of Vadim Orlov.”
93. By 1962, USN ASW forces were equipped with not only highly advanced electronic-detection systems but also system-integrated attack weapons, including the destroyer-equipped ASROC (“a rocket that carried either a nuclear depth charge or a homing torpedo”) and Tracker aircraft that were equipped with “an internal torpedo bay capable of carrying two lightweight aerial torpedoes or one nuclear depth charge.” Cote, “The Third Battle,” p. 21. See also *Wikipedia*, s.v. “Grumman S-2 Tracker,” en.wikipedia.org/.
97. Quotations in this and the following two paragraphs are drawn from Plokhy, *Nuclear Folly*, pp. 269–70.
100. Savranskaya, “New Sources,” p. 242. See also Sherwin, *Gambling with Armageddon*, p. 25. “Firing live ammunition at a Soviet submarine—or any other unnecessary hostile action against any Soviet vessel—was strictly prohibited. Secretary McNamara had made that clear to the chief of naval operations (CNO), Adm. George Anderson, during a bitter exchange in the navy’s Pentagon Command Center four nights earlier (October 23).”
102. Sherwin, *Gambling with Armageddon*, p. 27.
104. For example, “Weapons: Nuclear depth charges, conventional depth bombs, five inch rockets, Zuni rockets and homing torpedoes”; “US-2B Tracker,” USS Hornet *Sea, Air & Space Museum*, uss-hornet.org/; “Armament[]: (6) 5 in. HVAR rockets[,] (1) Mk 34 or 43 anti-submarine torpedo[,] (20) Marine Markers (smoke)”; David D. Jackson, “Grumman S2F/S-2 Tracker Basics,” Grumman S2F/S-2 Tracker Survivors, www.grummantracker.com/. By 1962, “all guns were deleted”; “P2V (P-2) Neptune,” *Naval History and Heritage Command*, www.history.navy.mil/. The pilot narratives of Cdr. L. M. Millsaps and Cdr. John F. Gillooly, who were the commanders of USS Randolph Tracker Squadrons 36 and 26, respectively, documented that each squadron was flying S2F-3 Trackers, which in 1962 were the latest models of the Tracker aircraft. As Commander Millsaps noted in his narrative, “The comparatively new S2F aircraft and its associated electronics gear performed splendidly”; “Narrative by CDR L. M. Millsaps, USN, VS-36,” enclosure 2 in Carrier Division 16, “Report of ASW Barrier Operations.” See also “Narrative by CDR John F. Gillooly, USN, VS-36.” “The addition of the MAD stinger, first on the P2V-5, and the deletion of guns as the subs went nuclear, brought the ‘Neptune’ to its final major configuration, the P2V-7, which was flown first on April 26, 1954. This last
model was to remain in service for more than 20 years. P2V 'Neptunes' were operated by the US Navy, Army and Air Force; "Lockheed P2V-7 (SP2-H) "Neptune," Mid-Atlantic Air Museum, www.maam.org. "During the early part of its life, the Neptune was equipped with .50 cal machine guns, 20 mm cannon for defensive armament, however this was eventually removed. Bombs, depth charges and torpedoes were its normal stock in trade"; "Lockheed SP-2H (P2V-7) Neptune," HARS Aviation Museum, hars.org.au.

105. Sherwin, Gambling with Armageddon, p. 27.
106. Plokhy, Nuclear Folly, p. 270.
107. Sherwin, Gambling with Armageddon, p. 27.
108. It must be recognized that the available deck logs and aircraft after-action reports do not cover the entire period from B-59's 27 October appearance on the surface in darkness at 8:50 PM through the arrival of morning on 28 October, but rather end four and one-half hours later with Gillooly's report entry of 1:20 AM. Nevertheless, Slaughter's report indicates that the exploding flares incident occurred approximately one hour after B-59 came to the surface, which was well within the period the two aircraft were over the Soviet submarine.

110. As mentioned, Sherwin speculated that "perhaps the combustible mix of adrenaline, testosterone, and frustration led the Tracker crew to demonstrate clearly to that 'Commie sub' just who had won the cat-and-mouse game," but he provided no specific evidence of this other than the testimony of Russian veterans offered decades later. Sherwin, Gambling with Armageddon, p. 25.

111. Plokhy, Nuclear Folly, p. 262.
112. Sherwin, Gambling with Armageddon, p. 4.

114. Sherwin, Gambling with Armageddon, p. 3.

HISTORICAL PARALLELS IN COMMAND NELSON AND SPRUANCE

Robert C. Rubel

No two, perhaps, of the myriad battles of history have been exactly alike, either in the ground contested or in their tactical combinations; no theatre of war, great or small, on land or sea, is without features that differentiate it from every other, in the apprehension of the strategist; but still among them all are marked resemblances, common general characteristics, which admit of statement and classification, and which, when recognized and familiar to the mind, develop that aptitude, that quickness to seize the decisive features of a situation and to apply at once the proper remedy, which the French call coup d’œil, a phrase for which I know no English equivalent.

ALFRED THAYER MAHAN, ADDRESS AT THE OPENING OF THE FOURTH ANNUAL SESSION OF THE NAVAL WAR COLLEGE, 6 AUGUST 1888

The remark often attributed to Mark Twain that history might not repeat itself but rhymes is used so often that it can become trite, but nonetheless there is objective truth behind it. In terms of military history, parsing such rhyming can offer insights into the process of command. Prussian war theorist Carl von Clausewitz catalogs four ways in which historical examples can be used; the first is to explain an idea. The idea of focus in this article is the command dilemma that naval commanders have faced and likely will face. This dilemma involves the uniquely naval matter of weighing the risk of pursuing an enemy fleet or forgoing such a pursuit to protect a strategic position. The complicating factor is uncertainty about the enemy’s location and intent. Additionally—and again a uniquely naval matter—the balancing of risk to capital ships versus risk to a position, say a beachhead, factors into the decision-making dilemma. It has been
many decades since a USN admiral has faced such a command dilemma, and the matter may have faded from the collective professional lore that informs officer development. The emergence of a peer great power—hostile to U.S. interests and intent on building a competitive navy—suggests that future U.S. naval commanders might encounter such command dilemmas, and thus it is appropriate to examine how past commanders dealt with them.

A review of naval history from the Napoleonic Wars through World War II reveals a number of instances in which commanders had to make decisions about whether to prioritize destruction of an enemy force or preservation of a capital-ship force at the risk of leaving a strategic position uncovered. Vice Admiral Frank Jack Fletcher decided to remove his carriers from the vicinity of Guadalcanal once the landings had commenced in August 1942, for fear of Japanese land-based air attacks. In his mind, staying put would have incurred unacceptable strategic risk, given the few carriers available in the Pacific at that time. Admiral William F. “Bull” Halsey’s decision to chase Japanese vice admiral Jisaburo Ozawa at the Battle of Leyte Gulf in October 1944 rather than stay in place to protect the beachhead was a case in which the strategic position was left uncovered to seek battle with the enemy fleet. I do not, however, regard it as a true case of historical rhyming, because of the massive superiority the U.S. Navy possessed at the time and the particular locating information available to Halsey.

This article will focus on just two examples, because of the compelling similarities in the situations. At the end, an epilogue will report on the author’s personal experience with such a situation.

In 1995, I wrote an article for the Naval War College Review (Winter 1995, vol. 48, no. 1) analyzing the parallels in the Battles of Gettysburg and Midway. While these would seem to be unrelated events, on closer study the faulty command decisions that General Robert E. Lee and Admiral Isoroku Yamamoto made were similar in nature and led to similar results. Recently, a rereading of Julian S. Corbett’s The Campaign of Trafalgar caused some mental relays to click, and I realized that there existed another case of historical parallels in command. In this case, I will look at the decision-making of two famous admirals, British admiral Horatio Nelson and American admiral Raymond A. Spruance. On the surface, the two men seem to be entirely different in their approaches to command, but on one occasion for each their decisions in maneuvering leading up to a major naval battle “rhymed.” Unlike those of Lee and Yamamoto, the decisions of Nelson and Spruance prior to the Battles of Trafalgar and the Philippine Sea, respectively, led to victory. Parsing this couplet of command decisions offers useful insights into both naval strategy and the dilemmas involved in command at sea.

CONTEXT: POSITION VERSUS ATTRITION

The two classic naval theorists, the American Alfred Thayer Mahan and the Briton Julian Corbett, produced different approaches to naval strategy. Both
highlighted the importance of seizing command of the sea via destruction of the enemy’s fleet, but Mahan’s approach was more focused on waging a decisive battle for command, whereas Corbett offered a more nuanced view that recognized the importance of geographic positions. Thus, among naval strategists there grew a theoretical disagreement over the relative importance of defending or seizing a position versus destroying the enemy fleet. Almost everyone accepted that final victory in war depended on operations ashore, but the relative importance of naval versus land operations at any particular moment became the locus of contention. For “Mahanians,” the destruction of enemy naval forces was a strategic prerequisite to operations on land. Free and secure movement on the seas, as well as denying such to the enemy, made land operations possible and therefore always must be the priority in naval strategy. “Corbettians,” on the other hand, believed there could be situations in which the protection of a position took precedence over attrition of the enemy fleet.3

The intent here is not to take sides in the matter but rather to lay the foundation for the command dilemmas both Nelson and Spruance faced: whether to risk uncovering a position to create an opportunity to destroy an enemy fleet or forgo such an opportunity to ensure the safety of a position. In both cases there were powerful incentives pulling the admirals in different directions. In both cases an unlocated enemy fleet was the source of the command dilemma. In both cases the uncertainty of where the enemy fleet would go produced the risk framework. In both cases the admirals chose ensuring the safety of a position over seizing the opportunity to engage the enemy fleet. The admirals’ reasoning illustrates the necessary subordination of naval strategy to overall war strategy.

BRITAIN’S STRATEGIC SITUATION, 1805

Napoléon’s virtual annexation of the Netherlands in violation of the 1801 Treaty of Lunéville was a key factor that prompted Britain to declare war on France in 1803.4 Britain simply could not live with a nation in the hands of a hostile ruler in such close proximity across the narrow seas. But in 1805, Britain did not have an army of sufficient size to challenge France on the Continent; it had to enlist allies. Foremost among potential allies at the time was Russia. Both Britain and Russia had interests in keeping the Kingdom of Naples out of Napoléon’s hands. Russia promised to dispatch an expeditionary force to southern Italy if Britain did the same. In March 1805, the British organized an expedition that was to sail to Malta and from there support Russian initiatives. At all costs, the goal of both the British and the Russian forces was that Napoléon must not be allowed to capture Sicily or take over the Kingdom of Naples. Thus, the British expedition constituted not only British bona fides with Russia that would cement the anti-Napoléon alliance; it also would protect positions, especially Malta, that were
critical to maintaining command of the sea in the Mediterranean, which in turn was critical to maintaining contact with Russia.

France had significant naval forces, but these were dispersed among ports ranging from Toulon in the Mediterranean to Brest in the English Channel. Napoléon's goal at the beginning of 1805 was to mount an invasion of Britain to remove his principal enemy. To do so, he needed to secure at least temporary command of the Channel, and to accomplish this he needed to unite his dispersed naval forces, along with such Spanish forces as could participate. In addition to this grand unification of forces in space and time, he needed to prevent the Royal Navy from doing the same. Napoléon thus concocted a grand scheme of deceptive naval maneuvers to lure British forces away from the Channel. In fact, the Royal Navy was dispersed rather widely, and it was occupied with blockading the French ports and protecting commerce with the far-flung colonies. That said, almost all British admirals understood the need to protect the Channel. Admiral Nelson, celebrated victor in the Battle of the Nile, was placed in command of the British Mediterranean squadron tasked with maintaining command of the Mediterranean and protecting British land operations there.

At the end of March 1805, Napoléon ordered French admiral Pierre-Charles de Villeneuve to sortie his Toulon-based squadron and proceed to Martinique in the West Indies to initiate his emperor’s grand scheme. Nelson received reports of Villeneuve’s departure from Toulon, but his exact whereabouts and his intended destination remained a mystery to the British forces.

**AMERICA’S STRATEGIC SITUATION, 1944**

By mid-1944, the Allies were on the offensive everywhere against the Axis powers. In Europe, General Dwight D. Eisenhower’s armies were rolling back the Germans from the west and Stalin’s armies were doing the same from the east. In the Pacific, the two major offensive prongs—General Douglas MacArthur’s southwest Pacific campaign and Admiral Chester W. Nimitz’s central Pacific campaign—were in high gear as they island-hopped toward the innermost Japanese defensive perimeter. Derived from the prewar Plan ORANGE, the central Pacific drive was a progression of island seizures that created a series of forward bases that supported naval operations with air support and logistics. The objective was to create a series of positions close to Japan that would support operations to secure the Allied policy of unconditional surrender. In 1944, it was still uncertain how the endgame would play out: slow starvation through blockade, strategic bombing, or invasion of the home islands. One concern was how long it would take to secure victory. The American public’s massive support for the war and its willingness to endure rationing and tolerate the growing casualty lists were not considered infinite by national leadership. The concern for accelerating
the Pacific campaign is evidenced by a message from the Joint Chiefs of Staff (JCS) to Nimitz and MacArthur on 13 June 1944, six days before the Battle of the Philippine Sea:

The Joint Chiefs of Staff . . . are considering the possibilities of expediting the Pacific Campaign by any or all of the following courses:

A: By advancing the target dates for operations now scheduled through operations against FORMOSA.

B: By by-passing presently selected objectives prior to operations against FORMOSA.

C: By by-passing presently selected objectives and choosing new objectives, including JAPAN proper.

On basis of over-all situation which will obtain as result of FORAGER operation [code name for the seizure of the Marianas] CinCPOA and CinCSoWesPac directed to present their views and recommendations.

The message was sent to Nimitz, and I know of no evidence that it was forwarded to Spruance, but I believe the latter would have been aware of the strategic intent the message reflects. Successful seizure of the Marshall Islands in early 1944 and the observed weakness of Japanese forces on islands previously slated for invasion (such as Truk) prompted a decision to move directly to the invasion of the principal Mariana island of Saipan. Saipan was the bulwark of Japan’s inner defense ring, and holding it justified the commitment of the Imperial Japanese Navy’s remaining aircraft carriers, which had been withheld from opposing the Gilbert and Marshall operations.

In June 1944, when reports of the American assault on Saipan reached Tokyo, Admiral Ozawa was ordered to sail and defeat the amphibious operation. Spruance received reports that the Japanese fleet was on the move, headed east. It was clear that Ozawa intended to respond to the invasion, but exactly how he would do so was unknown. Was his target Task Force 58 (TF 58)—the powerful carrier force covering the assault—or would he attempt to avoid engaging that force and attack the beachhead and the assembled transports supporting it?

MANEUVER TO AVOID BATTLE
The mobility of naval forces is their chief characteristic, and it is critical to use that mobility to achieve tactical advantage. Sometimes that mobility is used to precipitate a battle, and at other times to avoid it. In all cases, the end goal is to engage the enemy from a position of tactical, if not strategic, advantage. In Villeneuve’s case, he was to avoid battle with Nelson, escaping out of the Mediterranean Sea and heading for the West Indies to lure British naval forces there. The idea was that once the Royal Navy had chased Villeneuve there, he then would
head back to the English Channel and effect the grand unification before the British could respond. The Imperial Japanese Navy (IJN) had a bit of a different approach to the matter. Since its carrier aircraft could outrange those of the U.S. Navy significantly, the goal was to detect the American force and launch strikes while still out of range of U.S. attack aircraft. Also, luring TF 58 away from the beachhead would allow land-based Japanese aircraft to attack the transports. This was the intent at Saipan; later, at Leyte Gulf, Ozawa’s intent was to lure Halsey away from his covering position of the assault beachhead so that Japanese admiral Takeo Kurita could sneak through the San Bernardino Strait with his battleships unmolested and attack the beachhead.

MANEUVER TO PRECIPITATE BATTLE

Royal Navy forces in 1805 and USN forces in 1944 were—ship for ship—superior to their enemies both in design and armament and in the skill and experience of their crews. Therefore, commanders of both navies were eager to bring the enemy to battle. Ideally, if a major engagement could be created, command of the sea could be secured in one fell swoop, and that was the goal of both navies—both in overall doctrine and in the specific circumstances Nelson and Spruance encountered in the situations in question. The ghost of the decisive naval battle haunted both navies; Salamis (480 BC), Actium (31 BC), and Lepanto (1571) (and Trafalgar for Spruance) glittered like jewels in the naval histories that the admirals of each navy studied in their formative years. In fact, both Nelson and Spruance were veterans of battles that were perhaps not as strategically decisive as those of antiquity but nonetheless decisive in altering the vectors of their respective wars. In the Battle of the Nile (1798) and the Battle of Midway (1942), both admirals had made aggressive decisions that produced destruction of the opponent’s force—in each case, an opposing force that was not ready to engage properly.

COMMAND DILEMMAS

Most people who have had command of fighting forces have faced dilemmas of various kinds, many of which take the form of “damned if you do, damned if you don’t.” To add to the burden of command, in combat the stakes involve the lives of servicemembers and perhaps the nation’s fortunes. The pressure is tremendous. Moreover, there is a time element that complicates matters further; often a decision is required before there is opportunity to digest the accruing factors adequately. Then there is the fog of war—the collection of unknowns and perhaps inaccurate information. All these force the commander back on his or her instincts, born of education, experience, and fundamental personality traits. These instincts are what Clausewitz called the coup d’oeil—the inner eye that sees the glimmer of truth.6 Both Nelson and Spruance were commanders well endowed
with the ingredients that form the coup d’oeil and were as well suited as anyone to deal with the dilemmas of combat command. In both March 1805 and June 1944, the dilemmas boiled down to making a choice between protecting a position and seeking an attritional battle when the enemy’s location and intent were unknown.

**Nelson’s Decision**

Nelson’s orders were to protect British interests in the Mediterranean Sea. He suspected that Villeneuve, if he sortied, would seek to seize Sicily or Naples or perhaps attack British positions in Egypt. He thus positioned his force to cover such eventualities. Interestingly, he went to a “secret position” between Majorca and Sardinia from which he could ambush Villeneuve if he indeed did head for either Sicily or Egypt. This is reminiscent of Point Luck, the position the American task force took to ambush the Japanese at the Battle of Midway. Given Villeneuve’s initial proposed navigation route east of Majorca, Nelson might have succeeded in intercepting Villeneuve even if his intent was to escape via Gibraltar. As luck would have it, a merchant who had seen Nelson’s force subsequently was stopped by Villeneuve and reported the location of Nelson’s fleet. Villeneuve thus altered his course to the west of Majorca and escaped.

Lacking locating information on Villeneuve, Nelson now had to make a decision: Should he remain in a position to cover Sicily or head west looking for Villeneuve, under the assumption that he was heading for Gibraltar? If he could intercept and defeat Villeneuve, Napoléon’s scheme for achieving a concentration of force in the Channel would be defeated before it rightly was begun, and Sicily, as well as British command of the Mediterranean Sea, would be protected. However, if Villeneuve’s objective was indeed Sicily and he got around Nelson, the British strategy of courting the Russian alliance would be compromised. Nelson elected to stay in place until he had definite locating information on Villeneuve. This information did not arrive for several days, thus producing Nelson’s long chase across the Atlantic Ocean and back. Corbett, in his history of the Trafalgar campaign, extols Nelson’s decision, citing his firm adherence to overall British strategy even if it meant forgoing a potentially decisive naval engagement.

**Spruance’s Decision**

The beachhead on Saipan had been established successfully, although Japanese opposition ashore was more stubborn than anticipated. Preceding sweeps of Japanese airfields within range of the invasion had been conducted by TF 58 in the days immediately prior and had all but neutralized that threat. That said, the Japanese plan had relied on airpower to circumvent U.S. fleet air defenses and attack the beachhead, including the amphibious ships supporting it. Ozawa was unaware of the status of the land-based air forces as he steamed toward Saipan. Spruance received reports of Ozawa’s sortie from Japan, and he started moving...
his fleet to the west to intercept. The U.S. tactic—once a Japanese carrier force was located—was to steam toward it at high speed at night so it would be in range at daybreak (neither navy flew at night with any regularity). However, Spruance neither had specific locating data on Ozawa nor knew the disposition of his force; was it concentrated in one group, or was it dispersed into several? The problem for Spruance was that the farther west he ran, the bigger the gap between his force and the beachhead, providing the opportunity for Ozawa to get between Spruance’s force and the beachhead. Vice Admiral Marc Mitscher, Spruance’s TF 58 commander, wanted permission to dash west so that when Ozawa was located, he would be in position to attack and destroy the remainder of the IJN’s striking power. That essentially would open the door for the endgame against Japan.

On the other hand, if it was Ozawa’s intent to avoid Spruance and attack the beachhead, the transports on which the safety of the troops ashore depended (so Spruance thought) could be sunk and the landing defeated, possibly resulting in setting back the timetable of the central Pacific campaign. Such a delay might have had adverse strategic consequences, not the least of which would have been erosion of public support, which in turn might have undermined the policy of unconditional surrender. In the end, Spruance ordered Mitscher to turn back east if Ozawa’s force had not been located by midnight. He felt the importance of protecting the beachhead overrode the potential opportunity to achieve the final destruction of the Japanese navy. Of course, the ensuing battle—in which Ozawa’s carriers launched long-range strikes against Spruance’s force—turned into the “Marianas Turkey Shoot,” in which the carrier airpower of the Japanese navy was all but eradicated at almost no cost to Spruance’s force.

As a side note, the author, who was a planning and decision-making instructor at the Naval War College in the early 1990s, checked out one of only two copies held by the library of Corbett’s history of the Trafalgar campaign, which had been on the shelf since shortly after it was first published in 1910, and realized that Spruance likely had read that very book. Was Spruance “being Nelson” that night in 1944? It is impossible to say, but in this business of parsing historical parallels in command, it is intriguing to come across a potential direct linkage between two command decisions separated by almost 140 years. Certainly, Corbett’s glowing assessment of Nelson’s decision was compelling: “For all his passion for action, for all his firm belief in the destruction of the enemy’s fleet as the solvent of all difficulties, never once did he seek such a decision at the risk of laying open a vital point. Never once did he expose what it was his essential function to defend for an uncertain chance of contact with the enemy’s fleet.” And likewise, this: “Obviously, then, if Nelson had chosen to make a dash for Villeneuve directly he heard he was out, he might have destroyed or captured the whole of the ships that were still with his flag. A less correct officer might well have done so. But for
Nelson it was not good war. The chance of contact was far too uncertain to justify uncovering the point of greatest danger.”

CRITIQUE

Criticism of Nelson’s decision to delay pursuit of the French squadron of course was dampened by his subsequent victory at Trafalgar. Nonetheless, there was some later second-guessing, including by no less an authority than Mahan, who asserted in a note to the introduction of his famous work *The Influence of Sea Power upon History, 1660–1783* that Nelson’s concern that Villeneuve might head for Egypt led him to make a “false move” that delayed his pursuit. Yet Corbett took the opposite view: “No great captain ever grasped more fully the strategical importance of dealing with the enemy’s main force, yet no one ever less suffered it to become an obsession; no one saw more clearly when it ceased to be the key of a situation, and fell to a position of secondary moment.”

Spruance’s decision was subject to its own criticism, despite the victory at Saipan. Spruance’s biographer Thomas Buell assessed that the beachhead at Saipan was not as vulnerable as Spruance assumed. Moreover, Spruance had become convinced that the Japanese fleet would try to circumvent his forces and get to the beachhead. Buell states: “With Spruance in that state of mind, the entire Japanese navy could have announced its presence on the western horizon, but Spruance would not have gone after it unless he was positive the enemy would not attack from either of his flanks.” Mitscher was disappointed and embittered, despite the aerial victory over Japanese forces. Spruance’s chief of staff, Captain Charles J. Moore, wrote, “There will be a lot of kibitzing in Pearl Harbor and Washington about what we should have done,” and indeed there was; Admiral John H. Towers, Nimitz’s deputy commander of the Pacific Fleet, even demanded that Spruance be fired for mishandling TF 58. Spruance himself felt compelled to justify his decision, writing in a postwar letter to historian Samuel Eliot Morison, “I think that going out after the Japanese and knocking their carriers out would have been much better and more satisfactory than waiting for them to attack us; but we were at the start of a very important and large amphibious operation and we could not afford to gamble and place it in jeopardy.”

Given the desire reflected in the June JCS message to Nimitz and MacArthur, the overriding concern that could have factored into Spruance’s reasoning was the effect a successful Japanese attack on the beachhead might have had on the campaign schedule.

There is never an a priori correct answer to the command dilemmas that occur, which is why it generally is only the most-capable officers who end up in high command during war. Both Nelson and Spruance were clearly of that caliber, and both made similar decisions in similar circumstances. Interestingly, both officers had the flexibility of mind to proceed counter to their personalities when
circumstances demanded. Nelson, normally a very aggressive commander, chose caution in March 1805. Spruance, a normally cautious commander, took aggressive action at Midway in June 1942 when he ordered a half-organized strike to proceed using rather hazy locating information. Whereas Halsey was consistently aggressive and thus made a “false move” at Leyte, both Nelson and Spruance were capable of subordinating their normal proclivities when circumstances demanded it.

RELEVANCE
There is a vast gulf of technological differences between the Battles of Trafalgar and the Philippine Sea, but the nature of the command dilemmas facing Admirals Nelson and Spruance was similar enough to support Mahan’s assertion that the principles of naval strategy are unchanging. If this is so, then the technology gulfs that separate 1805, 1944, and today are not enough to obviate the problem of command dilemmas that involve the choice between attrition and position. Even a cursory examination of the maritime geography of the East Asian littoral indicates that naval commanders involved in a potential war there likely will experience some form of this dilemma. This is especially true if the Marine Corps adopts its proposed concept of expeditionary advanced base operations, in which small detachments with shore-based antiship-missile batteries are placed on islands within the first island chain. Admirals in the People’s Liberation Army Navy might experience similar dilemmas owing to the militarization of the artificial islands China has built in the South China Sea. Increasingly capable reconnaissance and information technologies coupled with long-range missiles might convey the impression that future warfare will consist simply of servicing target sets, but a capable enemy will do everything in its power to interfere with that process. When that happens, naval maneuver and command decision-making will become once again the key discriminators of victory and defeat.

The unique factor that attends naval warfare is the strategic value of capital-ship forces. That value must be weighed against the strategic value of the position in jeopardy. Such a dilemma very well could be thrust on American admirals if China invades Taiwan. Such a balance was a bit less of a factor in Nelson’s decision because the element of airpower was not present, but nonetheless the destruction or protection of capital ships was the underlying motivator in all cases.

This comparison of Nelson and Spruance highlights the importance of preparing the mind to make combat decisions under the pressure of uncertainty. This is nothing new but sometimes can get lost in the attempts to achieve “dominant battlespace knowledge,” “information superiority,” and other glittering concepts through advanced technology. Perhaps such efforts will bear fruit, but here again, a capable and determined enemy will do everything in its power to disrupt the certainty that the application of such technology is intended to produce.
Future commanders must be mentally prepared to make decisions in an environment infected by the fog of war. Understanding the relationships between position and attrition in naval warfare can help with such preparation.

**EPILOGUE: ARAB-ISRAELI WAR, 1973**

In October 1973, Arab forces from Egypt and Syria attacked Israel. The Israeli air force suffered high losses to Soviet-made surface-to-air missiles (SAMs) in the early going, and the United States rushed replacement aircraft to the Israelis via a chain of aircraft carriers positioned across the Atlantic and Mediterranean. As the tide of battle turned against the Arabs, their Soviet sponsors threatened to send in airborne troops to assist them. The United States then positioned an aircraft carrier battle group to intercept the Soviet airlift if it occurred. Both the U.S. Sixth Fleet and the Soviet Mediterranean Eskadra bolstered their forces, with the Sixth Fleet expanding to sixty-three ships and the Soviet force to ninety-six. Soviet naval forces concentrated at several anchorages but kept “tattletales” steaming with U.S. carrier groups, three of which were operating in various places in the Mediterranean. The United States went to Defense Condition 3, indicating the degree of tension.¹⁵

As a freshly minted A-7 Corsair pilot assigned to a squadron aboard USS *Independence* (CV 62), I routinely was assigned to “bird-dog” Soviet ships, many of which were armed with long-range antiship missiles. This mission involved orbiting overhead the Soviet ships in my aircraft, armed with five-hundred-pound bombs, and watching for smoke on the deck that would indicate a missile launch. When we saw smoke, my job was to transmit a “Zippo” report warning the carrier task force that Soviet antiship missiles had been launched. Then—if the Soviet ship had not shot me out of the sky with SAMs already—I was to roll in and perform a Battle of Midway–style dive-bombing attack. We had no other tactics at the time and no antiship missiles of our own—a product of a decade-long institutional focus on land attacks in Vietnam. Even as a junior aviator, it was clear to me that the carrier was highly vulnerable to a Soviet first strike with missiles.

Between missions, we would gather in the planning rooms to discuss potential alternative actions. One idea that surfaced was, if it looked as though combat was imminent, to run the carrier group west through the Strait of Sicily to gain maneuver room and perhaps deny locating and targeting information to the Soviets. Once that was accomplished, we might have been able to execute some kind of rollback campaign using long-range air strikes. However, such a move would have left the Soviets in command of the eastern Mediterranean and isolated Israel. In the event, Washington was dictating the positioning of naval forces, and we stayed in the eastern Mediterranean. Fortunately, the situation blew over and we resumed our normal deployment activities.
Looking at that episode from the perspective of this article, one can see that our situation was a kind of inverse of Nelson's and Spruance's: we would maneuver (run) to avoid engagement. However, as in the earlier cases, staying in place covered a strategic position (Israel) and, in its own way, incurred risk. The locations of U.S. allies in the Far East—Japan, South Korea, and presumably Taiwan, not to mention the Philippines and Singapore—are all within the expanding maritime area-denial capability of China. The aircraft carrier–centric design of the U.S. fleet ensures that some American admiral will encounter a command dilemma of a similar nature. The correct decision cannot be determined in advance, but familiarity with the dilemmas that our naval predecessors faced cannot help but increase the odds of a useful decision being made.

NOTES


4. Julian S. Corbett, The Campaign of Trafalgar (London: Longman, 1919), p. 3. Corbett asserts, “The real cause of the war, as is now admitted on both sides, was Napoleon’s shameless behaviour to the United Provinces in breach of the Treaty of Lunéville,” and “the virtual annexation of Holland was what made a renewal of the war inevitable.”


8. Ibid., pp. 37–38.


12. Ibid., p. 300.

13. Ibid., p. 303.


Retired USN commander Porter Halyburton’s work constitutes a revisitation of his seven-and-one-half-year (2,675 day) imprisonment, mistreatment, survival, and personal empowerment in the prison camps of North Vietnam. The publication of Reflections—coming almost fifty years after Halyburton and his fellow prisoners of war (POWs) boarded U.S. planes and departed Hanoi to return to their homeland—provides an especially moving testament to the strength of the human spirit.

Shot down on 17 October 1965, during his seventy-sixth combat mission, Lieutenant (junior grade) Halyburton, the radar intercept officer of a Fighter Squadron 84 (VF-84) F-4B Phantom, survived the traumatic experience; his pilot, Lieutenant Commander Stanley Olmstead, did not. As with many other American airmen who took part in the ROLLING THUNDER bombing campaign, Halyburton castigates the wartime leadership of President Lyndon B. Johnson and Secretary of Defense Robert S. McNamara, but he might have added some of America’s top military leaders to that sorry list. He considered most of the missions he flew to be “a waste of time and money,” having “little real effect on the war’s outcome,” and they “certainly weren’t worth risking our lives.”

Sustaining no serious injuries when he ejected from his crippled plane—unlike many other aviators who had to bail out—Halyburton soon found himself safely parachuted to the ground. Only then did his long ordeal begin. Quickly captured, he spent the next several months being moved from one increasingly desolate prison to another. During his captivity, he was moved thirty times and held in eight different prison camps. His first stop was the infamous Hoa Lo Prison, which the Americans dubbed the Hanoi Hilton.

Halyburton identifies three discrete periods of his imprisonment in North Vietnam: (1) October 1965 to July 1966; (2) July 1966 to 1970; and (3) 1970 to February 1973. In the early days, he focused on the past, to ease his current suffering. In the second period, he concentrated on the future, again to get him through an ugly present. In the last years, he focused on the
present, because he understood then that he had mastered the challenges of captivity and could look forward to freedom and a meaningful life.

Halyburton relates how he and all but a few of the POWs had to endure solitary confinement in dismal cells, at times blazing hot or icy cold; a diet that left the men close to starvation; nonexistent or sometimes harmful medical treatment; and daily abuse by guards who were either sadistic or indifferent to their suffering. Halyburton details how North Vietnam’s policy toward the POWs was to exploit them for propaganda purposes against the U.S. war effort; extracting intelligence for tactical purposes was a decidedly secondary mission. Every prisoner had been schooled by the Code of Conduct to divulge only name, rank, service number, and date of birth, and most tried to provide only that information—but failed. The North Vietnamese interrogators, disregarding international conventions, resorted to increasingly brutal physical and psychological torture to gain their ends. Halyburton found the survival, evasion, resistance, and escape training he had received before the war “more a negative than a positive,” since medieval-like torture could break any man, and no American prisoner escaped from North Vietnam during the war. Instead, the key to the Americans’ survival was to mount, with the help of strong leaders and fellow POWs, a “second line of resistance” that reaffirmed continued opposition. Indeed, through the inspirational direction of James Stockdale, Jeremiah Denton, Robinson Risner, Robert “Percy” Purcell, and other leaders and the determined efforts of Halyburton and his fellow prisoners, the POWs gained strength as a “band of brothers.” Halyburton spent months caring for his cell mate, Major (later Colonel) Fred V. Cherry, USAF, who was seriously ill. The North Vietnamese mistakenly expected that locking up a White southerner with a Black American would help break the will of the junior officer, but the opposite turned out to be true. Halyburton was awarded a Silver Star for “conspicuous gallantry and intrepidity” during his imprisonment. The POWs also turned the tables on their tormentors, getting information about their abysmal treatment out to the world. This resulted in Washington gaining an advantage at the negotiating table and the POWs experiencing less-than-draconian living conditions during the last few years of the war.

Reflections is not only an inspirational and especially readable narrative about captivity during the Vietnam War; it is also a graphically detailed “how-to” for enduring imprisonment in similar situations. Halyburton details even the most minute aspects of the POW existence, covering diet, exercise, and communication. His fifty or so vignettes are descriptive, often humorous, and well worth reading.

There are minor quibbles. Halyburton’s thrust in his Reflections is to emphasize the positive aspects of the POW experience, and he does that admirably; however, it would have not diluted the message to learn that there were American POWs, the so-called Peace Committee Eight, who did the bidding of their captors by taking part in propaganda events in exchange for better living conditions. As other writers on the topic have done, Halyburton links the death of Ho Chi Minh in September 1969 to better treatment of the POWs, but he does not explain that
connection adequately. Lastly, the North Vietnamese attack on USS Maddox (DD 731) occurred on 2 August, not 3 August, 1964. Those nits aside, Reflections should grace the bookshelf of every serious student of the POW experience.

On the day that Halyburton departed North Vietnam, he did not plan revenge against his former captors; instead he internally conferred forgiveness on them. That sentiment has characterized the rest of his life. He served another twenty years in the U.S. Navy and twenty years on the faculty of the Naval War College, retiring in 2006 as Professor of Strategy Emeritus. Porter Alexander Halyburton has returned many times to Vietnam, including to the sites of his imprisonment, and he has made peace with his former enemies.

EDWARD J. MAROLDA


My favorite books are those that begin with a single topic or event and then patiently build the historical context around it. John J. Domagalski’s Escape from Java does just that. On the surface, it is the story of the heroic crewmembers of the light cruiser USS Marblehead (CL 12), who somehow managed to keep their ship afloat and return home. But woven into this story line are both the historical arcs of the Asiatic theater of World War II and the singular rescue story of ten wounded men and one persistent physician. The author’s fascination with the Pacific War began at a young age, when he built model ships and read books about World War II. Now the author of five books and numerous articles, he displays in his writing the characteristics of one who has spent a lifetime studying the topic.

Domagalski begins by describing the U.S. Asiatic Fleet in Manila Bay, the Philippines, where it had been homeported since the U.S. Navy defeated the Spanish navy in 1898. In continuing its historic mission of “showing the flag” in the region, the fleet found itself outmanned and outgunned in the heart of what was enemy territory, considering Japan’s desire for land and material resources. One sailor remembered later, “We were aboard outdated, outclassed fighting ships; but with spirit and good morale. Most of us felt that when the ‘real thing’ came along, we would, at best, fight a delaying action and be rescued by the main fleet” (p. 7).

In December 1941, that “real thing” arrived. Japan launched an attack against the Pacific Fleet on 7 December that was followed by multiple attacks against the Allied forces within the Southern Resources Area, which included Guam, Hong Kong, Malaya, and Shanghai. Ships from the Asiatic Fleet were deployed south to join forces with those of Australia, Great Britain, and the Netherlands. Marblehead and the heavy cruiser USS Houston (CA 30), operating largely without Allied air cover, fought the Japanese valiantly at the battle of the Flores Sea (also known as the battle of Makassar Strait) in the vicinity of Borneo in February 1942. Although badly damaged, Marblehead survived the battle because of the efforts of its resourceful crew. Within a month, though, Japan took control of the region. American, Australian, British, and Dutch forces fought last-ditch
efforts against those of the Japanese, but ultimately they were imprisoned or they withdrew—waiting to fight another day.

The book concludes with two remarkable rescue stories. First, because *Marblehead's* keel had been damaged beyond the capabilities of repair facilities in theater, Admiral Thomas C. Hart ordered the ship to return to America. Owing to Japanese dominance throughout the Pacific, the battered *Marblehead* sailed west to return home, putting in to British ports in Sri Lanka and South Africa before crossing the Atlantic to Brazil and up the coast of North America to the Brooklyn Navy Yard—a thirteen-thousand-mile trip. The second escape story is no less dramatic, recounting the determined and persistent efforts of USN physician Dr. Corydon M. Wassell, who delivered from Java and the collapsing situation in Indonesia to safety in Australia the *Marblehead* and *Houston* patients he had been treating.

*Escape from Java* is masterfully written. What stood out for this reviewer is the author’s clear understanding of the geography, history, and geopolitical conditions that shaped the early days of the war. He uses maps to help the reader see where actions took place. While other histories, such as the late James D. Hornfischer’s *Ship of Ghosts* (2006), have recounted the Navy’s efforts in Indonesia and the Malay Peninsula, the present volume is as clear and unencumbered an account as one might desire. I also appreciate how the author depicts the splendid morale, determination, and resilience of the sea warriors who were faced with impossible odds against their survival. Several members of *Marblehead’s* crew received the Navy Cross for their actions fighting the enemy, repairing their ship, and safely navigating its return through treacherous waters to America. Yet it is the unassuming yet persistent Dr. Wassell who provides the finest model of resilience. *Marblehead’s* executive officer stated, “No matter what new or unforeseen difficulties would arise, Commander Wassell always seemed to have something in reserve” (p. 244).

The doctor’s story was so encouraging that President Franklin D. Roosevelt included it in his “fireside chat” with the nation on 28 April 1942. It also was made into a book, then a 1944 movie by the popular American filmmaker Cecil B. DeMille. *The Story of Dr. Wassell*, starring Gary Cooper, premiered in New York City on 6 June 1944—the same day that Allied forces landed in France.

Wardrooms and chiefs’ messes would enjoy reading and discussing this book, as it holds both historical and contemporary significance. Sailors need exposure to their heroic Navy forebears who overcame great adversities in the early days of the Pacific War. Given the importance of the Seventh Fleet in today’s context, this book also provides an excellent overview of the nations of Southeast Asia and Oceania, with insight into their geopolitical histories, resources, and cultures.

SCOTT CAUBLE


*Armed Guests* by Sebastian Schmidt may have a revelatory feel for military and government practitioners and planners who too often have traveled and deployed abroad without asking...
themselves, “How did the United States come to have a presence here?” That certainly was the case when I read this valuable and insightful work. Even if the reader is not a political scientist or international-relations scholar, Schmidt’s pragmatist approach (explained in chapter 2) seems commonsensical from a practitioner’s perspective. It highlights the concept of sovereignty as resting on historically grounded sets of shared habits, and it shows how sovereignty is “fundamentally relational” (p. 24). This means that the concept of sovereignty can be disrupted and reconstituted through the actions and interactions of state actors as they operationalize it—which carries an important lesson about laying the foundations of interstate relations via long-term diplomatic engagement.

Schmidt covers the development of sovereign basing in the years immediately following the Second World War, focusing on particular instances when the United States negotiated with sovereign states for access and a military presence to further its security interests. By design, Schmidt steers clear of cases where the presence of foreign forces had existed previously in former colonial holdings, as well as those in which a wartime occupation force evolved into a long-term military deployment. For the United States, this disqualified the cases of Germany and Japan, among others. The benefit of such an approach is the usefulness of Schmidt’s chosen case studies for the modern practitioner. Over the last few decades, American policy makers have seen that U.S. access is not assured. The failure to attain rights for American forces to use Turkey as an entry and staging area during Operation IRAQI FREEDOM is just one example. It is difficult to imagine a future scenario in a strategically important place in the Pacific or in Europe in which the United States would have a free hand anywhere that it does not enjoy a basing relationship already.

Schmidt uses chapter 3 to analyze the concept of sovereignty as it existed before World War Two. He outlines the close linkage between the disposition of military forces and territorial authority. Colonization and annexation were accepted and common practices, but the concepts of military occupation and territorial sovereignty were not static. After the First World War, a new practice emerged: “post-surrender occupation, which entailed the long-term occupation of a defeated power’s territory by victorious forces after a final settlement, but without the transfer of sovereignty to the victors” (p. 54). Despite this, prior to the Second World War the presence of military force still was associated with territorial control, and—as a matter of both habit and worldview—hosting a peacetime foreign military was not compatible with sovereign independence.

The Second World War brought dramatic changes. By necessity, foreign troops were introduced not only into primary zones of conflict but to logistics hubs, listening stations, staging areas, and the like. With the advent of airpower and international industrial warfare, the character of warfare changed, becoming faster and more global. The Leased Bases Agreement of 1941 laid the foundation for the first long-term peacetime presence of troops on the territory of another allied power, albeit in the colonial domains of Great Britain.

In the years immediately following that war, however, sensitivities to hosting foreign militaries emerged. The
United States found itself in difficult negotiations with nations of varying sizes and strategic value. Some of the case studies outlined in the book cover Great Britain, France, Canada, Portugal, Iceland, and Saudi Arabia. The vignettes provide more than just interesting or valuable foundational knowledge; they also put on full display a range of diplomatic challenges that are instructive and worthy of study.

For example, the pursuit by the United States of an air base in the Azores became a tortuous affair. Portuguese prime minister António de Oliveira Salazar had allowed Great Britain access to the Azores in 1943 only when the British cornered him with a treaty dating back to 1373. After the war, Salazar continued to navigate domestic political concerns that made any arrangement that undermined Portugal’s sovereignty anathema to its people. Faced with these difficulties, American diplomats made short-term agreements and relied on ambiguity to keep the Portuguese government appeased.

Instructively, with the heating up of the Cold War in the late 1940s, culminating with the Soviet nuclear test and the outbreak of the Korean War, the diplomatic environment became more favorable to the basing agreements the United States sought. The twin pillars of patient, steady diplomatic engagement and military-to-military relationships based on trust seem to be as fundamental in this realm as blocking and tackling are to football. It is worth reading books such as this one to remind ourselves that this groundwork cannot be whipped up in an emergency.

As I read Armed Guests, I recalled a conversation I had with a scholar from India who was studying scenarios in the Pacific that made me realize how difficult it would be for larger powers to impose their presence on smaller island nations in the event of a conflict. This effort by Schmidt constitutes an important and valuable resource for scholars, strategists, and practitioners to consult when framing their thinking around such challenges.

ROBERT FLYNN


It is surprising that, despite the thousands of gallons of ink spilled to discuss almost every possible ramification of drone warfare, very little of it has been dedicated to examining and explaining how drones and unmanned aerial vehicles impact the global world order. Drones and Global Order does an excellent job of filling that void, and it is likely to be among the most highly referenced volumes on the subject by scholars and practitioners for years to come.

The editors identify three waves in the literature concerning drone warfare. The first examined the proliferation of drones and unmanned aerial systems. The second wave focused on measuring these weapon systems’ effectiveness. The third wave looked at the ethical, moral, and legal implications associated with drone warfare. Each wave provided important insights, identified challenges, and advanced both an academic and a lay understanding of drone warfare. These efforts, however, left a gap, as they largely overlooked
the greater implications that drone warfare held for the international world order. Drones and Global Order closes that gap, essentially initiating a fourth wave of scholarship.

The editors and contributing authors represent an impressive mix of respected, well-established academics; young scholars entering academia; and practitioner-scholars with deep empirical experience. Each of the thirteen chapters is the product of well-documented, rigorous scholarship. The book is divided into three main segments. The four chapters of part 1 attempt to explain why states resort to drone warfare. Part 2 consists of four chapters that examine how the global order is affected by drone warfare. Part 3 looks at how international society best can govern drone warfare in the future. While lay readers can glean much from this book, its primary audience should be academics and security professionals who are familiar and comfortable with the fields of international relations, international law, ethics, and related disciplines. For example, a reader who lacks a grasp of the realist school of international relations is unlikely to derive full benefit from John Hardy’s chapter showing how drone warfare fits within the tenets of realism and what the future consequences of such warfare may be.

Readers will find the first chapter’s introduction (“Conceptualizing Global Order in an Era of Remote Warfare”) and the conclusion (“The Significance—and Potential—of a Fourth Wave of Drone Warfare Scholarship”) to be essential elements of this work. In the former the editors do excellent work in providing a description and understanding of how they define global order, in addition to explaining the book’s layout; the road map is highly useful. The conclusion, written by John Blaxland, Lushenko, and Bose, goes beyond merely summarizing the book’s previous chapters. In the words of the authors, its purpose is to “draw out further considerations and implications for global order[,] given states’ accelerating and ubiquitous use of drone warfare” (p. 245).

It is rare for any edited volume to maintain a high level of excellence across a sizable number of chapters penned by a diverse array of authors, but Drones and Global Order is such an exception. Although each chapter stands convincingly on its own while contributing to the greater whole, those by Lushenko (“A Blended Interpretation of Drone Warfare”—pp. 79–97), Maley (“Drone Warfare and the Management of Violence”—pp. 173–88), and Michael P. Kreuzer (“The Context and Prospects of Regulating Drones in Conflict”—pp. 209–226) are among the best. Arturo Jimenez-Bacardi’s chapter 8 (“Drone Warfare and International Humanitarian Law: The U.S., the I.C.R.C., and the Contest over the Global Legal Order”—pp. 156–72) and Robert Underwood’s chapter 12 (“Suleimani’s Choice: The Narrow Permissions and Wider Considerations of Remote Warfare”) also deserve individual mention.

If there is a drawback to this book, it is the price. Of course, this has nothing to do with the caliber of the authors or the quality of the work. Still, $170 for a single book is not pocket change. Libraries, research institutions, and others able to afford purchasing it should do so; for others, less-expensive electronic versions are available. Drones and drone warfare sit at a nexus of vital security, diplomatic, ethical, and
policy issues. Those issues, already complicated, rapidly will become even more complicated, thorny, and demanding. Decision makers will need to understand them. Lushenko and company have provided the means to do so.

RICHARD NORTON


The United States of the early nineteenth century had its hands full developing stable commerce and establishing a lasting government under the new constitution; it rarely is thought of as having been an imperialist power. Even so, there were a few at the time who felt that the United States should exert influence beyond the nation’s borders. In particular, through naval exploration the nation could open new trade markets, contribute to scientific knowledge, and raise American cultural credibility with foreign powers. Michael A. Verney, assistant professor of history at Drury University, in Springfield, Missouri, contends that while some in the early 1800s viewed naval exploration as an unwarranted expenditure that invited governmental overreach, by the late 1850s it had become a popular expression of early American imperialism. Verney’s A Great and Rising Nation describes this evolution of naval exploration in the antebellum United States; while initially the United States merely was emulating European exploration, “that European spark had to be kept alive and nourished in a U.S. context” (p. 6).

Easily the most interesting aspect of Verney’s work is his presentation of episodes of American naval exploration as different dimensions of imperial power. The first was commercial exploitation; it was not until the mission of pure research was superseded by a focus on improving navigation in the Pacific Ocean that the U.S. Exploring Expedition, or “ExEx,” of 1838–42 received broad government support. The charts that the ExEx produced meticulously noted the location of scores of Pacific islands and reefs, which allowed American whalers to exploit more hunting grounds in the region safely. After the U.S. Navy was eclipsed by Army successes during the Mexican War, the service conducted a survey of the river Jordan and Dead Sea to draw notice to itself; some also considered that these efforts might provide scientific proof of biblical events, thereby solidifying America’s place as “God’s empire.” In the 1850s, multiple expeditions to the Amazon and Río de la Plata broached the possibility of expanding U.S. agriculture (and transplanting the enslaved labor necessary to cultivate it) to South America. By that time, conservative elements in slaveholding states had come to see some benefits of naval exploration; moving portions of the increasingly unwieldy enslaved population to colonies in Brazil might provide a necessary “safety valve for our Southern States” (p. 147).

Finally, American efforts to rescue from the Arctic any survivors of Great Britain’s Franklin expedition in the second half of the 1840s demonstrated to European eyes that the United States possessed the morals and generosity of a great nation. In addition to describing the progress and specific events of each expedition, Verney vividly relates each one to the sweeping social, political, and economic changes that characterized the antebellum United States. His biographical
sketches of major explorationist players such as Jeremiah Reynolds, Charles Wilkes, and William Francis Lynch help to place their expeditions in context; their motivations for exploration are just as important to Verney’s work as the expeditions themselves. America’s early explorers frequently were tempted to match European examples. In unsuccess-fully advocating for an early ExEx in the 1820s and then striking out on private expeditions, Reynolds sought to emulate Prussia’s Alexander von Humboldt. Similarly, when Lady Franklin agitated multiple governments to search for the missing HMS Erebus and Terror, the Arctic expeditions funded by Henry Grinnell helped to demonstrate that American virtue equaled that of Britain. As the nineteenth century progressed, expedition journals became increasingly popular reading among middle-class American families, as they allowed tantalizing glimpses of a wider world. In many cases, including the five-volume ExEx narrative, they reinforced contemporary notions of white superiority and American values. Pacific Islanders frequently were likened to Native American tribes in terms of their perceived savagery and lack of societal development. When the National Gallery opened above the U.S. Patent Office, curiosities that the ExEx had gathered formed the bulk of the collection. Bones of Fijian natives were displayed alongside weapons allegedly used to kill U.S. sailors; these and references to nineteenth-century craniology offered pseudoscientific proof of white racial superiority. Likewise, proslavery expeditions to South America scouted potential colony sites, where enslaved Africans would require the superior reasoning, industriousness, and leadership of whites to perform the hard labor in tropical climates for which they were believed to be suited biologically. In 1848, Lieutenant William Lynch worked to champion American religious beliefs and scientific thought alike by searching for physical evidence of the destruction of Sodom and Gomorrah while conducting a meticulous survey of the river Jordan and Dead Sea. Finally, Arctic Explorations, published by Elisha Kent Kane, showed American men surviving one of nature’s most punishing environments. The naval expeditions examined by A Great and Rising Nation took place during a time of sweeping change. Amid the uncertainty of the antebellum period, white Americans could look to naval exploration for reassurance as their fellow citizens gained new knowledge that benefited commerce, demonstrated perceived racial superiority over peoples encountered abroad, proved their manliness and strength in direct competition with nature, and earned the respect of European nations. Verney’s book ends with the United States being recognized as a potential great power pursuing imperial ambitions. That status came not from applying raw military strength but by judiciously applying scientific inquiry, engaging in diplomacy, seizing commercial opportunities, and practicing humanitarianism.

MICHAEL ROMERO


Sinologists long have been concerned that our understanding of China's military culture begins and ends with The Art of War. They suggest that more attention be paid to how this ancient
treatise has been interpreted and put into practice (or not) in the 2,300-some years since it was compiled and attributed to Sun-tzu, or Master Sun—a legendary figure who may never have existed. With his latest book, Sun Tzu in the West: The Anglo-American Art of War, Peter Lorge, associate professor of premodern Chinese and military history at Vanderbilt University, in Nashville, Tennessee, traces the impact of The Art of War in the West since its translation into French by Father Jean-Joseph-Marie Amiot in 1772.

In fascinating detail, Lorge describes how The Art of War became reduced in the popular imagination to an overly simplistic notion of indirect warfare, misconstrued as an argument against war fighting, treated as evidence of a kind of “less expansive” Chinese warfare, and ultimately transformed into “a stand-in for thinking strategically without particular or even accurate reference to its actual contents” (p. 7). For those who seek to “get China right,” Lorge’s book offers a welcome reminder that the contextual dynamics of strategic interpretation have important ramifications for how we understand Chinese military thought and strategic culture.

Famously, The Art of War was translated into English by Brigadier General Samuel B. Griffith, USMC, recipient of the Navy Cross and later a member of the Naval War College faculty. Griffith was preceded in this undertaking by Lieutenant Colonel Everard Ferguson Calthrop of the Royal Artillery in 1905 and five years later by Lionel Giles, a noted sinologist and translator working for the British Museum. But it was Griffith’s translation, published in 1963 while he was pursuing a doctorate at the University of Oxford in Britain, that captured the public’s imagination. Perhaps this was because of Griffith’s status as a decorated veteran of World War II and as the translator, twenty years earlier, of Mao Zedong’s On Guerrilla Warfare. Lorge suggests it also owed something to Griffith’s friendship with Basil Liddell Hart, then considered one of the world’s preeminent strategists, who commented on the draft translation and later wrote a foreword for the book.

Griffith’s translation established in the public’s mind a strong connection between The Art of War and both the guerrilla warfare championed by Mao and the indirect strategy propounded by Liddell Hart. From a marketing point of view, publication of Griffith’s translation was well timed. Following the “loss” of China, the rise of small war, and the expansion of America’s involvement in Vietnam, strategists of all kinds—Lorge mentions former Director of Central Intelligence Allen W. Dulles and President Richard M. Nixon, among many others—were eager to learn more about Chinese and other non-Western approaches to war.

To be clear, The Art of War does not call explicitly for guerrilla warfare; in fact, it argues against protracted war on any scale. Nevertheless, a straight line was drawn between The Art of War, which had been produced by many hands in the fourth century BCE, and the kinds of wars that China was fighting under Mao two millennia later. Lorge attributes this particular reading of The Art of War in part to the American military experience in China and the Pacific during the 1930s and 1940s. Specifically, he recounts how Chinese guerrilla warfare came to be connected to the U.S. Marines in two ways: “the association of China marines with Chinese military
methods through Evans Carlson and Samuel Griffith, and the use of lightly armed, but highly motivated, marine units fighting in ‘guerrilla’ style” (p. 108).

Lorge briefly pauses his survey to discuss a seminal work, 1974’s *Chinese Ways in Warfare*. Its editors, Frank A. Kierman Jr. and John King Fairbank, reinforced the questionable proposition that China had a “distinct method of war.” In the book’s introduction, Fairbank, a leading American sinologist, observed that “in the aftermath of the age of Western expansion that seems to have reached one kind of climax in Vietnam, we may well view the Chinese style of warfare as somewhat less expansive than our own” (p. 1). As Lorge notes, this was “historical nonsense,” yet it represented a common and persistent belief “that Chinese military culture is fundamentally less aggressive than Western military culture” (p. 187).

Here, perhaps, Lorge might be underestimating the degree to which views of the People’s Liberation Army (PLA) have changed in recent years. Now that Xi Jinping has jettisoned the “hide and bide” policy, developed a formidable blue-water navy, militarized the South China Sea, and continued to engage in a reckless campaign of intimidation against Taiwan, few observers see the PLA as a docile lamb or paper tiger. What still merits consideration, however, is Lorge’s larger point: that contemporary historical contexts influence how canonical texts such as *The Art of War* are interpreted and reinterpreted. Since the publication of Griffith’s groundbreaking version in 1963, many other English-language translations of *The Art of War* have appeared. Two of them—by Roger Ames (1993) and Victor H. Mair (2007)—are quite good. But supposing that an even more exquisite translation becomes available, it inevitably will arrive in a particular time and place and be read differently—or misread—within that geopolitical context. In recent years, our knowledge of Chinese military history has advanced rapidly, thanks to the groundbreaking work of scholars such as David A. Graff, Mark Edward Lewis, Kenneth M. Swope, and Peter Lorge himself. In the West, our understanding of China’s military culture no longer need begin and end with *The Art of War*. That said, it would behoove us to question how the Chinese military itself reads *The Art of War* today and might apply it tomorrow—because the answers might surprise us.

**JONATHAN WELCH**

---

**OUR REVIEWERS**

*Scott Cauble*, Commander, USN, serves as Religious and Cultural Planner for the U.S. Pacific Fleet.

*Robert Flynn*, Commander, USN (Ret.), is a former military professor at the Naval War College (the College).

*Edward J. Marolda*, PhD, a U.S. Army veteran of the Vietnam War, served for many years as the U.S. Navy’s senior historian at the Naval History and Heritage Command.

*Richard Norton*, PhD, is a retired USN officer and a professor of national-security affairs at the College.
Michael Romero is a historical interpreter at Colonial Williamsburg, in Virginia, and holds an MA in U.S. military history.

Jonathan Welch holds an MA in national security and strategic studies from the College and an MA in journalism from Indiana University. He is a former Naval Criminal Investigative Service senior intelligence officer and foreign area officer.
CLIMATE CHANGE: A FEARSOME FOE

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

The Reflections on Reading series of articles is intended to highlight books of interest to all members of the USN team—those in uniform, defense civilians, and contractors—and even citizens at large. The focus of this article (the fifty-eighth entry in the current series) is on the military and civilian implications of climate change. In his 5 April 2023 remarks at the Naval War College’s Forum at Newport on climate change, Secretary of the Navy (SECNAV) Carlos Del Toro shared his vision of the future that the Navy, and all the Department of Defense, will face.

Make no mistake, climate change is one of the most destabilizing forces of our time, exacerbating national security concerns and posing serious readiness challenges to our naval and amphibious forces. Our world’s changing climate impacts everything we do across the Department of the Navy, ranging from policy and investment decisions to our operations. Almost a year ago, we published our climate strategy—Climate Action 2030—to provide the Department of the Navy with a meaningful framework to guide how we will address climate change across our Fleet and our Force. A climate-ready force is a stronger, more lethal, and more agile force that is able to operate in uncertain environmental conditions. The investments we are making today ensure the survivability of the platforms our Sailors and Marines rely on to accomplish their missions, giving our Fleet and our Force a warfighting advantage.

We are making great strides in building a resilient shore-based infrastructure to support our forces. Beyond infrastructure, our Sailors and Marines are leveraging game-changing technologies to support both the hybridization and electrification of our systems and platforms. From the electrification of tactical ground vehicles to the exploration of hybrid and advanced propulsion solutions for our ships, the Department of the Navy will continue to innovate and optimize our Fleet and our Force for...
improved endurance, survivability, and lethality, while simultaneously reducing our environmental footprint.

A search for books about global warming / climate change results in literally thousands of entries, some of which have the word “hoax” in the title. Many of the so-called climate deniers believe that the claim that humans are causing catastrophic climate change is a hoax, which is being promoted for political reasons, economic ones, or both. This writer does not take a position regarding the reality or fiction of potential climate-related consequences. A common theme of the Reflections on Reading series has been encouragement for discerning readers always to consider alternative points of view on any given topic. (See Reflections on Reading, Naval War College Review 74, no. 4 [Autumn 2021].) Accordingly, we urge inquiring minds to sample arguments across the entire spectrum of opinions and judge for themselves what is factually based and what may be a hoax.

The Navy’s position that climate change is real and of increasing concern, however, was outlined clearly in SECNAV’s statements shared above. The paragraphs that follow will identify three books that are recognized widely for presenting a science-based consensus on the criticality of taking aggressive action now to address the projected consequences while time remains to alter the existing negative trends.

First, The Climate Book by Greta Thunberg, published in February 2023, became an almost immediate New York Times best seller. The 464-page book brings together one hundred authors who contribute ninety short pieces about the coming climate crisis. The books editor of Yale Climate Connections calls the book “the most ambitious, wide ranging, and hard-hitting collection I have ever encountered.” The book is organized into the following five parts:

- “How Climate Works” is a series of concise and easily accessible fundamentals about the world’s climate engine.
- “How Our Planet Is Changing” consists of two dozen short essays covering everything from arctic warming and the jet stream to microplastics in the ocean.
- “How It Affects Us” provides twenty essays about climate issues, including sea-level rise, climate refugees, and water shortages.
- “What We’ve Done about It” is a concise analysis of issues such as electrification of transportation, the cost of consumerism, and the myth of recycling.
- “What We Must Do Now,” the fifth and final part, details some steps that citizens can take immediately to address the challenges of climate change, including a particularly interesting essay entitled “Overcoming Climate Apathy.”
Yale's Michael Svoboda acknowledges the contributions of youthful editor/author Greta Thunberg when he notes the quality of her “18 short essays that introduce the volume, mark the subsections, highlight the important takeaways, and call readers to action.”

Thunberg’s *The Climate Book* looks at climate issues from a very global and very civilian perspective. Alternatively, the second offering, Neta C. Crawford’s *The Pentagon, Climate Change, and War: Charting the Rise and Fall of U.S. Military Emissions*, uses a historical-analysis approach to describe in scholarly detail the relationship between U.S. national-security policies and the use of (and protection of access to) fossil fuels. Crawford’s carefully researched and thoroughly documented book follows the unquenchable thirst of the U.S. military (with a special focus on the U.S. Navy) for fuel, moving from wood to coal in the 1860s to thick and heavy bunker oil in the nineteenth and twentieth centuries, into the highly refined distillates of today. The history of American efforts to create a globe-spanning network of coaling stations, from Japan to Pearl Harbor to Pago Pago Harbor in American Samoa, provides an eye-opening view into the relationship between the need to secure natural resources and American diplomatic priorities. Her excellent depiction of the role that energy security has played for over a century is very enlightening.

As the book concludes, Crawford lays out a path to climate security that she believes will guarantee human and national security. This path includes a smaller fleet of USN ships, reduced defense commitments around the globe, and significantly decreased defense spending—which may not sit well with a pro-military audience. The book deserves a good read, however, and it should not be prejudged on the basis of what some might consider its antidefense and anti-industrial-complex mind-set. The book’s value is in the establishment of a spectrum of possible actions, ranging from mediation of greenhouse gas emissions to near-isolationist withdrawal from engagements and treaty obligations around the world.

Third, *Climate Change and National Security: Implications for the Military*, by Albert Palazzo, is a very recent book published by the Army University Press in Fort Leavenworth, Kansas. The book provides a wide-ranging review of the issues facing military forces around the world. The extensive notes following each chapter, the glossary of technical terms, and the select bibliography make this a tremendous resource to aid in further study on the topic. It also benefits from the fact that it can be downloaded at no cost from armyupress.army.mil.

In conclusion, given the magnitude and complexity of the challenges posed by climate change, it is imperative that urgent and comprehensive actions be taken to address this global crisis. Mitigation efforts, including transitioning to renewable energy, reducing greenhouse gas emissions, and promoting sustainable
practices such as reforestation. Considering the magnitude and complexity of the challenges posed by climate change, it is imperative that urgent and comprehensive actions be taken to address this global crisis. Adaptation measures, such as improving infrastructure resilience, implementing early warning systems, and providing support to vulnerable communities, are also crucial to minimize the impacts of climate change and build resilience. International cooperation and coordination among nations are imperative to tackle climate change effectively. In addition to the environmental, social, health, and economic concerns, climate change also poses ethical and moral dilemmas. The consequences of climate change will be borne by future generations who did not contribute significantly to the problem. The unequal distribution of impacts, with vulnerable populations suffering the most, raises questions of justice and fairness. It also calls for a sense of intergenerational responsibility to take urgent action now to mitigate the effects of climate change and ensure a sustainable future for all.

The preceding paragraph was drafted as an experiment by OpenAI’s ChatGPT program. It is reproduced here with no additional editing. The writer wholeheartedly concurs with the sentiments expressed by the ChatGPT program.

JOHN E. JACKSON

(_except for the indicated paragraph)