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Editor, Circulation, or Business

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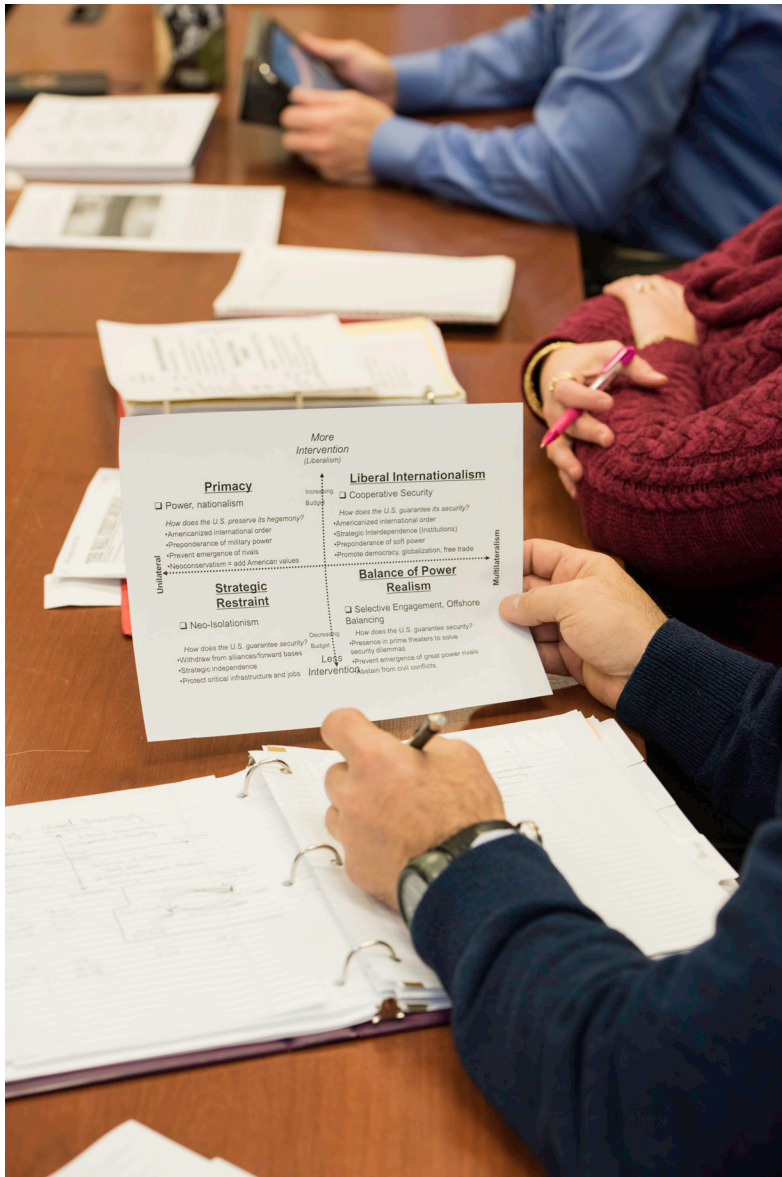
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FROM THE EDITORS

There are times when the ship of state executes sharper turns than at others. In the aftermath of the outbreak of the COVID-19 pandemic, whether coincidentally or not, we have seen the emergence of a newly belligerent People's Republic of China (PRC). Ramped-up Chinese military activity on the country's frontier with India, a constant drumbeat of provocations in international waters in the East and South China Seas, and unprecedented levels of vitriolic anti-Western propaganda are developments that have been noticed widely, giving rise to an ongoing reassessment of China's relationship to the United States, its allies, and the rest of the world. In a series of landmark speeches by senior American officials, foremost among them Secretary of State Michael R. Pompeo, the United States has signaled as clearly as possible that there will be no more business as usual with the PRC. In "China's Global Navy: Today's Challenge for the United States and the U.S. Navy," James E. Fanell provides an authoritative survey of the all-important maritime dimension of the growing Chinese threat to the United States and the world. Both the scale of Chinese shipbuilding activity and the apparent scope of China's global military ambitions are little short of staggering. The West appears to be paying attention, finally. Captain James E. Fanell, USN (Ret.), is a former director of intelligence and information operations for the U.S. Pacific Fleet.

At a time of growing tensions between Japan and the PRC over the Japanese-administered Senkaku Islands, there has been growing discussion of the (somewhat tangled) history of the American position on this issue and its implications for the U.S.-Japan alliance. In "Ameliorating the Alliance Dilemma in an Age of Gray-Zone Conflict: Lessons Learned from the U.S.-Japan Alliance," Michael M. Bosack provides an overview and analysis of the international relations literature on alliance management and the twin dangers of abandonment and entrapment. Using the U.S.-Japan alliance as a case study, he argues that there is much more scope than often is recognized for creative adjustments of alliance relationships to accommodate evolving security environments, especially one like the present, in which the nonmilitary aspects of such relationships have taken on increased importance. Michael M. Bosack is special adviser at the Yokosuka Council on Asia-Pacific Studies.

In "Things Done by Halves: Observations from America's First Great-Power Competition," Benjamin F. Armstrong usefully reminds us that so-called

gray-zone conflict is not a new phenomenon, but rather long has been a dimension of great-power competition, to use another fashionable term. Taking the neglected case of America's Quasi War with France in 1798–1800, he shows how the infant U.S. Navy adapted to the requirements of an undeclared conflict with France in the complex and multisided strategic environment of the contemporary Caribbean. He argues that aspects of this experience have continuing relevance for the U.S. Navy today. Commander Benjamin F. Armstrong, USN, is a military professor at the U.S. Naval Academy.

The U.S. military today embraces the idea of “jointness”—if not altogether uncritically, then at least with a high degree of general acceptance. This can cause us to lose sight of just how unnatural this state of affairs is in terms of the basic dynamics of military organizations. In “Neither Fish nor Fowl nor Yet Good Red Herring’: Joint Institutions, Single-Service Priorities, and Amphibious Capabilities in Postwar Britain,” Ian Speller acts as tour guide to the checkered history of British efforts to do justice to the interservice character and requirements of amphibious warfare within the context of an overarching single-service military organization and culture. Ian Speller is director of the Centre for Military History and Strategic Studies at the National University of Ireland, Maynooth.

It is important to keep in mind that the history of the Cold War may have some surprises for us yet. In “A ‘New Look’ at Cold War Maritime Defense: The Royal Canadian Navy’s *Seaward Defence Report* and the Threat of the Missile-Firing Submarine, 1955,” Michael Whitby opens a fascinating window into planning that the Royal Canadian Navy conducted in conjunction with the U.S. Navy to counter the new threat to North America posed by Soviet conventional submarines armed with nuclear missiles in the early Cold War. His discussion focuses on the recently declassified Canadian study *Seaward Defence Report*. Michael Whitby is senior naval historian at National Defence Headquarters, Ottawa, Canada.

The problematic relationship between science and public policy in times of national crisis, now very evident in the current coronavirus pandemic, is far from new. In “Peak Oil, Progressivism, and Josephus Daniels, 1913–21,” Roger Stern revisits the efforts of Woodrow Wilson’s Secretary of the Navy, Josephus Daniels, to deal with what experts claimed would be an exhaustion of America’s oil resources by the mid-1930s. This is a scandalous story of executive overreach and, indeed, patently illegal actions by the Navy during and after World War I. (At one point, U.S. Marines seized oil from a California supplier at gunpoint.) Stern reminds us that similar poorly substantiated predictions of so-called peak oil have had an outsize effect on U.S. national security policy in recent times—notably, in President Jimmy Carter’s formal commitment to

defend the Persian Gulf in the 1970s. As Stern shows, the Progressives' habit of straight-arming the American public in the name of scientific expertise has been long with us. Roger Stern is a former fellow at the Collins College of Business of the University of Tulsa.

Franklin R. Uhlig Jr., Editor Emeritus of the Naval War College Press, peacefully passed away at his home on 27 August 2020.

After serving in the Navy, Frank began his career in publishing with twenty years at the U.S. Naval Institute. He visited U.S. Navy combat units in Vietnam and published an outstanding collection of essays on the war, *Vietnam: The Naval Story* (1986)—efforts that earned him the Navy League's Alfred Thayer Mahan Award for Literary Achievement.

Frank then became the leading contributor to the Naval War College Press's publication of articles and books on sea power and naval operations. He came to the College in 1981 as Editor of the Press and quickly revitalized it; sixty-two issues of the *Naval War College Review* and fourteen books appeared during his tenure. He also authored the highly regarded book *How Navies Fight* (1994). Frank's commitment to the Navy, to its sailors' history, and to the promotion of education and research on naval affairs stands in the highest traditions of the Naval War College.

We offer our deepest sympathy to his family and many friends among our readers.



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



AUGUST MARKED the passage of my first year as Naval War College President. As the fifty-seventh officer to undertake the stewardship of this historically important and consistently relevant institution, I find myself constantly looking back at the strategic moves made and lessons learned by my predecessors going back 136 years. The challenges that these leaders considered as the nation faced times of war and peace have been many, and I believe the situation we have faced, and continue to address, during the worldwide COVID-19 pandemic is similarly significant at the operational, intellectual, and emotional levels. The thoughts that follow are not intended to be a litany of what we have *lost* as the result of pandemic-driven changes but instead are targeted toward a necessary change of mind-set as our College identifies how we as an institution of higher learning will forge a stronger organization and contribute to an enhanced learning culture throughout the Navy that will serve us well as we move through this pandemic and beyond.

In an operational sense, in August 2019 the members of the class of 2020 crossed the College's quarterdeck with enthusiasm and an eagerness to learn that was equal to that of any of the tens of thousands of students who preceded them. They were embraced warmly by our world-class faculty and staff and together formed a company of maritime, military, and international scholars unlike that anywhere else in the world. The cacophony of different languages, professional jargon, and occasionally esoteric terminology filled the classrooms and common spaces with an electric vibrancy. The face-to-face interactions, including the inevitable exchanges arising from good-natured rivalries, were a pleasure to behold.

Then, just past the midyear point, we took drastic but necessary measures to control the spread of the coronavirus, in effect setting "Condition Zebra" (to

use shipboard damage-control terminology) across the campus, isolating most students and faculty and staff members from each other. Our challenge then was to convey as much educational and professional development as possible within these new constraints and within the existing academic calendar.

Once the need for drastic protective measures became clear, our faculty members had to manage an abrupt transition from the physical to the virtual classroom during the term. While some had taught online previously, all needed to learn quickly to navigate our available online platforms to create engaging virtual seminars (synchronous online education). Lectures moved from the auditorium to the small screen, with students able to watch on their own time (asynchronous online education) as they navigated balancing their classes with new home responsibilities as their children's schools closed. Small-group discussions transitioned from groups of students surrounding a physical whiteboard (in-person education) to using online breakout rooms, with students collaborating on virtual whiteboards and virtual documents (synchronous real-time education). The faculty began using blogs, wikis, and online journals and discussion boards so that conversations and critical thinking could occur outside of seminar time (asynchronously). End-of-term surveys reported that, while everyone missed the physical classroom, students and faculty members alike agreed that the unfamiliar environment and rapid transition were not barriers to producing high-quality learning experiences.

During the summer 2020 intersessional period, the faculty focused its developmental efforts on learning more about remote teaching. Faculty members participated in workshops and webinars on teaching online, including a session on remote war gaming. Twenty-four faculty members from across the College joined a Teaching Online Learning Community to discuss techniques and approaches to creating engagement and community; building effective online courses; and technology, tools, and resources. They shared their recommendations in a panel discussion prior to the start of the fall term, ensuring a cross-departmental exchange of ideas and tips. As a result, many faculty members adapted their courses, adopted new technology platforms, and developed innovative approaches that incorporate greater levels of student-to-student collaboration and practical exercises into their seminars. Many faculty members have reported that the insights and changes of the last few months will have permanent, positive impacts on their teaching even after they return to the physical classroom.

Just as the teaching faculty learned to operate in a different manner, so did our research and gaming faculty. Our team at the Center for Naval Warfare Studies (CNWS) used the opportunities that the restricted COVID-19 environment presented to find creative ways to continue conducting research and gaming. Early on, CNWS scheduled a modest workshop for academics and practitioners to look

at COVID-19 in the Arctic. The effort steadily grew in size and complexity, and ultimately more than seven hundred registered! The Stockton Center for International Law also capitalized on the availability of experts and their willingness to engage virtually on a variety of international law topics. The center conducted several virtual workshops that included some of the field's most influential experts—something that is often more challenging, if not impossible, to do in person. Finally, CNWS's War Gaming Department worked closely with OPNAV and fleet staffs to experiment with conducting games, including classified ones, via virtual means. Our team continually is identifying and learning methods, protocols, and technical requirements to improve the fidelity and expand the scope of virtual gaming. This is important in the current COVID-19 restricted environment but also for developing and executing virtual games going forward, regardless of the environment.

The national media have reported frequently on the negative impact that the current level of isolation can have on the well-being of individuals of all ages. Even isolation in small family groups can create anxiety, lack of motivation, and a general malaise. To counteract these negative effects, the College faculty and staff aggressively embraced software platforms such as Zoom, Microsoft Teams, and Blackboard to bridge the gulf between the College and our extended academic/professional family. Frequent live “town hall” meetings routinely gathered hundreds from within our College community, and by using the available real-time chat features the participants not only heard the topics College leaders were discussing but also interacted by submitting questions. Since the participants could identify others who were logged on simultaneously, many one-to-one comments also were facilitated, thus creating a shared experience similar to the random hallway conversations that are so valuable in team building.

We also made a conscious effort to reach out to the spouses and significant others of our students through a tailored Issues in National Security (INS) lecture series. These lectures featured some of the College's premier scholars addressing many of the same topics that resident students encounter in their graduate-level work. We then augmented these lectures by conducting Family Discussion Group (FDG) meetings by partnering with on-base organizations and services to lead informational sessions at the conclusion of each scholarly program. Those leading the FDG sessions have included the directors and managers of the Fleet and Family Support Center; the Morale, Welfare, and Recreation Department; and our local health-care facility. By adding these discussions onto the INS lectures we were able to connect further with members of our extended community who would have lingered in the physical auditorium after the conclusion of the academic program. Once again, the chat function facilitated two-way communication. During the prepandemic portion of the 2019–20 academic year these events

were conducted in person on our Newport campus. It has been interesting to note that overall participation has more than doubled since adopting the online approach. For this series and for other conferences and symposia, we will plan to keep online access an active part of our learning and outreach activities even after the current crisis subsides. The 2020–21 INS lecture schedule has been expanded to include eighteen lectures and FDG sessions spread over the full academic year.

This global pandemic has shown us once again that our military organizations must remain agile and prepare and develop our people continuously to be able to surge forward as new challenges arise. COVID-19 could have been viewed as an obstacle to completing academic year (AY) 19–20, but we chose—and must continue to choose throughout AY 20–21—to view it as a game changer in our business of education. Our deans, directors, faculty, and staff continue to look for ways that technology can enhance our programs that will endure long after 2020. For example, our College of Maritime Operational Warfare has increased education opportunities for students who cannot travel to Newport, our Center for Naval Warfare Studies has initiated distributed war gaming, and our College of Distance Education now conducts virtual graduations. In the fall of 2019, I never imagined that by March 2020 we would be 100 percent virtual, yet in June I presided over a virtual graduation for more than five hundred resident students and another 1,400 distance-education students from around the globe. As we look to capture even more gains that we are developing through our response to COVID-19, we also can begin to envision a new normal, one that integrates new technologies and education modes and optimizes our students' learning opportunities when they are available, wherever they are. I could not be prouder of the Naval War College's dedicated men and women who have answered the call so effectively and truly have excelled in answering the challenges 2020 has levied upon us.



SHOSHANA S. CHATFIELD

Rear Admiral, U.S. Navy

President, U.S. Naval War College

Captain James E. Fanell, USN (Ret.), concluded a career of nearly thirty years as a naval intelligence officer specializing in Indo-Pacific security affairs, with an emphasis on China's navy and operations. He most recently served as the director of intelligence and information operations for the U.S. Pacific Fleet. He is a Government Fellow with the Geneva Centre for Security Policy and the creator and manager of the Indo-Pacific security forum Red Star Rising.

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CHINA'S GLOBAL NAVY

Today's Challenge for the United States and the U.S. Navy

James E. Fanell

U.S. national-security leaders must assess the speed and sustainability of the national effort by the People's Republic of China (PRC) to deploy a global navy. In June 2018, I stood on the fantail of the People's Liberation Army (PLA) Navy (PLAN) guided-missile frigate *Binzhou* in the port of Kiel, Germany—and it was never clearer to me than at that moment that Beijing has the national will to dominate the seas.

Binzhou had been at sea for two and a half months patrolling the waters of the Gulf of Aden, as part of China's antipiracy naval task force. *Binzhou* had transited the Red Sea, the Suez Canal, the Mediterranean Sea (with a refueling stop), and the English Channel and had sailed into the Baltic Sea. Moored among German and American warships, *Binzhou* stood out for its immaculate appearance. The ship's officers, crew, and staff exuded confidence and preparedness to get under way—to sea, the place where they looked as if they belonged. This contrasted sharply with my recollections of a 2004 visit to the destroyer *Luhu* in Qingdao, as well as many subsequent visits aboard PLAN warships over the next fifteen years.

The visit to *Binzhou* crystallized for me that in the short space of a decade and a half I had witnessed the transformation of the PLAN from a timid, near-seas assembly of ships into a global naval force whose ships' crewmembers were true mariners—as comfortable, confident, and capable as their German, British, and American counterparts. We are witnessing the beginning of a *global* PLAN—which, if left unchecked, will dominate the world's oceans.

As recently as five years ago, the conventional wisdom held that the PRC's leaders were focused primarily on “domestic concerns” of ensuring regime survival or accomplishing military modernization for regional purposes, to resolve territorial disputes within the so-called first island chain.¹ Amid this all-too-common failure to recognize the PRC's true strategic intentions, the PRC has

continued to build a naval force that, if left unchallenged, not only will be sailing the seven seas but will be increasingly capable of achieving sea control in the global maritime commons, reaching that point as early as 2030, and potentially even the capability to achieve sea superiority by 2049.

After twenty years of transformation, the PLAN today operates around the world, from the Baltic (and soon even the Barents) to the South Pacific, and from the Arctic to the Antarctic. By 2015, it already was clear that China's naval shipbuilding would continue unabated through the third decade of the millennium, and that China's leaders would move rapidly to increase the PLAN's order of battle to support an expanding set of missions, so as to fulfill their "China Dream" of national rejuvenation and restoration.²

While the evidence supports the assessment that "a massive expansion in the size of the PLA Navy" for the period 2015 to 2030 remains on track, there is one impediment in the strategic environment that could stymie the PRC's maritime strategy: the Trump administration.³ For the first time in nearly fifty years of U.S.-PRC relations, America has an administration that has broken away from an unwritten, bipartisan "China policy" that promoted unconstrained engagement and accommodation with the PRC. The Trump administration's definitive decision to treat the PRC as a competitor may represent the only chance to stop the PRC from becoming the dominant global naval power over the course of the next two decades.

Yet, even given the extent to which the Trump administration has challenged Beijing's global naval strategy, there remain significant practical tasks that must be completed if Washington is to disrupt Beijing's designs successfully. If the Trump administration is not able to follow through with these practical actions to slow or disrupt the PRC's global naval strategy, the world can expect to see a Chinese naval force that enjoys a global presence composed of multiple aircraft carrier and amphibious strike groups, a credible submarine-launched ballistic-missile capability, an ever-present network of warships at sea around the globe 24/7/365, and the concomitant influence and power this would provide to the leaders of the Chinese Communist Party (CCP).

THE PRC'S STRATEGY FOR GLOBAL MARITIME DOMINANCE

In 2013, President Xi Jinping unveiled his "China Dream" in a speech to the PRC's National People's Congress (NPC).⁴ The theme of the China Dream only has gained additional clarity over the ensuing seven years of President Xi's rule. For instance, at the Nineteenth National Party Congress of the CCP in October 2017, Xi stated, "The theme of the Congress is: remain true to our original aspiration and keep our mission firmly in mind . . . and work tirelessly to realize the Chinese Dream of national rejuvenation."⁵

The CCP's "Chinese Dream of national rejuvenation" includes the intention to "secure China's status as a great power."⁶ For Kevin Rudd, a former prime minister of Australia and acknowledged China aficionado, it means that "there now seems to be a new national and/or global vision that now sits above the simple maximisation of national interests." Mr. Rudd asserts that China has "become for the first time a multilateral diplomatic activist," launching "initiatives of its own beyond its own immediate sphere of strategic interest here in the East Asian hemisphere . . . rather than declining to reach beyond its own narrowly defined core national interests as we have often seen in the past."⁷

While Rudd's examination of the CCP's 22–23 June 2018 Central Conference on Work Relating to Foreign Affairs focuses on the PRC's diplomatic initiatives and activities outside East Asia, he also includes the following revealing observation: that "China has also developed naval bases in Sri Lanka, Pakistan, and now Djibouti (the latter with some 5,000 troops based there), as well as participating in naval exercises with the Russians in the Sea of Japan, the Mediterranean, and even the Baltic."⁸ While Rudd's point may not be clear to all, he nonetheless is making the case not only that the PRC's achievement of the China Dream is defined globally but that it will be supported by a global naval force—that of "a great maritime power."

Insights into the PRC's requirements for securing its status as a great maritime power were revealed during a 10 March 2019 press conference at a session of the Thirteenth NPC in Beijing. This interview of the NPC's Financial and Economic Committee vice-chairman, Yin Zhongqing, laid out a view that "the ocean is the cradle of life, the home of wind and rain, [and a] source of resources" and that "the ocean, deep sea, and polar regions could be developed and exploited." Yin asserted that "strategically managing the ocean have [*sic*] become the necessary path for China to open up and develop new space, give birth to new economic industries, create new engines for growth, and build new shelters for sustainable development in the new period and new era." In support of the goal of "accelerating the construction of China into a maritime power," Yin pointed out "a huge neglect of efforts to move to the far seas, enter the deep sea, and move towards the oceans."⁹

Vice-Chairman Yin also indicated that the plan for developing the PRC into a marine economy and maritime power would include the goal of constructing "a multi-faceted system of maritime cooperation." This would require that China "enter the deep ocean, move toward distant oceans until we reach Antarctica and the Arctic[,] . . . safeguard maritime rights and interests, and protect maritime security." In other words, China would require a global naval force.¹⁰

The expansiveness of the PRC's intentions, capabilities, and operations has not gone unnoticed by the U.S. government. In December 2018, the Department

of Defense published its “Assessment on U.S. Defense Implications of China’s Expanding Global Access.” This unprecedented report points out that China has “expanded its military operations further from the Chinese mainland” and that it is “seek[ing] this presence based on its changing military focus and expanding international economic interests, which are increasing demands for the PLA to operate in more distant maritime environments to protect Chinese citizens, investments, and critical sea lines of communication.”¹¹

[T]he PRC has continued to build a naval force that, if left unchallenged, . . . will be increasingly capable of achieving sea control in the global maritime commons, reaching that point as early as 2030, and potentially even the capability to achieve sea superiority by 2049.

The report goes on to state that the “PLA’s expanding global capabilities provide military options to observe or complicate adversary activities in the event of a conflict.” The report further points out that “China’s military strategy

and ongoing PLA reforms reflect the abandonment of its historically land-centric mentality,” as “PLA strategists envision an increasingly global role, which they are actively implementing.” In general, these statements reflect the expansionism of the PRC over the past two decades. One only need imagine the future presence of the PLAN as the PRC continues to fulfill its grand vision for the hundredth anniversary of the founding of the PRC: a China that is a “prosperous, strong, democratic, civilized, harmonious, and beautiful modernized socialist strong country.”¹²

Given this strategic context, it follows that this grand strategy is driving the PRC’s subordinate naval strategy, which governs “the guidelines and approach for planning and directing the overall construction and employment of the navy.”¹³ Starting with President Hu Jintao’s direction at the Eighteenth National Party Congress in November 2012 to “build China into a maritime power,” along with President Xi Jinping’s multiple calls to “step up efforts to build China into a strong maritime country,” the PRC has been transforming the PLAN from a near-seas fleet into a far-seas force—one that now is operating around much of the globe.¹⁴

While in the past there has been debate, and in some circles even doubt, about whether the PRC has a naval strategy (or even a maritime strategy), it seems clear that any such debate is over. For instance, as mentioned in a *Global Times* article, a series of articles published in 2018 by the *People’s Daily*, an official newspaper of the Central Committee of the CCP, stated that “building China as a maritime power fits China’s development, the global trend, and is the necessary choice for realizing the Chinese Dream of the national rejuvenation. . . . [I]t’s about time to build a strong maritime country.” One of the authors of the three articles, Liu

Jixian, former head of the PLA Academy of Military Science, said that “building a powerful maritime strength is the strategic mainstay of China’s development.” Further, Xu Guangyu, a retired major general and a senior adviser to the China Arms Control and Disarmament Association, told the *Global Times* that “these articles sent a clear message that China will invest more efforts in strengthening its ability to safeguard sea routes and overseas interests.” General Xu went on to state boldly, “There is no need to hide the ambition of the PLA Navy: to gain an ability like the U.S. Navy so that it can conduct different operations globally. . . . [C]onsidering that China has already become a global economic power, it is entirely reasonable for China to boost its maritime power.”¹⁵

Is the PLAN’s jettisoning of the previous “hiding and biding” strategy having an impact on its operations at sea? The simple answer is yes. The next section explores how the PLAN is operating internationally today, and where it is likely to grow in the following decades.

THE PLA NAVY: A GLOBAL PRESENCE TODAY

While official and unofficial statements assert the PRC’s global aspirations when it comes to the issue of maritime power, the reality behind those assertions is assessed best by examining what the PLAN actually is doing at sea. In this regard, it is accurate to say that as of 2019 the PLAN now has an established track record of global naval operations. As noted in an August 2018 interview, Chief of Naval Operations Admiral John Richardson characterized the PLAN as a global force that is “both ‘ready and capable’ of operating wherever Beijing wants.” He even acknowledged that PLAN warships were operating in the North Atlantic.¹⁶ While this article will not cover every PLAN operation around the globe, it will provide a broad representation of the various PLAN warships and the missions that are being executed in support of the PRC’s stated goal of becoming a global maritime power.

A Decade of Antipiracy Naval-Escort Task-Force Operations

The first and most obvious place to start is with an examination of the past decade’s worth of PLAN antipiracy naval-escort task-force operations in the Gulf of Aden. The first PLAN antipiracy task force, in December 2008, consisted “of the 052B guided-missile frigate *Wuhan* (Hull 169), the 052C guided-missile destroyer *Haikou* (Hull 171), and the comprehensive supply ship *Weishanhu* (Hull 887) of the South China Sea Fleet,” which departed the port of Sanya on Hainan Island and sailed over six thousand nautical miles to waters off Somalia.¹⁷ As Erickson and Strange noted as early as 2013, these escort task-force deployments, while initially intended to “safeguard China’s economic interests,” over time have provided PRC and PLAN leaders with “irreplaceable naval training” and catalyzed “the development of naval skill sets often taken for granted but absolutely critical

for long-distance operations.” They now irrefutably portray Beijing’s emerging approach to “maritime governance as a great power.”¹⁸

Since 2008, the PLAN has dispatched thirty-two escort task forces to the Gulf of Aden. Each task force has been composed of a three-ship configuration of two warships (consisting of various combinations of frigates, destroyers, or both) and an underway replenishment ship. In the first three years of these operations (or eight task groups), the PLAN relied on “ten domestic-made main battle ships and three supply ships” to fulfill these escort missions in the waters off Somalia.¹⁹

However, from the deployment of the ninth task force in the summer of 2011, the PLAN began to expand the number and type of new platforms for these far-seas missions. For instance, “the 054A guided-missile frigate *Yulin* (Hull 569), which had been commissioned for less than one and half years,” deployed with the ninth task force, and just two years later three of the very latest Type 903 comprehensive resupply ships joined the PLAN escort task-force deployments. As the *PLA Daily* noted on the occasion of the tenth anniversary of these deployments in the summer of 2018, “the Chinese Navy is no longer worried about warship shortages. Not only were more warships built, the qualities had also been improved on a gradual basis. From the ‘Chinese Aegis’ to 10,000-ton destroyers, from a refitted Russian aircraft carrier to a new domestically manufactured aircraft carrier, the Chinese Navy is transforming from a green-water navy into a robust blue-water navy.”²⁰

Another indicator of the PLAN’s global expansion came in 2010 when the fifth escort task force “did not return home directly after completing escort missions, but continued to visit countries in Europe, Africa, Asia, and Oceania.”²¹ This demonstration of operational readiness following three months of escort duty in the Gulf of Aden marked the “globalization of the PLAN.”

This concept was expanded further in 2011 when the seventh task force dispatched the Type 054A / Jiangkai II-class guided-missile frigate *Xuzhou* (hull 530) to conduct a noncombatant evacuation operation (NEO) of PRC nationals from Libya. While the *People’s Navy* acknowledged the difficulties that FFG 530 experienced in conducting this first-ever PRC foreign-soil NEO, by 2015 the PLAN’s NEO capabilities had improved markedly, as the nineteenth escort task force “confidently evacuated Chinese nationals from Yemen”—a first for the PLAN in a hostile threat environment.²²

Since 2011, the normal state of affairs has been two PLAN escort task forces under way in the region a majority of the time, with one task force conducting escort missions in the Gulf of Aden while the other conducts “goodwill,” or show-the-flag, port visits in surrounding areas of the Indian Ocean, Persian Gulf, and Mediterranean Sea, and even into the Baltic Sea and the Atlantic Ocean. This concept was highlighted, or “stress tested,” when the twentieth PLAN escort task

force conducted a five-month global circumnavigation in 2015.²³ It is clear that in the short span of a single decade the PLAN went from being largely confined to the first island chain to having a global presence, with its escort task-force program having visited over sixty nations (see table 1).

What these examples of expanded geographic operations in the far seas demonstrate is the ageless lesson that all seafaring nations learn about the capabilities and confidence that navies gain from being at sea. These data represent a trend line that foreshadows an expanding PLAN global presence, one that will continue to improve its combat readiness as each new area of the maritime commons is opened up to PRC influence.

While the PLAN has gained valuable experience from these years of merely plying the waters of the Gulf of Aden and other far seas at all, the PLAN has acknowledged that its improvements also are the “result of its new blue-navy strategy.” A key element of that strategy was the PLAN’s planning and development of the two-task-force deployment system. This deployment system provides PLAN leadership the means to “easily handle any emergency,” insofar as is required at present.²⁴ Given PRC leadership comments regarding its global agenda, it seems likely there will be an increase in the number of task-force deployments, especially as the size of the PLAN expands over the next twenty to thirty years.²⁵

One of the keys to the PLAN’s ten years of successful and expansive naval-escort task-force operations has been the development of a robust underway replenishment capability. During the first four and a half years of these operations, just three Type 903 supply ships (the so-called supply-ship troika) were used to resupply all the deploying PLAN warships. This obvious limitation required PLAN schedulers to keep one of these three resupply ships on station through two rotations of task-force deployments.

This era of the supply-ship troika finally ended when the supply ship *Taihu* (hull 889), the first Type 903A comprehensive supply ship, deployed with the fifteenth antipiracy task force in August 2013. Since then, the PLAN has built many more comprehensive resupply ships that have been able to support the two-task-force schedule with a dedicated resupply ship for each task-force deployment. The increase in the number of fleet-replenishment ships has expanded the PLAN’s knowledge and training surrounding this very important capability, which serves as the backbone for all naval forces that aspire to conduct global naval operations. As noted in the *People’s Daily*, “the Type-903 series supply ships have greatly improved their replenishment efficiency and are able to conduct alongside, astern, vertical, and skin-to-skin connected replenishment-at-sea at the same time. Therefore, they can carry out underway replenishment missions under more complicated conditions.”²⁶

TABLE 1
PLA NAVY ANTIPIRACY ESCORT TASK FORCE—FOREIGN PORT CALLS

Task Force Numbers and Years	Foreign Port Calls
Task forces 1–5 2009–10	Burma, Egypt, Greece, Hong Kong, India, Italy, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka, United Arab Emirates (UAE)
Task forces 6–10 2011–12	Bahrain, Brunei, Hong Kong, Indonesia, Kuwait, Mozambique, Oman, Qatar, Saudi Arabia, Seychelles, Singapore, South Africa, Sri Lanka, Tanzania, Thailand
Task forces 11–15 2012–14	Algeria, Australia, Bulgaria, France, Israel, Kenya, Malta, Morocco, Portugal, Romania, Seychelles, Singapore, Tanzania, Thailand, Turkey, Ukraine, Vietnam
Task forces 16–20 2014–16	Angola, Britain, Cameroon, Croatia, Cuba, Denmark, East Timor, Egypt, Finland, Germany, Greece (×2), Indonesia, Iran, Italy, Jordan, Malaysia, Mexico, Namibia, Netherlands, Pakistan, Poland, Portugal, South Africa, Sudan, Sweden, Turkey, UAE, USA
Task forces 21–25 2016–17	Bangladesh, Burma, Cambodia, India, Kuwait, Malaysia, Pakistan, Qatar, Saudi Arabia, South Africa, South Korea, Sri Lanka, Tanzania, Thailand, UAE, Vanuatu, Vietnam
Task forces 26–30 2017–19	Algeria, Belgium, Britain, Cambodia, Denmark, France, Greece, Italy, Morocco, Philippines, Spain, Tunisia

Sources: Multiple, compiled by the author.

And while the ships of the Type 903 series have enhanced the far-seas operations of the PLAN greatly, they no longer are the Chinese navy’s most advanced supply ships, as the first of the new Type 901 series / Fuyu-class large-scale resupply ships came into service on 1 September 2017.²⁷ The Type 901 is comparable in capability to the U.S. Navy’s forthcoming USNS *John Lewis*-class (T-AO 205) fleet oilers, which are set to replace the aging *Henry J. Kaiser*-class (T-AO 187) ships. The Fuyu-class replenishment ship is projected to be “a gas-turbine powered fast combat support ship that is designed to operate alongside an aircraft carrier strike group.”²⁸ While as of May 2020 the new Type 901 series had yet to be deployed to the Gulf of Aden for escort task-force operations, its first overseas operations likely will come within the next year or two when the PLAN conducts its first aircraft carrier deployments into the far seas.

Not only have PLAN sailors deployed aboard their newest and latest type warships and learned how to navigate and maintain their ships far from home; PLAN leaders also have learned other valuable skills for maintaining command and control over their expanding fleet operations. The *PLA Daily* has noted that, “with the improvement of the Chinese Navy’s hardware, the escort missions in the Gulf of Aden and the waters off Somalia have become

training opportunities to sharpen the Chinese Navy's software capacity."²⁹ Some of the software capacity improvements surely lie in the advanced weapons deployed aboard these task-group warships, but another improvement relates to the PLAN's ability to command and control its warships farther from China. For instance, according to the *People's Navy*, the PLAN commander has conducted Lunar New Year video teleconferences (VTCs) with every task force (save one) since the fourth escort task force in 2010. These VTCs demonstrate the PLAN's commitment to maintaining a robust and global command-and-control capability.³⁰

While the initial impetus for the PLAN escort task-force missions was to gain blue-water experience, PLAN leaders now recognize, and publicize, that these worldwide deployments have "become the vanguard to protect China's interests overseas."³¹ This past decade of far-seas operations foreshadows the PLAN's increasing ability to project power across the globe.

The real importance of the past decade of far-seas operations for the PLAN lies not just in the service's ability to navigate and sustain the material readiness of its ships but in how those lessons are combined with the lessons the PLAN is learning through numerous war-at-sea naval exercises, held under real-world conditions, routinely occurring along the PRC's coast. For example, in early August 2017 "the PLAN held a large-scale, multi-fleet live-fire exercise simultaneously in the Yellow Sea and Bo Hai, with naval ships, submarines, aircraft, and coastal defense units."³² The combination of these near-seas live-fire naval exercises with the past decade of far-seas operations is transforming the PLAN into a global naval force that will be able to fight and win naval battles.

PLAN Aircraft Carriers

Beyond an examination of the PLAN's current global operations, it is necessary to predict where the PLAN may operate with new platforms in the future. Perhaps no PLAN platform has received more attention than the aircraft carrier.

The most impressive display of PLAN power came in March 2018 when the service's first aircraft carrier, *Liaoning* (CV 16), was flanked by other PLAN warships and submarines in the South China Sea. President Xi Jinping attended what was described as the largest parade the PLAN had ever carried out, with forty-eight ships and seventy-six aircraft taking part.³³ The state-run *People's Daily* characterized the display as an "unprecedentedly" large-scale naval exercise—involving a flotilla as large as the one the Royal Navy dispatched to fight the Falklands War in 1982. The Chinese naval commentator noted that the exercise most likely was used to "test China's aircraft carrier formation, gathering data and experience for the country's future construction of carrier combat groups."³⁴

More importantly, the exercise could be characterized as a coming-out for the PLAN's power-projection capabilities. Uncharacteristically, the PRC press

boasted that “the Chinese navy will conduct even larger-scale drills in the future.”³⁵ It even admitted a belief that to “be a world-class navy, the Chinese navy has the right to catch up” with navies of developed countries in terms of technology and scale, even beyond the PLAN’s recent advances. As a harbinger of the future, Chinese commentators highlighted that “the problem of a relatively small aggregate tonnage of naval vessels must be resolved, in order to increase the navy’s capability to confront naval hegemonies in the world.”³⁶

Following this unprecedented exercise, news of the PLAN’s aircraft carrier program continued to receive enormous attention. *Shandong* (CV 17), China’s first indigenously produced carrier, conducted three sea trials between March

The combination of . . . near-seas live-fire naval exercises with the past decade of far-seas operations is transforming the PLAN into a global naval force that will be able to fight and win naval battles.

and November 2018. Following the last sea trial of CV 17, Xinhua reported that the PLAN’s third aircraft carrier was under construction, most likely at the Jiangnan Shipyard near Shanghai. While Chinese

naval experts predicted the third carrier would take two and a half years to be launched, projections widely assert that this iteration will have a flat deck and some form of catapult launch capability.³⁷

Just how many aircraft carriers the PRC will build is a topic of great discussion in the PRC press. In December 2018, the *PLA Daily* ran an article quoting two naval experts who assessed the PRC as needing at least five aircraft carriers, if not six, to fulfill “strategic shifts in the geo-political environment.” According to “China’s Military Strategy,” a white paper that the State Council’s Information Office released in 2015, these “strategic shifts” were implemented to refocus the PLAN from “offshore waters defense” to “open seas protection,” so as to “enhance its capabilities for strategic deterrence and counterattacks, maritime maneuvers, joint operations at sea, comprehensive defense, and support.”³⁸

What seems clear is that the boasting about future aspirations in March 2018 was inspired by the speech President Xi delivered aboard one of the destroyers during the naval exercise. In his speech, President Xi stated that “building a world-class navy was part of his broader goal to ‘rejuvenate’ the nation.”³⁹ Regardless of the rationale, given the scope and size of this event, the publicity about it, and the subsequent testing of the second carrier and rollout of the third carrier, there is little doubt the PRC still is expanding the size and scope of the PLAN aircraft carrier program.

According to some Chinese military experts, the PRC plans to have “at least six aircraft battle groups . . . in the water by 2035,” of which four “will be nuclear-powered,” as it builds up its naval capability closer to that of the U.S. Navy.⁴⁰ Thus,

given the PRC's demonstrated efforts to be the "biggest" or "number one" across so many areas of national power, prudence requires that we prepare for a PLAN that has at least ten aircraft carriers by 2049—to match or surpass the capacity of the U.S. Navy.

Expanding PLAN Submarine Operations

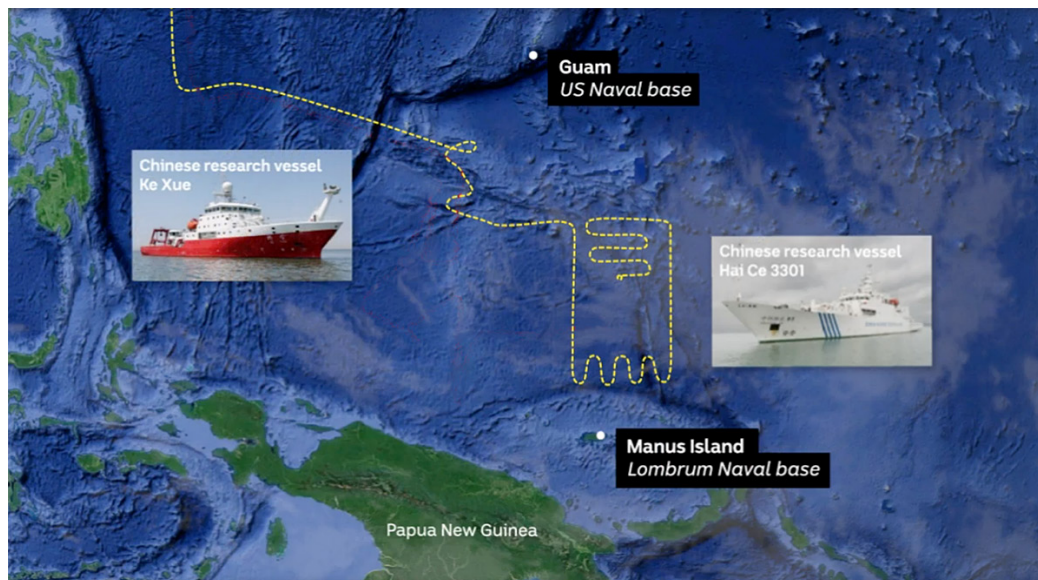
Expert observers consider the expansion of PLAN submarine operations into the far seas to have begun in October 2006, when a Song-class diesel submarine was sighted within four nautical miles of USS *Kitty Hawk*.⁴¹ Between 2006 and 2013, PLAN submarine operations expanded into the South China Sea and Philippine Sea and became a normalized pattern of activity. Since 2013, "the PLAN has conducted regular deployments of nuclear submarines into the Indian Ocean, and while submarines, especially nuclear-powered types, are suboptimal against pirates, they are a highly useful threat against India."⁴²

The obvious question is where PLAN submarines will operate next. That question can be answered by paying attention to PRC oceanographic-research and survey operations. The PRC's naval oceanography often is conducted "in tandem with, or under the guise of, scientific or commercial oceanography, but its real intent is to gain important data about the undersea domain, principally anything of benefit to the PLAN elite submarine force."⁴³ Wherever the PRC has carried out this ocean-floor mapping—in the East and South China Seas, the Philippine Sea, the western Pacific Ocean, and the Indian Ocean—PLAN submarine operations have followed.

For example, in December 2018 it was reported that two PRC vessels designated "distant-ocean research fleet" ships, *Kexue* and *Haice 3301*, had entered Papua New Guinea's exclusive economic zone (EEZ) and conducted operations involving "even spacing between legs." Such activity is a clear indicator of bathymetric data collection that would support future PLAN submarine and submersible operations.⁴⁴

With regard to the Atlantic Ocean, in 2018 "China's new generation of ocean-going comprehensive scientific research ship *Xiang Yang Hong 01* successfully completed China's first global ocean comprehensive scientific examination task."⁴⁵ While *Xiang Yang Hong 01* is subordinate to the Ministry of Natural Resources (MNR) and deploys to distant oceans as part of the PRC's program to collect oceanic data, as Martinson and Dutton have noted, one of the main drivers for this data-collection program is to "support the development of China's blue-water naval capabilities," a function that is "especially important for undersea warfare."⁴⁶ *Xiang Yang Hong 01* departed the port of Qingdao in August 2017 and deployed more than 38,000 nautical miles across the Indian and Atlantic Oceans and back into the Pacific before returning to its home port on 18 May 2018.⁴⁷ Interestingly, *Xiang Yang Hong 01* spent the month of October

FIGURE 1
CHINESE RESEARCH SHIP OPERATIONS IN THE SOUTH PACIFIC



Source: Greene, "Chinese Surveillance near PNG Expanding."

2017 conducting oceanographic operations in the South Atlantic, the third leg of its circumnavigation of the globe.⁴⁸ An article published in the November 2018 issue of the *Chinese Journal of Applied Oceanography* suggests that the PLAN is laying the intellectual foundation for undersea warfare operations in the Atlantic Ocean. Specifically, the authors highlight the military significance of the work, stating that it "has practical value for exploiting seasonal variation in sound propagation in the Atlantic Ocean to engage in target detection."⁴⁹ This is a clear reference to future submarine operations.

In addition to the MNR's fleet of nearly a dozen National Marine Research distant-ocean research vessels, the PLAN operates some nine distant-ocean survey ships that "perform bathymetric surveys" and collect oceanographic data. For instance, the PLAN's Type 636A Shupang-class oceanographic research ship (designated AGS) *Zhu Kezhen* was reported to have conducted hydrographic survey operations in South Atlantic waters off Brazil in 2015. In addition to completing the East Sea Fleet's first single-ship global circumnavigation, the mission of *Zhu Kezhen* was to conduct "an active exploration of understanding the ocean" in support of the PLAN's role in transforming the PRC into a maritime power. Of particular interest, it was reported that *Zhu Kezhen* in recent years had been "focused on the strong military objectives, [and] innovated the all-weather survey and measurement model according to the requirements of 'can fight and win the battle.'"⁵⁰

Like the U.S. Navy, the PLAN “possesses a corps of meteorologists and oceanographers” who support weather forecasting and hydrographic chart production. Most importantly, as Martinson and Dutton have noted, the “PLAN’s distant-ocean survey fleet has more than tripled since 2015.”⁵¹ As Rear Admiral James V. P. Goldrick, RAN (Ret.), former head of Australia’s Border Protection Command, has observed, the Chinese mapping of the world’s oceans is now on the same scale as Soviet maritime operations during the height of the Cold War.⁵² Given the previous pattern of MNR and PLAN oceanographic operations preceding PLAN submarine operations, we should prepare for Chinese submarine operations in the Atlantic over the course of the next decade, and most certainly by 2030.

This is to say nothing of PLAN submarine operations in the Pacific over the past decade. One need only recall Vice Admiral Joseph P. Mulloy’s 2015 testimony before the U.S. Senate Armed Services Committee, that the PLAN’s submarine force was expanding its geographic area of operations as well as the duration of subs’ deployments. Extrapolating from Indian Ocean operations, Admiral Mulloy noted that in 2015 one PLAN submarine had been deployed for ninety-five days.⁵³ Given the global nature of the PLAN’s expansion, it is not unreasonable for USN leaders to expect to see PLAN submarines operating in Hawaiian waters; if they are not doing so already, they surely will within the next five years. We also should expect to see PLAN submarines operating off the U.S. West Coast by 2030.

As for the number of PLAN submarines that can be expected in the future, in 2015 Scott Cheney-Peters and I estimated that by 2030 the PLAN would have twelve nuclear-powered attack submarines (designated SSNs), twelve nuclear-powered ballistic-missile submarines (SSBNs), and seventy-five air-independent-propulsion (i.e., AIP) and diesel attack submarines (SSPs/SSs).⁵⁴ However, given recent developments regarding a possible new nuclear submarine-production facility under the Bohai Shipbuilding Heavy Industry Company (BSHIC) in Huludao, the number of PLAN SSNs and SSBNs may be greater than originally estimated.

According to analysis of Google Earth commercial-satellite imagery of land reclamation at BSHIC since 2014, a collection of large foundations and buildings—including “a main assembly hall, a pressurized hull production shop, a paint shop, and a number of transport rails”—could be China’s newest nuclear submarine-production facility. While the commercial imagery has “prompted some Chinese military enthusiasts to compare it with interiors of other nuclear production halls around the world,” others remain unconvinced.⁵⁵ The case against this facility being a new nuclear submarine-production hall is based on two arguments: one, the existence of a concrete wall blocking the dual rail lines from the construction halls to the dry dock; and two, doubt about the thickness of the concrete slabs in the new halls and whether they have the load-bearing

capacity for SSNs or SSBNs. With regard to the first issue—the wall blocking the rail line to the dry dock—commercial imagery since mid-2017 clearly indicates that the concrete wall has been removed. Now the dual rail lines from the production halls to the dry dock are unobstructed, thereby allowing any newly produced SSN or SSBN to reach the waters of the Bo Hai. As for the thickness of the concrete slabs and their load-bearing capability, the argument is unconvincing, as the resolution of the commercial imagery is insufficient to determine the matter.

Given the existence of this new facility, its internal configuration, and its estimated production capacity, such “an arrangement, once mature and properly organized with efficient pre-assembly module fabrication, may enable two SSNs and one SSBN to be launched every year.” If such a rate of production were to begin in 2020, the PLAN could have as many as twenty-four SSNs and fourteen SSBNs by 2030. While some may scoff at this projection, it is worth remembering that as recently as a decade ago similar doubts existed regarding Chinese destroyer production—but in 2018 alone the PRC launched seven new destroyers (three Type 055s and four Type 052Ds).⁵⁶

Intelligence Collection

Another mission area in which the PLAN has been operating in the far seas is intelligence collection. Beginning in 2012, the PLAN has dispatched intelligence-collection ships (designated auxiliary general intelligence vessels [AGIs]) to the waters off Hawaii during the biennial USN-sponsored Rim of the Pacific (RIMPAC) exercise. While the PRC was not a participant in RIMPAC 2012, that did not prevent it from sending an AGI. The PLAN again dispatched an AGI to the waters off Hawaii during RIMPAC 2014, even though the PLAN was invited formally and participated with four ships. The PLAN did not send an AGI to RIMPAC 2016, in which it again was a formal exercise participant. However, during RIMPAC 2018, to which the PLAN was not invited, a PLAN Type 815 Dongdiao-class AGI did show up off the coast of Hawaii, according to the U.S. Pacific Fleet.⁵⁷

PLAN AGI collection operations have targeted other U.S. naval exercises and operations. For instance, in 2014 the PLAN dispatched a Dongdiao-class AGI to spy on the U.S. Seventh Fleet–led Exercise VALIANT SHIELD in the waters off Guam.⁵⁸ Then, according to the Pentagon, in July 2017 the PLAN dispatched another Dongdiao-class AGI, this time to collect intelligence against the U.S. missile-defense test of the Terminal High-Altitude Area Defense system (referred to as THAAD).⁵⁹ Coincidentally, this occurred as yet another PLAN Dongdiao-class AGI was detected within the Australian EEZ near Queensland, where U.S. and Royal Australian Navy warships and aircraft were conducting Exercise TALISMAN SABER.⁶⁰

The PLAN's AGI operations over the last several years have not confined themselves to collection missions against the United States and its allies. In 2018, in a first, the Russian Federation invited the PLA to participate in the strategic VOSTOK exercise, billed as the largest exercise in modern Russian history. Sergey Shoigu, the Russian defense minister, was quoted as saying that "about 300,000 troops, more than 1,000 planes, helicopters, and drones, up to 80 combat and logistic ships and up to 36,000 tanks, armored personnel carriers and other vehicles" were involved in the exercise. Of the personnel, 3,500 were PLA soldiers dedicated to the ground portion of the exercise.⁶¹

Remarkably, as has been the PRC's pattern at RIMPAC exercises, a PLAN Dongdiao-class AGI was dispatched to shadow "Russian Navy assets for the length of the at-sea portion of the exercise while Chinese and Mongolian troops

When it comes to the very important metric of how many ships actually are being built, launched, and commissioned, the PLAN continues to surpass the U.S. Navy.

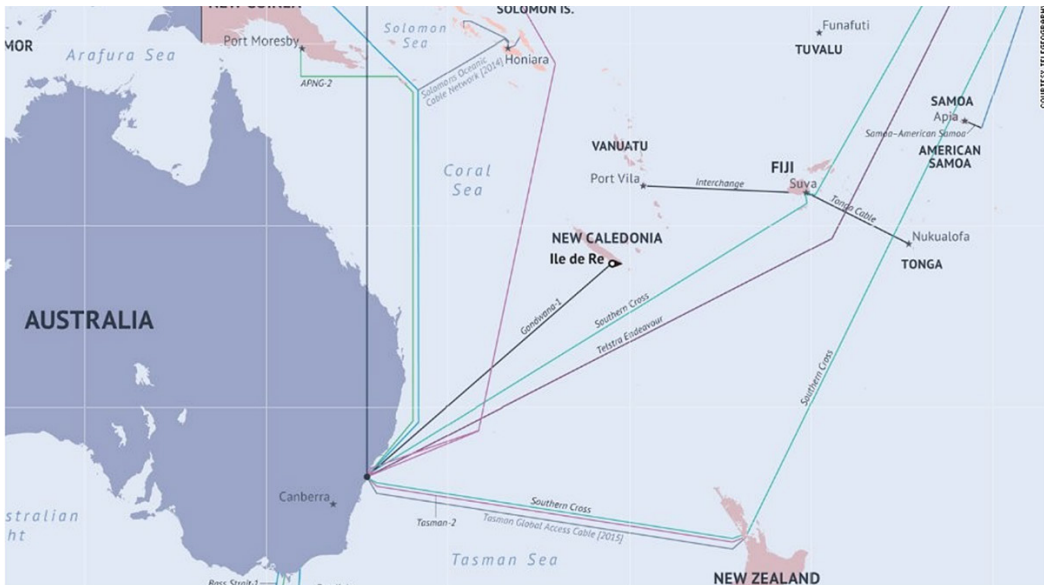
exercised ashore," according to U.S. officials.⁶² Interestingly, there was no reported presence of other PLAN warships in support of the VOSTOK 2018 exercise.

Despite AGIs being some of the most vulnerable platforms in any war-at-sea scenario, the increasing presence of PLAN AGIs around the world provides the PRC another layer of collection in its expanding maritime-intelligence, surveillance, and reconnaissance architecture. The function they perform should be recognized as another important element in the PLAN's overall global naval strategy.

Another aspect of intelligence collection that could generate future PLAN activity relates to international underwater cables, which are very important for the amounts of information they carry. In this regard, it is worth noting the PLAN's activities in the islands of the South Pacific, particularly around Fiji. In December 2018, a "China-aided" hydrographic survey ship was handed over to the Fijian navy. The ship, *Kacau* (named for a Fijian seabird), is reported to be "equipped with high-tech equipment for hydro detection" for carrying out "hydrographic and maritime surveys, providing detection data and real-time information."⁶³ An eighteen-member PLAN training team spent four months training the Fijian crewmembers of *Kacau*. The Fijian minister for defense, national security, and foreign affairs noted that the ship would provide "a range of operational capability, which is not limited to hydrographic survey but maritime surveillance, HADR [humanitarian assistance / disaster relief], diving, [and] Search and Rescue."⁶⁴

Given China's previous efforts to establish underwater-surveillance networks, it is reasonable to expect that the hydrographic data the Fijian vessel generates may be shared with China and processed by Chinese institutes, adding to China's undersea-domain databases.⁶⁵ Further, this gift may open the door for joint-venture

FIGURE 2
UNDERSEA CABLES CONNECTING AUSTRALIA AND NEW ZEALAND TO THE INTERNET



Source: CerCis Consulting, cercisconsulting.com/.

hydrographic expeditions that will include this ship and deployed Chinese research vessels, possibly including among the latter the 6,000- and 7,000-meter-class submersibles and their associated support ships. In a worst-case scenario, this knowledge and access would allow the PRC to isolate both Australia and New Zealand from receiving U.S. intelligence and communications. This is something that bears close monitoring by the United States, and close coordination with Australia and New Zealand.

Hospital Ship

As the lead element of its psychological operations, the PLAN operates its Type 920 / *Anwei*-class hospital ship *Peace Ark* (AH 866) globally. The PLAN deployed *Peace Ark* on a 205-day around-the-world deployment, publicized as “Mission Harmony–2018.” The PRC press reported that *Peace Ark*’s “goodwill” voyage extended over 31,800 nautical miles and provided medical services during foreign port calls in Papua New Guinea, Vanuatu, Fiji, Tonga, Venezuela, Ecuador, the Commonwealth of Dominica, Antigua and Barbuda, and the Dominican Republic.⁶⁶ During the port call in Ecuador, the chief of the mission noted that *Peace Ark* had visited over forty-two nations since it was launched in 2008 and had treated nearly a quarter of a million patients.⁶⁷

But in addition to showing the flag and providing medical services, the officers and sailors of *Peace Ark* gained invaluable training and experience in operating

at sea around the globe, as well as learning about foreign ports and the navies in each nation. While it may seem counterintuitive, even a hospital ship deployment provides—albeit in the smallest of ways—the kind of experience that contributes to the PLAN's overall combat readiness on a global scale.

Participation in Foreign Naval Exercises

One of the drivers of the PLAN's global expansionism is the clear and unambiguous benefit it obtains from participating in naval exercises with foreign navies. Despite assertions to the contrary by some in the “China hands” community, the PLAN gained valuable insight into naval warfare from its participation in RIMPACs 2014 and 2016. While the activities involved seemingly were innocuous, the PRC press noted that the PLAN participated in “cannon firing exercises, comprehensive exercises, maritime security actions, maritime warship exercises, military medicine exchanges, humanitarian aid, and disaster reduction, as well as diving drills.”⁶⁸ Participation in these activities clearly provided the service with an unprecedented intelligence windfall that ultimately threatens USN operational security, so disinviting the PLAN from participating, as of RIMPAC 2018, was long overdue.

Likewise, the PLAN has conducted joint naval-warfare exercises, named JOINT SEA by the PRC, with the Russian navy since 2012. Since then the scope, scale, and complexity of this exercise series have expanded. Each year the PLAN has dispatched its warships to the Yellow Sea, the Sea of Japan, and the Mediterranean and Baltic Seas.⁶⁹ The most recent iteration of the exercise, JOINT SEA–2019, was conducted from 29 April to 4 May, and focused on joint sea defense.⁷⁰ The exercise involved Chinese aircraft and submarines and Russian submarines engaging in joint maneuvering episodes, organized communications, rocket practice, and engagement of sea and air targets with artillery fire.⁷¹

Not only did this experience catch the attention of U.S. military and intelligence communities, but it was observed by allies, including Norway. In February 2019, Lieutenant General Morten Haga Lunde, Norway's chief of military intelligence, highlighted Chinese and Russian Arctic cooperation in his annual report. The unprecedented statement declared that “in the long term, we must be prepared for a clearer Chinese presence also in our neighboring areas.” General Haga Lunde went on to assess that “such development is in line with President Xi's goal to develop the military as part of the country's superpower ambitions. Beijing will to a larger extent use military power as a tool in its foreign policy.” Lending credence to the Norwegian assessment, in 2018 Vice Admiral Shen Jinlong, the commander of the Chinese navy, visited Severomorsk, the Russian Northern Fleet headquarters north of Murmansk on the Barents Sea coast.⁷² While the PLAN never has conducted military voyages to Arctic waters, this likely will change soon, given that in January 2019 the PRC conceptually laid out a so-called Polar Silk Road in a white paper entitled “China's Arctic Policy.”⁷³

Future PRC Naval Operating Areas:

The Belt and Road Initiative and the PLA Navy

One obvious indicator of future PLAN operations is a direct link to the Belt and Road Initiative (BRI). That concept first was presented in 2013 under the banner of the Silk Road Economic Belt and 21st-Century Maritime Silk Road during President Xi's visits to Central and Southeast Asia.⁷⁴ Then in 2015, President Xi unveiled "the principles, framework, and cooperation priorities and mechanisms" of what was renamed the Belt and Road Initiative, which, according to the PRC, was designed "to enhance regional connectivity and embrace a brighter future together."⁷⁵

The importance of the BRI to the PRC's future can be found in the January 2019 report from China's Ministry of Commerce, which announced that the trade volume between China and countries along the BRI totaled \$1.3 trillion in 2018, up 16.3 percent from the year prior.⁷⁶ Not only does the BRI involve substantial amounts of money deployed to buy access and influence; it also serves to satisfy the PRC's mercantilist designs to control markets, supply chains, and access to the resources needed to control global economic development.

The Pentagon has taken note of how the PRC is using the BRI "to develop strong economic ties with other countries, shape their interests to align with China's, and deter confrontation or criticism of China's approach to sensitive issues."⁷⁷ In keeping with that view, the world has witnessed the PLAN expand its operations into the far seas in parallel with the BRI's expansion throughout the Indo-Pacific, Africa, the Middle East, Europe, and the Americas over the past six years.

In its "Vision of Maritime Cooperation under the Belt and Road Initiative" white paper, released in 2017, the PRC describes three maritime corridors and their importance to maritime-security cooperation. The first corridor runs from China through the Indian Ocean to Africa and the Mediterranean Sea; the second runs from China to Oceania and the South Pacific; while the third transits northward from China to Europe through the Arctic.⁷⁸ By providing the PLAN with access to various foreign ports, the BRI has created advantages for the naval service that have allowed it to extend its operations around the globe. The United States—notably and purposefully—is not included in the BRI; in the future this could isolate us, leave us in a weak negotiating position, or otherwise bring pressure to bear on us. However, neither option—being part of the BRI or being excluded from it—is good for the United States; instead, we should continue to resist the BRI entirely, not least for the naval advantages it grants to China.

So, where might we find the PLA operating in the future, as the BRI continues to expand? The answer to that question became clearer when President Xi conducted a three-nation visit to Europe in March 2019. On 23 March, it was announced that Italy had signed a memorandum of understanding (MOU)

with the PRC, making it the first member of the Group of Seven industrialized nations to join the BRI. The agreement, ostensibly worth \$2.4 billion, has the potential to balloon to \$22.4 billion, according to the Italian deputy prime minister (although these numbers should be considered with great skepticism, given that other announced billions of dollars in BRI investments have not materialized). But the compromising concessions that are front-loaded into such agreements are very real. In the case of Italy, they include the state-owned China Communications Construction Company (CCCC) signing two cooperation

[T]his global naval presence will result in exactly what the world has witnessed in the South and East China Seas over the past decade, where PLAN forces have been used to bully and intimidate smaller and weaker nations into complying with Beijing's dictates.

agreements, with the authorities of the port of Trieste and with the commissioner supervising the reconstruction of the bridge in Genoa that collapsed in the summer of 2018.⁷⁹ While it is not clear whether the MOU would

cover the port of Genoa project, the Italian press reported that Italian port authorities are preparing to set up a new company with CCCC to operate “major works related to the port of Genoa.”⁸⁰

Purportedly, the importance of this agreement to China is in relation to the BRI, in that it “will allow it to build more ports that can handle large-scale container ships.”⁸¹ Yet even the mayor of Trieste acknowledged that, while the city had much to gain from the agreement, “the Chinese had even more to gain from his port’s deep harbors.”⁸² It should be anticipated that, as with other BRI port projects, as the BRI expands into Trieste, Ravenna, and Genoa, PLAN warships will follow. Ultimately, the PRC’s expanding access to ports in Europe offers the PLAN more opportunities to resupply its forces, potentially even during a maritime conflict in other areas.

The linkage between the expansion of BRI projects and investment in and acquisition of ports has been the topic of much analysis recently, most notably by Thorne and Spevack, who assert that the BRI provides Beijing with “access to vital sea lines of communication.” Port investments are being used as “vehicles” whereby the PRC can “build dual-use infrastructure to facilitate Beijing’s long-range naval operations.”⁸³ Likewise, O’Dea postulates that expansion by the China COSCO Shipping Corporation (COSCO) is a “distinctly Chinese approach to maritime development,” and that this “state-owned shipping company has become the flagship of China’s ambition to become a global maritime power.”⁸⁴

This expansion has not been limited to Europe, Africa, and Southeast and South Asia. For instance, in February 2019 it was reported that the Peruvian port of Chancay would join COSCO under the auspices of the BRI. The \$225 million

agreement was reported to be COSCO's first port purchase in South America, one that will provide deepwater (sixteen meters) access. Plans have been announced to build a new terminal at the port.⁸⁵

Not all of the PRC's port expansion is controlled by COSCO. For example, in March 2019 came the formal announcement that Namibia's new container terminal in the coastal town of Walvis Bay—originally projected to be commissioned on 1 August 2019—was constructed by China Harbour Engineering Company. Following a \$300 million funding grant from the African Development Bank, construction work began in 2014 on forty hectares of land reclaimed from the sea.⁸⁶ The terminal will more than double the cargo-volume capacity of the port—and undoubtedly will provide the PLAN with an access port on the Atlantic.

Even as the number of separate, specific cases in which the PRC has gained access to foreign ports continues to grow, O'Dea already has provided the conclusive summation of the overall impact of this strategy. “By creating a global port network for ostensibly commercial purposes, China has gained the ability to project power through the increased physical presence of its naval vessels—turning the oceans that historically have protected the United States from foreign threats into a venue in which China can challenge U.S. interests.”⁸⁷

CONTROL OF RESOURCES

One of the most sensitive factors relevant to the BRI and the future of PLAN global expansionism is the PRC's dependency on imported oil. As the *Global Times* has reported, the PRC's oil consumption is rising faster than its ability to import crude oil. For example, in 2018 the PRC consumed 648 million tons of oil, of which 460 million tons was imported, meaning the PRC's dependency on foreign crude was at 70 percent for the year—a clear strategic vulnerability for the CCP. The PRC's “domestic oil fields have generally reached the limits of their oil production capacity,” and it is unlikely there will be any significant increase in domestic production. This directly impacts the PRC's strategic petroleum reserve (SPR), estimated at forty to fifty days' worth, given the increasing rate of consumption each year, despite Beijing's efforts to curtail energy consumption and find alternative sources.⁸⁸ International norms are for nations to have at least a ninety-day SPR, so it seems likely the PRC will become increasingly concerned about its ability to maintain access to oil sources around the globe. This contributes to the drive for the PLAN to expand globally.

With regard to petroleum, it is worth noting that in January 2019 the China National Offshore Oil Corporation (CNOOC) announced a major new oil discovery off Aberdeen, Scotland. CNOOC Petroleum Europe, a wholly owned

subsidiary of CNOOC, holds a 50 percent interest in the operating license.⁸⁹ While deployments of PLAN warships to the waters off Scotland may not be imminent, this discovery creates another area of attention related to the PRC's vulnerable SPR situation, and marks a locale where the PLAN may operate in the future.

Protecting and Controlling the Diaspora

As noted previously, the list of factors driving the PLAN's increasing global presence includes the top-down determination of Chairman Xi Jinping to make China a maritime power, supporting the BRI, increasing participation in naval exercises around the globe, and achieving energy security. But another area relates to protecting Chinese citizens and controlling Chinese resources around the globe, and the extraterritorial projection of Chinese law internationally.

As noted in a January 2019 Center for Naval Analyses study, the mission of defending Chinese people and assets abroad is one of the major factors in the PLAN's expansive presence throughout the Middle East and the western Indian Ocean. The authors of the study state that "the number of Chinese citizens and investments in the region has grown considerably," and that the PLAN, in particular, "has been given a mandate to protect those interests."⁹⁰ While the PLAN has conducted NEOs in Libya and Yemen, some indicators suggest that conflicts on the horizon potentially involving the safety of Chinese nationals could bring the PLAN into action even in the Americas.

For example, in the South Atlantic in February 2018, an "Argentine coast guard vessel fired shots at a Chinese fishing vessel that was allegedly operating in Argentina's EEZ without authorization." This incident occurred after the Argentine forces had pursued the poachers for eight hours. Interestingly, the fishing vessel was not alone and evaded capture by the Argentine navy with the help of four other Chinese ships.⁹¹ This was not an isolated incident, as a year later, in February 2019, a Chinese "squid jigger" fishing vessel sank after it collided with a Spanish trawler.⁹² According to the Argentine coast guard, the Chinese squid jigger, *Hua Xiang 801*, "was detected illegally operating in mile 199 of Argentina's EEZ, and was ordered to stop engines and prepare for boarding by the patrol vessel." In a video provided by the Argentine coast guard, *Hua Xiang 801* was "not operating its satellite Automatic Identification System, AIS, ignored repeatedly radio warnings and before escaping with all lights off tried on several occasions to ram the Argentine patrol."⁹³ While collisions at sea between fishermen are not uncommon, given the PRC's hypernationalistic sensitivities to international slights and "loss of face," it is entirely possible that in the future Beijing may call on the PLAN to provide long-range support to Chinese fishing fleets in the South Atlantic.

As China's naval dominance increases, we also should expect and prepare for increasing attempts by China to extend its extraterritorial laws from Chinese citizens to citizens of other countries. We already have seen this in the case of people who are citizens of countries such as Australia and Sweden but of Chinese ethnicity.⁹⁴ We also are likely to see this approach imposed *against* any ethnicity in the future, as it was against Canadians after the Huawei dispute.⁹⁵

Diplomacy Drives PLAN Expansionism

Not only does the PRC's mercantilist quest for resources, via the BRI, provide an impetus for PLAN expansion; so too does international diplomacy. For instance, another place where we might see an increase in PLAN warship port calls is El Salvador.

The country officially cut ties with Taipei and established a formal strategic alliance with Beijing in August 2018. Just a month before the official recognition of the PRC, Luz Estrella Rodríguez, El Salvador's economy minister, stated that Beijing was interested in reviving the commercial port of La Unión in El Salvador's east, which "has remained largely deserted since it was completed in 2008 because its lack of maritime traffic has made it difficult to find investors." This concatenation of events led the American ambassador to El Salvador, Jean E. Manes, to warn publicly of the PRC's intentions to turn the commercial port into a "military base."⁹⁶

The Pursuit and Sustainment of a Global PLAN

Since the PLAN's expanded global naval capabilities and operations are linked firmly to President Xi's "China Dream," and since the PRC has not yet achieved its end state of becoming a "modern socialist country," we should expect that over the next twenty years the PRC's naval shipbuilders will sustain, or increase as required, the pace of shipbuilding needed to achieve the goal of "building a powerful military in the new era."⁹⁷ While predicting the future with precision remains a difficult endeavor, given the trajectory of PRC naval construction over the past twenty years, the following three assertions in favor of a robust Chinese naval shipbuilding program have remained firmly in place since this author first listed them in 2016.⁹⁸

First, the Chinese government will have the desire and ability to continue to increase in real terms its investment in its shipbuilding for naval forces; second, China will continue to enjoy cost advantages in its shipbuilding compared with foreign naval shipyards; and third, Chinese shipbuilders will continue the trend of indigenous technical mastery of complex designs and systems integration.⁹⁹ While challenges to PLAN modernization and growth remain—including difficulties in systems integration and continued reluctance to collaborate at the research stage—the past decade has demonstrated that previous challenges have ended up being far from insurmountable.

The PRC has continued to make military spending a top national priority. In 2019, China announced that it had raised defense spending by 7.5 percent, to 1.19 trillion yuan (about 177.61 billion U.S. dollars).¹⁰⁰ This demonstrates, again, that the PRC’s annual growth rate for defense spending continues to outpace the rate of increase in its gross domestic product (GDP), which for 2019 is estimated to have been 6.5 percent.¹⁰¹ The PRC’s GDP surpassed that of the United States in terms of purchasing power in 2014—with troubling implications for the future size, capability, and disposition of the PLAN relative to the U.S. Navy.¹⁰²

When it comes to the very important metric of how many ships actually are being built, launched, and commissioned, the PLAN continues to surpass the U.S. Navy. It is worth remembering that between 2013 and 2014 China launched more naval ships than any other country—a ranking it continued to hold through 2019, as shown in table 2.¹⁰³

As table 3 depicts, by 2030 the PLAN surface force (including carriers, destroyers, frigates, corvettes, missile-armed patrol craft, amphibious ships, and mine-warfare ships) could approach 450 hulls (up from 331 ships in 2015) and submarines could total 99 (up from 66 in 2015). However, considering the past four years of actual construction, even this 2015 “maximal scenario” may underestimate the future growth of the PLAN. For instance, in 2015 Type 052D / Luyang III-class destroyer production barely had begun, and the launching of the first Type 055 / Renai-class cruiser was a year and a half in the future. Another way to understand PLAN growth is to look at the period between 2010 and 2018, when twenty destroyers and four cruisers were launched from Chinese shipyards, whereas between 2000 and 2010 only ten destroyers and no cruisers were launched.¹⁰⁴

Considering all this new information, table 3 represents a “course correction” to the 2015 prediction, indicating that by 2030 the PLAN will consist of a surface force of over 450 ships and a submarine force approaching 110 boats. The biggest unknown will be the rate of decommissioning of those warships and submarines

built before the turn of the century (such as the Type 053 class of destroyers and the Type 035 class of diesel submarines).

LIMITING FACTORS

The size of the PLAN and the scope of its global operations in the future are not inevitable. There are two limiting

**TABLE 2
USN AND PLAN COMMISSIONS, 2015–18**

	U.S. Navy	PLA Navy
2015	3	24
2016	4	24
2017	8	19
2018	7	15
Total	22	82

Sources: USN data from Wikipedia; PLA Navy data from Meyer, *China’s Maritime Forces*.

TABLE 3
PLA NAVY PLATFORM INVENTORY—PAST, PRESENT, AND FUTURE

Platform	Inventory			
	2015	2019	2030 (old estimate)	2030 (new estimate)
Aircraft carriers	0	1	N/A	6
Cruisers	0	0	N/A	16
Destroyers	26	31	34	45
Frigates	52	52	68	55
Corvettes	20	42	26	45
Missile patrol craft	85	86	111	100
Amphibious ships	56	56	73	75
Mine-warfare ships	42	56	55	50
Major auxiliaries	50+	50+	65+	60+
<i>Total surface combatants</i>	<i>331+</i>	<i>374+</i>	<i>432+</i>	<i>452+</i>
SSNs	5	8–9	12	24
SSBNs	4	4–5	12	14
SSs	57	50–54	75	70
<i>Total submarines</i>	<i>66</i>	<i>62–68</i>	<i>99</i>	<i>108</i>
Total fleet size	397+	436–442+	531+	560+

Sources: 2015 data from Office of Naval Intelligence, *The PLA Navy*; 2019 data from Meyer, *China's Maritime Forces*; 2030 (old) data from Erickson, *Chinese Naval Shipbuilding*; 2030 (new) data from author's calculations.

Note: Captain Fanell prepared his figures for presentation at the China Maritime Studies Institute's "Going Global? The People's Navy in a Time of Strategic Transformation" conference, U.S. Naval War College, Newport, Rhode Island, May 2019. Subsequent to this conference, the Congressional Research Service published Ronald O'Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress*, CRS Report RL33153 (Washington, DC: Congressional Research Service, 18 March 2020), table 2 of which is reproduced below. The CRS report generally reflects Captain Fanell's original and updated 2030 estimates.

NUMBERS OF BATTLE FORCE SHIPS, 2000–2030

FIGURES INCLUDE BOTH LESS-CAPABLE OLDER UNITS AND MORE-CAPABLE NEWER UNITS

	2000	2005	2010	2015	2020	2025	2030
Ballistic missile submarines	1	1	3	4	4	6	8
Nuclear-powered attack submarines	5	4	5	6	7	10	13
Diesel attack submarines	56	56	48	53	55	55	55
Aircraft carriers, cruisers, destroyers	19	25	25	26	43	55	65
Frigates, corvettes	38	43	50	74	102	120	135
Total China navy battle force ships, including types not shown above	110	220	220	255	360	400	425
<i>Total U.S. Navy battle force ships</i>	<i>318</i>	<i>282</i>	<i>288</i>	<i>271</i>	<i>297</i>	<i>n/a</i>	<i>n/a</i>

Source: Table prepared by CRS. Source for China's navy: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020–2030," February 2020, 4 pp. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission. Figures are for end of calendar year. Source for figures for U.S. Navy: U.S. Navy data; figures are for end of fiscal year.

Note: n/a means not available.

factors to the PLAN's expansion that the United States and its allies can and must empower if they are to maintain dominance of the seas.

The first factor is the stability of the leadership of President Xi Jinping. Some have pointed out that Xi is facing "critical levels of political risk given the political and economic problems in the regime." Some believe that his constitutional amendments to remove term limits on the president suggest that a factional struggle exists within the CCP. These observers further argue that Xi's failure to hold a fourth plenum of the CCP's current Central Committee on the normal schedule means that "the factional struggle is extremely intense and Xi is in grave danger."¹⁰⁵

Second, some observers predict that the PRC's economic growth is unstable, and even on the verge of collapse. These observers note that "China's \$34 trillion pile of public and private debt is an explosive threat to the global economy."¹⁰⁶ Given this, the future growth and expansion of the PLAN could be slowed, if not disrupted, by purposefully impeding the country's economy.

ASSESSMENTS, ACCURACY, AND ADJUSTMENT

As U.S. policy makers assess the speed and sustainability of China's naval expansion, it is useful to look back on previous assessments of Chinese sea power. Whenever such a function has been performed, we should expect to find errors and misjudgments—assessments of the future are hard. However, in the case of China we find that the most notable feature of previous assessments is that all our misjudgments have been in the same direction—perfectly fitting the definition of *systematic error*. The urn of history is filled with the ashes of nations, and navies, that suffered disastrous, if not cataclysmic, defeat by enemies who were able to achieve strategic surprise. This is why it is unacceptable that the majority of U.S. scholars and government analysts persistently have underestimated and downplayed the threat represented by the PRC and the rise of a global PLAN.

Former commander of the U.S. Pacific Command Admiral Robert F. Willard noted in 2009 as follows: "I would contend that in the past decade or so, China has exceeded most of our intelligence estimates of their military capability and capacity every year. They've grown at an unprecedented rate in those capabilities."¹⁰⁷ In 2011, the director of naval intelligence, Vice Admiral David J. Dorsett, stated that the PLA's emerging military potentialities have "entered operational capability quicker than we frequently project."¹⁰⁸ The sad reality is that the U.S. Intelligence Community and academia have miscalculated the scope, scale, and timing of the PLAN's modernization and its impact on U.S. national security.

One of the most important lessons to be learned is that the most accurate predictions of the PLAN are not derived just from what the PRC declares or

what a select few scholarly China hands interpret, but instead are created from in-depth and consistent observation of what the PLAN actually is building and where its ships and submarines are operating on a continuous basis. It is only by watching what China does with its navy—observing and recording its movements every day—that accurate and timely projections can be made.

Additionally, it must be remembered that all individuals and groups who view such changes do so through a series of uniquely constructed “lenses,” based on a set of fundamental assumptions. As Eyer notes, “the record is clear: In each case of strategic military surprise, it can be demonstrated that when new information was presented, regardless of its pedigree or import, if it was found to disagree with the specific set of closely held assumptions that informed the thinking of those nations’ civil and military leaders, it was rejected.”¹⁰⁹

Because of this tendency, assumptions must be tested rigorously, and when new or inconvenient data do not fit into the existing “conventional wisdom” decision makers must step in and demand that the assumptions be challenged, and thrown out if found to be wrong.¹¹⁰ Only then will the risk of surprise be minimized. This is especially important when assessing catastrophic risks, such as a shift in the balance of military power from the United States to China. While many China hands proclaim the objectivity of their analyses, the validity of their claims must be tested against their track records. This is where policy makers must become more discerning—and ruthless—in their decision-making.

What does the future hold for the PLAN in the far seas? China soothes reassuringly that its “global military presence is not an attempt to gain a sphere of influence, interfere with the internal affairs of other countries, [or] invade foreign territories or disrupt regional order, but to assume more international responsibilities and obligations according to its capabilities and play a more significant role in maintaining regional stability and world peace.”¹¹¹ Yet there are indicators that this global naval presence will result in exactly what the world has witnessed in the South and East China Seas over the past decade, where PLAN forces have been used to bully and intimidate smaller and weaker nations into complying with Beijing’s dictates.

The risk of conflict at sea is not lessened by the existence of a global PLAN, one that has been charged to “fulfill its international obligations as a major global power.”¹¹² To the contrary, China increasingly will threaten U.S. and allied interests abroad as its naval expansion allows it to do so. The United States will be forced to fight back, increasing the risk of major-power war. Given the PLAN’s decadelong experience operating in the far seas, the service’s operational and naval-construction trajectory, the PRC’s overall economic strength, and the regime’s established track

record of intimidating neighbors into forfeiting their coastal-state rights to China, we can assess the PRC as being on track to become a global naval power as early as 2030, that it may be able to dominate the seven seas by 2049, and that it will use its power to expand China's interests at the expense of all others.

It is popular to say that conflict with China is not inevitable; of course that is so. However, the likelihood of conflict cannot be wished away by platitudes and more unconstrained engagement. The best option to avert future conflict is for the United States to take a whole-of-government approach to strengthening its military significantly and confronting the PRC's bad behavior at sea. We must join the economic battle that Beijing long has been fighting against us, to contain China economically until it stops its dangerous naval arms race. The current U.S. administration has challenged assumptions about how to deal with the PRC and is leading this whole-of-government challenge. Beating the PLAN at sea, or forcing it to stand down permanently, requires these efforts and more. Let us hope it is not too little, too late.

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AMELIORATING THE ALLIANCE DILEMMA IN AN AGE OF GRAY-ZONE CONFLICT

Lessons Learned from the U.S.-Japan Alliance

Michael M. Bosack

Two key concepts in alliance theory that remain ever relevant in practice today are those of *abandonment* and *entrapment*. In short, whenever there is an expectation of a military commitment, whether formal or informal, there may be two accompanying fears. The first is that the ally will fail to meet its end of the bargain—that it will abandon its obligations in a time of need. The second fear is that a security commitment will draw an ally into a war it did not want to fight; that is, it will be entrapped in conflict. These fears of abandonment and entrapment influence alliance interactions, although their impacts on security relationships are the source of debate among practitioners and academics alike.

These concepts, as employed in international relations studies, emerged in the late Cold War era against the backdrop of bipolar superpower competition.¹

Michael M. Bosack is the special adviser for government relations at the Yokosuka Council on Asia-Pacific Studies. Previously he served as the deputy chief of government relations at Headquarters, U.S. Forces, Japan, where he was part of the team that drafted and implemented the 2015 “Guidelines for Japan-U.S. Defense Cooperation.” Prior to that he was a Mansfield Fellow, completing placements in Japan’s national Diet, Ministry of Foreign Affairs, and Ministry of Defense. He is a graduated East-West Center fellow and is pursuing a PhD in international relations from the International University of Japan.

Certainly, things have changed since the Cold War, both in practice and in academic understanding. A wealth of studies have been performed within the field of *foederology*; much of that work centers on the notions of abandonment and entrapment.² There also have been significant changes to the strategic environment; the prevalence of interstate and extrastate warfare involving alliance commitments has decreased, and security conflict among states has expanded into new domains, with greater emphasis on the application of non-military instruments of power.³ This has created

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an increased need for a “whole-of-government” approach to security issues that goes beyond traditional defense sectors. At the same time, the nature and role of alliances within competition and conflict have evolved.

From this, two problems emerge associated with collective understandings of abandonment and entrapment. The first is the absence of a compilation of key takeaways from scholarship, especially those that apply the two concepts to the present security environment. But scholars have tested and refined the theories surrounding the fears and risks of abandonment and entrapment, to a degree sufficient to warrant an update to our understanding of what they, taken in aggregate, mean for alliances in the present day.

The second problem is the gap between scholars and practitioners in understanding abandonment and entrapment. Academia offers much toward comprehending those issues, but applying existing scholarship is difficult, given the absence of a study that connects it to the current strategic environment in a practical manner. There must be a way to compile existing scholarship in a way that is useful to practitioners.

This article seeks to remedy those problems by answering the question of how abandonment and entrapment can affect alliance management in a modern strategic environment marked by gray-zone conflict. To accomplish this, it first defines alliances and explains how they function in response to security incidents that may warrant allied response. Next the article curates notable takeaways from the wealth of scholarship on abandonment and entrapment. Then the article explains some of the defining characteristics of the modern security environment—specifically, the type of security incidents that affect formal alliances. From there, it applies the aggregated theoretical takeaways to the U.S.-Japan alliance to yield better understanding of how abandonment and entrapment influence alliance interactions.

This examination is important for academics and practitioners alike. It aggregates seven key takeaways from existing literature on the concepts of abandonment and entrapment. The article also posits that in the age of gray-zone conflict adversaries can undermine alliance relationships without reaching the threshold to trigger an alliance response. It further highlights that the influences on traditional military alliances of diplomatic, information, and economic instruments of power have increased. Those factors reveal that although alliances formed in the Cold War era have succeeded in deterring interstate military disputes, adversaries are seeking means of changing the status quo through security incidents short of an armed attack. This means that designs predicated on response to armed attack and focused primarily on military guarantees must be adapted to meet the needs of the modern strategic environment. There are examples of how alliances are adapting, and this article offers one in the form

of the U.S.-Japan alliance and its employment of the negotiated “Guidelines for Japan-U.S. Defense Cooperation” to prepare seamless responses to gray-zone threats.⁴

There are limits to this examination. First, the article focuses on formal alliances that contain an obligation for the use of military force in support of one or more parties to a security relationship. In other words, the focus is on alliances codified by an international treaty that includes a military guarantee. This is necessary for a couple of reasons. Treaty alliances are recognized under international law, so decision-making related to those formal instruments has important institutional and reputational impacts.⁵ It will be important for future studies to examine *alignments* as opposed to *alliances*, but that is not the aim of this article.⁶ Also, the fears and risks of abandonment and entrapment are not uniformly applicable across neutrality, nonaggression, and consultation pacts as well, even though some alliance scholars prefer to include those types in their examinations of alliance reliability.

The second boundary is that this article focuses only on the present security environment. While some conclusions detailed here feasibly could apply to other eras of conflict, the article makes no claims of universal applicability.

Finally, the case study focuses on a bilateral alliance to minimize variables in understanding how the fears of abandonment and entrapment operate within an alliance relationship. However, the arguments made here open the door to applying them in future examinations of multilateral alliances.

DEFINING ALLIANCES AND HOW THEY FUNCTION IN PRACTICE

To understand abandonment and entrapment from a practical perspective, one first must define an alliance clearly, since scholars and practitioners alike disagree on the subject. For the sake of clarity, this article focuses on *treaty alliances* that contain a formal obligation for the use of military force in support of one or more allies. This use of force occurs when a certain threshold is met—the *casus foederis*.

In many alliances, some rights and obligations apply even in the absence of security conflict. This article refers to these as *peacetime trade-offs*. Such trade-offs may include basing rights, security assistance, intelligence sharing, peacetime military training, and transfer of defense technology. They are privileges and obligations that distinguish allies from nonallies, even in the absence of conflict.

Still, at the core of any alliance are the *casus foederis* and the obligation for one or more allies to use military force in support of another. The obligation kicks in to use military force or to provide certain exceptional rights and privileges for the purpose of responding to military conflict following a security incident. A *security incident* is any event that has the potential for triggering the *casus foederis*

(i.e., when the threshold for alliance response is reached). The incident can be offensive or defensive in nature, meaning an ally can initiate it (such as by carrying out a preemptive strike against an adversary) or it can be reactive (such as responding to an armed attack against an ally).

This is the point at which the potential for abandonment or entrapment comes into play. The state involved in the security incident must decide whether to invoke alliance obligations, and the ally (or allies) then must decide whether to answer the call. If the state involved in the security incident decides not to invoke the *casus foederis*, the alliance continues with normal peacetime trade-offs. If the state does invoke it, there are four potential outcomes. First, an ally could recognize the validity of the *casus foederis* but choose not to meet its obligations. This constitutes *abandonment*. Second, the ally could argue that the security incident does not meet the threshold for alliance response, and elect not to meet the obligations expected. This is more nuanced, but ultimately represents a form of abandonment, at least in the eyes of the ally invoking the *casus foederis*. Third, the ally could engage in a conflict it does not want to fight, which would constitute a form of *entrapment*.⁷ Fourth, the ally could answer the call unreservedly.

There are two takeaways from this. First, the *casus foederis* is important from a practical perspective, because it is what a state uses to prompt its allies to provide obligations that go beyond peacetime trade-offs. Second, there is no such thing as an ironclad alliance guarantee or an automatic alliance response; there are always the questions whether the *casus foederis* should be invoked and whether an ally should answer the call.

KEY TAKEAWAYS FROM SCHOLARSHIP

Beginning in earnest in the 1980s and continuing since then, scholars have been trying to define how the fears of abandonment and entrapment shape alliance politics. This article summarizes relevant alliance literature from the intervening decades and curates conclusions with a practical view in mind. There are seven key takeaways.

1. *Alliances tend to deter militarized interstate conflict.* Scholars have demonstrated that the formation of alliances contributes to a decreased likelihood of military conflict among states, for various reasons.⁸ Not only does this bear on the risk of entrapment, but it highlights an issue for present-day security. Naturally, a decreased risk of military conflict means less risk of becoming involved in war. However, it does not mean that security competition among states ceases altogether, so in the context of the modern strategic environment it suggests that adversaries will compete in other ways and using instruments of power that do not result in open military conflict.

2. *Risk of entrapment is low.* Although some academics and practitioners still support the notion that entrapment is a major risk for allies, newer research compellingly argues that entrapment is a narrower concept than previously discussed and not as prevalent as once thought.⁹ The narrow scope of entrapment and the fact that states design alliances to minimize the risk of entrapment mean that the possibility of being pulled into a conflict that a state did not want to fight in the first place is low. In the context of the modern strategic environment, this means that, while fear of entrapment still impacts alliance politics, it often is inflated, and the problem typically lies in the irrationality of one or more leaders within the alliance-management framework.
3. *Alliance designs matter in managing the risks of abandonment and entrapment.* States that enter formal alliances negotiate treaties in ways that seek to maximize their interests while minimizing their costs. As part of minimizing costs, leaders anticipate the possibility of entrapment and carefully design alliance agreements accordingly, or they avoid entering into alliances in the first place.¹⁰ The explicitness of the designs and the language employed in alliance agreements help clarify arrangements and thereby reduce the risk of abandonment and entrapment.¹¹ Additionally, alliance literature demonstrates that a state can leverage alliance designs to influence its partner's behavior. Those designs can be employed in shaping the direction of a state's military buildup, can influence foreign policy decisions, and can be used in restraining potentially risky behavior, among other things.¹² The important point here is that alliance designs matter significantly in managing abandonment and entrapment, which means that alteration of those alliance designs can be an active tool in alliance management for influencing those risks.
4. *Alliance designs include nonmilitary benefits that factor into abandonment and entrapment issues.* In some alliances, a state cedes autonomy to a militarily superior ally or allies—a key trade-off, especially in asymmetric alliances in which only one member offers a guarantee for the use of military force.¹³ Other trade-offs may include the provision of bases, cost sharing (for the stationing of foreign forces), economic concessions, public support for the ally's policies, and coordination of foreign policy.¹⁴ The presence of nonmilitary benefits means that abandonment may not be an issue of a failure to employ military force against an adversary; rather, it simply may be a failure to provide some contribution that is necessary for a state to achieve its security objectives following a triggering of the *casus foederis*. Regarding entrapment, the provision of

nonmilitary objects still may present a risk of being drawn into conflict, the most obvious example being provision of bases for an ally's military forces.¹⁵ What this means for scholars and practitioners is that one cannot overlook the risk of abandonment of nonmilitary contributions, as well as the entrapment risk that is associated with provision of those contributions. It also suggests that competition short of armed conflict increases the importance of nonmilitary aspects of alliance rights and obligations.

5. *Risk of abandonment increases over time because alliance treaties remain static, while other factors do not.* Scholars have established that changes in political administrations, age structures, and threats, among other factors, all can affect alliance reliability.¹⁶ The simple fact is that an alliance agreement, unless renegotiated or clarified through implementing instruments, is static, while other variables are dynamic. Over time, this could introduce gaps where alliance designs fail to meet particular threats or where new expectations emerge that are not codified formally within agreed-upon obligations.¹⁷ What this means for the present strategic environment is that alliances that are not updated, through either renegotiation of the treaty or the provision of clarifying instruments, may be outmoded. Allies who fail to manage their core arrangements could be unwittingly allowing the risk of abandonment to grow.
6. *Adversaries attempt to undermine alliances, divide allies, or both.* Existing literature demonstrates that even as allies seek to manage the risks of abandonment and entrapment, adversaries seek to undermine or break up alliance relationships.¹⁸ In other words, adversaries actively work to increase the risk of abandonment. They have attempted to exploit seams in alliances and will continue to do so, especially in ways that lead to ineffectual responses to security incidents.
7. *Allies can take steps to reduce risks of abandonment and entrapment.* Since alliance designs can manage the risks of abandonment and entrapment, since allies have the ability to influence partners through those designs, and since circumstances change over time, there are steps allies can take to reduce abandonment and entrapment risks. In the context of the present strategic environment, allies can seek to alter alliance designs to reduce risks of abandonment and entrapment. Allies then can leverage those designs in attempting to influence their allies' behavior. They can do this through renegotiation of the alliance treaty or the creation of clarifying instruments.

ALLIANCES IN THE MODERN STRATEGIC ENVIRONMENT

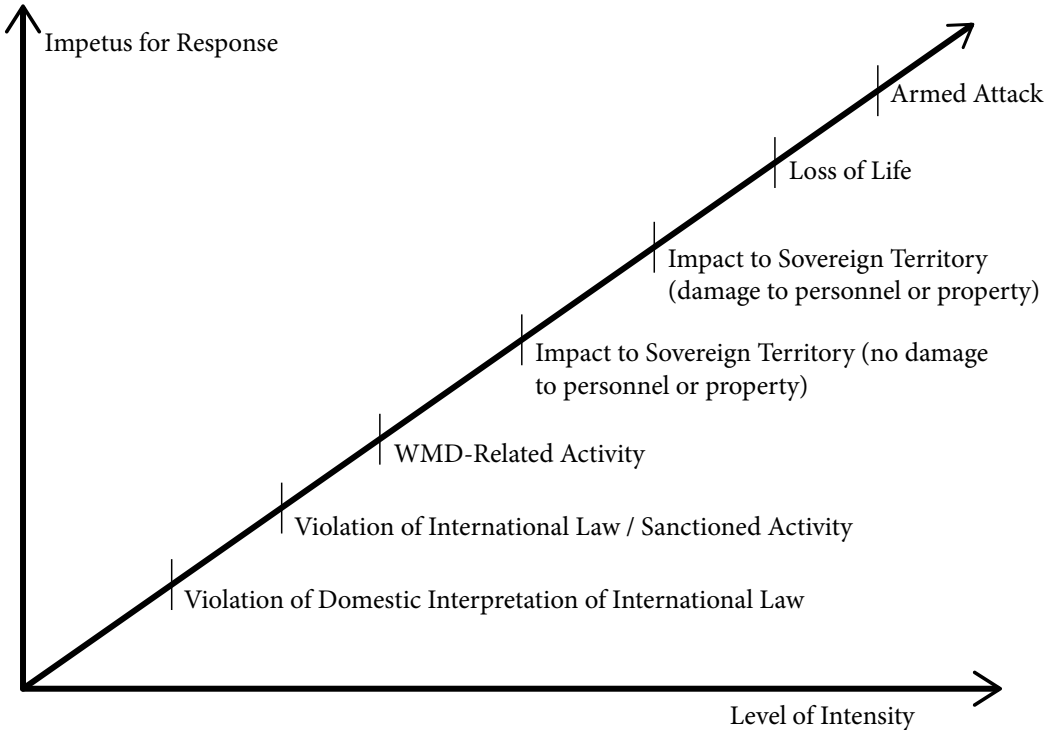
This section characterizes the modern strategic environment in the context of security alliances that incorporate both peacetime trade-offs and obligations that follow invocation of the *casus foederis*. As previously noted, alliances tend to deter militarized disputes, but they do not eliminate security competition altogether. States seeking to change the status quo simply have looked for methods to achieve their goals without overtly violating international law and thereby prompting responses from the international community, especially by allies of the offended state.¹⁹ In circumventing international law, some states have sought to act in new domains to achieve their interests, especially the cyberspace domain.²⁰ They also use nonmilitary instruments of power.²¹ This has made Cold War-era alliance designs outmoded, since those were predicated on a military response to an armed attack in conventional domains of conflict (land, air, and sea). Outmoded alliance designs create seams within security relationships that adversaries actively seek to exploit. Fortunately, there are ways allies can adapt.

The current liberal international order is predicated on the United Nations system, which built on customary international law and institutions and reshaped many of the rules of interaction among states.²² The central tenet related to security and defense is found in Chapter VII of the UN Charter, specifically article 51, which states as follows: “Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an *armed attack* occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security.”²³ In principle, postwar alliance agreements are founded on this definition of *conflict*, in which the security guarantees inherent in those alliances are based on “collective self-defence” to be exercised in the event of an “armed attack.”²⁴

What is an *armed attack*? The UN Charter does not offer a clearer explanation, but the 1986 International Court of Justice (ICJ) ruling in *Nicaragua v. United States* does.²⁵ Stated plainly, the court held that an *armed attack* is an armed incursion into another state’s sovereign territory attributable to a specific member of the international community. It further clarified that, even in the event of an armed-attack situation, a UN member state is not permitted to exercise collective self-defense until the state under attack has declared the occurrence of an armed attack and has requested support.

Thus, an armed-attack situation is the threshold for collective self-defense under international law and it fulfills the *casus foederis* for many alliance relationships; however, there are many types of security incidents that may occur prior to an armed attack. Some of these are depicted in the figure, arranged by level of intensity and impetus for response.²⁶

SECURITY INCIDENTS, FROM PEACETIME TO "ARMED ATTACK"



Violations of domestic interpretation of international law are incidents that a state may view as legal violations but that do not necessarily comport with internationally accepted legal interpretations. For example, Japan recognizes only five of its maritime straits as constituting international passages, whereas the UN Convention on the Law of the Sea (UNCLOS) maintains that any strait can be navigated under the right of innocent passage.²⁷ If Japan were to respond militarily to the transit of Chinese naval vessels through a strait that it does not recognize as an international passage, this action would be based on a domestic interpretation of international law, and therefore would not necessarily fall within the scope of alliance agreements.

Violations of international law or sanctioned activities may include situations such as illegal arms transfers, piracy, and state sponsorship of terrorist organizations.

Weapons of mass destruction (WMD)-related activities are any that involve nuclear, biological, or chemical weapons. Examples include North Korean nuclear testing and the illicit transfer of WMD assets and technologies.

Incidents with *impact to sovereign territory but dealing no damage to personnel or property* could include a territorial incursion short of an armed attack (e.g.,

nonmilitary personnel landing on an uninhabited island) or a failed missile test from which debris lands in an empty field.

Security incidents with *impact to sovereign territory that includes damage to personnel or property* represent the next level of intensity. In the missile-test example, debris from a failed missile might fall on a housing area or in a commercial zone. Another relevant example is a cyber attack that disrupts a state's critical infrastructure.

The next level up includes any of those incidents that result in *loss of life*.

All those security incidents could occur before reaching the level of an *armed attack*—the traditional *casus foederis* and international legal threshold for individual and collective self-defense. The space where security incidents occur before an armed attack often is referred to as the *gray zone*.

Two types of gray-zone conflict have become prevalent in the present security environment: lawfare and hybrid warfare. *Lawfare* is the “strategy of using—or misusing—law as a substitute for traditional military means to achieve an operational objective.”²⁸ In other words, it is the misuse of customary international law and UN-sponsored judicial systems to achieve strategic military or political ends. An example is Chinese territorial expansion in the South China Sea. Even though international tribunals have sided with other countries (e.g., the arbitral tribunal's 2016 ruling in *Philippines v. China*), China has managed to expand its foothold by constructing man-made islands and conducting coercive engagements in the region.²⁹

Hybrid warfare is the “synchronized use of multiple instruments of power tailored to specific vulnerabilities across the full spectrum of societal functions to achieve synergistic effects.”³⁰ A key feature of hybrid warfare is that it often is nonattributable, thereby avoiding international legal thresholds for any broad response involving the use of military force.³¹ Russia provides the best example of this threat, with its employment of cyber attacks, disinformation campaigns, “volunteer” military forces, and other activities, all of which contributed to the annexation of Crimea and pose an ever-present threat to NATO allies.³²

Through gray-zone conflict, an adversary can challenge the status quo without reaching the level of an armed attack, meaning that there is no clear impetus for the use of military force for individual or collective self-defense in response. Yet security incidents that contribute to changes in the status quo are likely to warrant expectations for response from a state and its allies.³³

This tells us three things. First, traditional alliance relationships focused solely on military trade-offs are inadequate for meeting contemporary security challenges. Certainly, militaries are the principal actors in the execution of war, but what about when conventional interstate warfare no longer is the primary form of interstate security conflict in the world, as is the case today? Given the

costs associated with militarized disputes, adversaries have incentives to employ alternative instruments of power in their attempts to further their interests. Thus it is no longer practical to treat alliances as principally military in nature, because doing so privileges military responses, perhaps leaving other options for security arrangements and activities unexplored or ignored.

Second, legal foundations that have not been updated to address evolving security challenges create seams between allies. Conventional security guarantees are predicated on the notion of interstate defense. When the term *defense* is not clarified in formal or informal agreements, its definition defaults to customary international law (as represented in the UN Charter and the ICJ ruling, as detailed earlier). This does not prevent a state from acting in support of an ally without an armed-attack declaration, but the absence of an armed-attack situation creates ambiguity that increases the risk of abandonment within alliance relationships.

Third, adversaries can exploit those seams. Through lawfare and hybrid warfare, adversaries can take actions up to but not exceeding the threshold of an armed attack without triggering an alliance response.³⁴ Since adversaries can “make plays” in the gray zone, security relationships that have not been updated to provide strategic and operational clarity are exploitable, and again the risk of abandonment increases.

Fortunately, there are ways for allies to adapt. As the literature survey highlighted, alliance designs have a profound effect on the risks of abandonment and entrapment, meaning that instruments that update, amend, or clarify alliance designs are likely to help eliminate seams in security relationships. Two key features of these instruments should be formality and publication, since those have institutional and reputational effects while signaling commitments to potential adversaries.³⁵

Given this, the simplest solution is renegotiation of the alliance treaty itself. However, since treaty language typically is vague and not directed at specific adversaries or security situations, a more practical solution is the creation or renegotiation of clarifying instruments under the alliance treaty. *Clarifying instruments* include exchanges of notes, agreements, memorandums, and other formally negotiated documents. A variety of informal means of clarification, such as joint statements, also exist, but those lack the institutional or reputational checks that negotiated instruments provide.

CASE STUDY: THE U.S.-JAPAN ALLIANCE

The U.S.-Japan alliance offers a prime case study for the consideration of abandonment and entrapment. It is bilateral, meaning that there are only two parties to the alliance agreement, which eliminates variables present in the case of multilateral alliances. The alliance was formed in the Cold War era, meaning

the treaty explicitly calls for response to an “armed attack,” with a focus on military guarantees. Further, it is an operative alliance, meaning the rights and obligations are still meaningfully in play today.³⁶ The alliance is asymmetric, in that one ally—in this case, Japan—receives a security guarantee, while the other receives separate, nonmilitary benefits in return.³⁷ Most importantly, there are clear examples of the occurrence of abandonment and entrapment fears, as well as an instance in which the allies responded to them.

The fears of abandonment and entrapment weighed heavily on alliance management for the United States and Japan in the early 2010s. In two scenarios in particular those fears affected alliance politics: the Korean Peninsula crisis and the defense of the Senkaku Islands.

The Korean Peninsula Crisis

The 1993–94 North Korean nuclear crisis and the missile launches of the late 1990s reawakened the U.S.-Japan alliance to the threat the Kim regime posed.³⁸ For Japan, the fear of entrapment was no theoretical matter. The United States already had used Japan as a rear-support base of operations during the Korean War; that involvement had contributed to Japan’s desire for inclusion of a “prior consultation” requirement in the renegotiation of the Mutual Security Treaty in 1960.³⁹ Since then, the North Koreans have demonstrated missile technology capable of reaching Japanese territory.⁴⁰ With a demonstrated threat from North Korea that included the potential for Japan to be drawn into a conflict on the Korean Peninsula with nuclear consequences, the preexisting fear of entrapment was renewed.

Meanwhile, the U.S. government had fears on the opposite end of the spectrum, worrying that Japan might abandon its treaty obligations in the event of a crisis or contingency on the Korean Peninsula. The Japanese government gave U.S. officials cause for concern in 2010 following the sinking of ROKS *Cheonan* and the shelling of Yeonpyeong-do.⁴¹ In each of those situations, personnel from Headquarters, U.S. Forces, Japan requested activation of the Bilateral Coordination Mechanism (BCM), but each time they were rebuffed because there had been no political declaration of a *Nihon Shūen Jitai* (situation in area surrounding Japan, or SIASJ).⁴² Without activation of the BCM, U.S. officials were skeptical that they could garner the necessary Japanese interagency support for U.S. operations in response to those security incidents, should de-escalation efforts fail.⁴³

The Japanese government further reinforced this concern with its treatment of the “prior consultation” requirement. There long had been a debate within the U.S. government regarding whether the requirement simply meant “consultation” or it implied that “consent” from the Japanese government was necessary.⁴⁴ During a parliamentary committee meeting on 15 July 2014, Prime Minister Shinzo Abe offered his government’s position on the matter, stating that

Okinawa-based U.S. Marines would not deploy to support Korean contingency operations without Japanese government consent.⁴⁵ This served as a strong signal to the United States that it might not receive the level of support it had expected in responding to security situations on the Korean Peninsula.

If not guaranteed military support, what sort of assistance does the United States expect? The Mutual Security Treaty and its associated status of forces agreement legally afford the U.S. government access to all Japanese air- and seaports and permit free transit through and across Japanese territory.⁴⁶ There also are arrangements for the support of logistical, medical, and billeting needs for military personnel, civilian officials, and noncombatants; the list goes on. However, the Japanese Ministry of Foreign Affairs and Ministry of Defense do not have purview over civilian authorities or organizations. Therefore, execution of alliance obligations following those security incidents would have required interagency coordination and exceptional authorization from the Japanese cabinet in the context of a SIASJ—something the Japanese government was not prepared to perform in 2010.

Defense of the Senkaku Islands

The Senkaku Islands are a group of small, uninhabited land features located along the first island chain, and are the focus of territorial disputes among Japan, China, and Taiwan. The Senkakus have been under Japanese administration since U.S. reversion of the Ryukyu Islands in 1972, but China and Taiwan both have laid sovereignty claims to the islands.⁴⁷ While Japan has worked out and maintained exceptional fishing agreements with Taiwan for activity in the waters surrounding the islands, the PRC's China Coast Guard (CCG), fishing, and (occasionally) military vessels have operated in the vicinity of the islands for years, especially following the Japanese government's purchase of the Senkakus from private Japanese landowners in 2012.⁴⁸

When the Japanese government nationalized the Senkakus and tensions grew, it introduced fears of both abandonment and entrapment within the U.S.-Japan alliance. For Japan, there was a fear that the United States would not respond if the Chinese seized the islands by force. For the United States, the fear was that explicit security guarantees would increase Japanese adventurism; that is, Japan would be more emboldened in its responses to Chinese activity in the vicinity of the Senkakus, which might drag the United States into a war with China.

But the issue was even more nuanced than those basic fears might suggest. The question emerged of what would happen if a paramilitary group landed on the islands.⁴⁹ If Japan could not declare an armed-attack situation, what authority would the U.S. military have to provide collective self-defense in support of its ally? What if there were a clash between coast guards, not militaries? Would the

U.S. Navy have any authority to get involved if the dispute were between law-enforcement entities? What if the CCG vessel capabilities were equivalent to those of naval forces?⁵⁰

While some dispute the nature of Chinese intentions in the East China Sea, the Japanese government's assessment is clear.⁵¹ Chinese activity in the vicinity of the Senkakus aims to create a situation of "coadministration" rather than Japanese sole administration of the islands and their surrounding waters. From there, China could make a play for sole administration. The Chinese use of gray-zone tactics around the Senkakus is a clear example of seeking to change the status quo without triggering a militarized dispute under international law, and gray-zone tactics that fail to trigger the *casus foederis* increase the risk of abandonment.

The Alliance Response: The "2015 Guidelines"

After and while dealing with this pair of scenarios, the two allies in question addressed their fears of abandonment and entrapment, and pursued other goals, through renegotiation of the "Guidelines for Japan-U.S. Defense Cooperation." The guidelines are a bilaterally agreed-upon framework of alliance roles, missions, and capabilities (RMCs). They are not a direct supplement to the existing alliance treaty; instead, the guidelines exist as a separate implementation framework dependent on each nation's own laws. There have been only three versions of the guidelines in the nearly seventy-year history of the alliance, those of 1978, 1997, and 2015.

More than simply providing a road map for cooperation, the guidelines represent a de facto clarification of the *casus foederis*. They reorient the alliance for different threats, clarify core values, and manage expectations for when and how the allies will apply their respective capabilities in response to both peacetime conditions and security situations.⁵² In places the content of the guidelines is aspirational; in others it serves as a starting point for the allies to initiate a new RMC; in still others it formalizes initiatives already under way. Whatever the case, once published the guidelines provide a constant point of reference for the allies, as illustrated by the repeated references to them in joint statements at all levels of alliance management, but most notably by the U.S.-Japan Security Consultative Committee.⁵³

The "2015 Guidelines" dealt with the fears of entrapment and abandonment in the following four ways. First, the document explicitly defined the role of the alliance in all situations, from peacetime through armed attack. For the allies, an armed-attack situation is the explicit *casus foederis* under article 5 of the U.S.-Japan Treaty of Mutual Security and Cooperation.⁵⁴ With the "2015 Guidelines," the allies formally broadened the *casus foederis* to include gray-zone threats as well, calling for "seamless responses," highlighting the need for

whole-of-government approaches to security issues, and identifying categories of security incidents that require alliance response.⁵⁵ Those categories of cooperation include “Cooperative Measures from Peacetime,” “Responses to Emerging Threats to Japan’s Peace and Security,” “Action in Response to an Armed Attack against Japan,” “Actions in Response to an Armed Attack against a Country Other Than Japan,” “Cooperation in Response to Large-Scale Disaster in Japan,” and “Cooperation in International Activities.”⁵⁶

Second, the guidelines called for establishment of the Alliance Coordination Mechanism (ACM).⁵⁷ There are three reasons the U.S.-Japan alliance requires a coordination mechanism. The first is the necessity to manage policy decisions that affect the alliance in times of crisis or contingency.⁵⁸ The second is the operational coordination that must occur among separate organizations, given the alliance’s bilateral structure, as opposed to a combined-forces structure.⁵⁹ The third reason—which is not stated explicitly, but lies at the core of the purpose for the coordination mechanism—is to manage the risks of abandonment and entrapment.

The Mutual Security Treaty establishes specific rights and obligations, and the ACM helps ensure that the allies honor their commitments. For example, if there were to be a crisis on the Korean Peninsula, the U.S. government would use the ACM to provide the entire Japanese interagency structure with the information and requests for support needed to be able to ensure provision of necessary access and support codified under alliance designs. These could include garnering Japanese civilian and defense logistics support for an operation or the opening up of Japanese civilian airports for use as intermediate staging bases and safe havens for noncombatant evacuees. Conversely, the Japanese government might use the ACM to ensure that it influences U.S. decision-making and gets its say before the United States attempts to take potentially escalatory actions that could lead to retaliation against bases in Japan, thereby entrapping Japan in conflict.

Third, the guidelines expanded the domains within which the allies may cooperate. As part of the desire to prepare to provide seamless responses to security threats, the two governments decided to broaden alliance responsibilities beyond the air, land, and sea domains, to include space and cyberspace. For the United States, space and cyber had been recognized domains for security operations for some time, but the same was not true of the Japan Self-Defense Force (JSDF).⁶⁰ Hampered in part by budget restraints, the JSDF did not have its first military-use satellite in orbit until 2017, and its first cyber unit did not stand up until 2014.⁶¹ The “2015 Guidelines” capitalized on Japan’s unilateral expansion in those domains to incorporate alliance cooperation.

Fourth, the “2015 Guidelines” expanded the reach of the alliance to the whole of government. Previous iterations of the guidelines focused on foreign policy and defense organizations, but the “2015 Guidelines” recognized the challenges

of gray-zone conflict and sought to incorporate law-enforcement and other organizations that wield nonmilitary instruments of power. While the guidelines did not succeed in incorporating an explicit call for cooperation with the Japan Coast Guard, National Police Agency, Ministry of Finance, or others, they were included under the scope of “relevant agencies.”⁶² Similarly, the guidelines called for cooperation with civilian authorities for the conduct of site surveys necessary to prepare for U.S. contingency operations, such as those that may occur on the Korean Peninsula.⁶³

How have the guidelines done in managing entrapment and abandonment? Since publication of the “2015 Guidelines,” the two governments have employed the ACM in response to numerous North Korean provocations, coordinating alliance responses and exchanging information on the incidents.⁶⁴ The U.S. military has conducted site surveys at multiple civilian airports in preparation for potential contingency operations. Meanwhile, while much of the intra-alliance discourse on the Senkakus is classified, U.S. officials have reiterated the security guarantee over the islands while supporting development of the Japan Ground Self-Defense Force’s amphibious brigade and continuing bilateral training on missions specifically tailored to remote-island defense.⁶⁵ All of this demonstrates the effectiveness of the guidelines in updating the alliance for the modern strategic environment, since they redefined the *casus foederis*, provided a list of applicable RMCs, declared mechanisms for managing them, and presented a road map for implementation.

The fears of abandonment and entrapment continue to influence alliance relationships today. Scholarship offers seven key takeaways for academics and practitioners alike. First, alliances tend to deter militarized interstate conflict, which decreases the risk of warfare for alliance members but suggests that adversaries will compete in ways short of military conflict. Second, the risk of entrapment is low, although individual leaders within alliance management may inflate this risk in intra-alliance bargaining. Third, alliance designs matter in managing the risks of abandonment and entrapment. States carefully craft alliances to mitigate the chance of being abandoned or entrapped, and once the security relationship is formed they leverage alliance designs to support their desired security outcomes. Fourth, those alliance designs include nonmilitary benefits that factor into abandonment and entrapment issues. States are concerned with what the fulfillment or nonfulfillment of those obligations may mean for their own security objectives. Fifth, risk of abandonment increases over time because societies, administrations, and expectations change but alliance designs do not—unless the allies deliberately take steps to modify them. Sixth, adversaries attempt to undermine alliances,

divide the allies, or both, which increases the risk of abandonment. Seventh, allies can take steps to reduce the risk of abandonment and entrapment through renegotiation or clarification of alliance designs.

Understanding these takeaways is necessary for determining what posture allies should take in the modern strategic environment. Alliances have worked well in deterring armed-attack situations, but adversaries intentionally are avoiding the thresholds for military conflict while seeking to change the status quo in their favor through gray-zone tactics. Alliance designs that have not been reworked to respond to security incidents short of an armed attack require updating. Fortunately, there are examples of allies that have taken the necessary steps to modify alliance arrangements for present-day security challenges, including expanding the *casus foederis* beyond armed-attack situations, incorporating new domains for cooperation such as space and cyberspace, and focusing on coordinated employment of nonmilitary instruments of power. The U.S.-Japan “2015 Guidelines” document provides a useful model for other alliances today.

While this article offers useful conclusions for academics and practitioners alike, additional research is necessary. First, the conclusions drawn here should be applied to case studies in alignments rather than alliances. There has been a decline in usage of traditional treaty alliances and a rise in alignments, and initial impressions are that abandonment fears will increase as a result, since the resulting obligations are not explicit, merely implicit.⁶⁶ Second, additional research is necessary for examining abandonment and entrapment in multilateral as opposed to bilateral alliances. For example, how do those risks influence alliance management in NATO compared with the U.S.-Japan alliance? Finally, more research should be dedicated to understanding the tools that allies have to mitigate the risks of abandonment and entrapment. This article offered one example—the “Guidelines for Japan-U.S. Defense Cooperation”—but other institutions and instruments are available, demonstrating varying degrees of effectiveness.⁶⁷

NOTES

1. The first use of the terms *abandonment* and *entrapment* in the context of alliance fears was in Michael Mandelbaum, *The Nuclear Revolution: International Politics before and after Hiroshima* (Cambridge, U.K.: Cambridge Univ. Press, 1981).
2. *Foederology* is the study of alliances.
3. Lotta Themnér and Peter Wallensteen, “Armed Conflicts, 1946–2013,” *Journal of Peace Research* 51, no. 4 (July 2014), pp. 541–54. *Instruments of power* refers to the diplomatic, information, military, economic, finance, intelligence, and law-enforcement (i.e., DIME-FIL) spectrum.
4. “The Guidelines for Japan-U.S. Defense Cooperation,” 27 April 2015, *Ministry of Defense (Japan)*, mod.go.jp/. Subsequent references will be to the “2015 Guidelines” specifically or the guidelines more generally.
5. Alexander Lanoszka, “Tangled Up in Rose? Theories of Alliance Entrapment and the 2008 Russo-Georgian War,” *Contemporary*

- Security Policy* 39, no. 2 (2018), pp. 234–57; Douglas M. Gibler, “The Costs of Reneging: Reputation and Alliance Formation,” *Journal of Conflict Resolution* 52, no. 3 (June 2008), pp. 426–54; Mark J. C. Crescenzi et al., “Reliability, Reputation, and Alliance Formation,” *International Studies Quarterly* 56, no. 2 (June 2012), pp. 259–74; Michaela Mattes, “Reputation, Symmetry, and Alliance Design,” *International Organization* 66, no. 4 (Fall 2012), pp. 679–707.
6. Thomas S. Wilkins, “Alignment, Not ‘Alliance’—the Shifting Paradigm of International Security Cooperation: Toward a Conceptual Taxonomy of Alignment,” *Review of International Studies* 38, no. 1 (January 2012), pp. 53–76.
 7. This may not be a simple case of entrapment, but another form of entanglement such as *chain ganging*: an occurrence in which the fear that an ally will defect or be defeated draws other allies into wars—against their broader interests. Dominic Tierney, “Does Chain-Ganging Cause the Outbreak of War?,” *International Studies Quarterly* 55, no. 2 (June 2011), p. 285.
 8. Paul K. Huth, “The Extended Deterrent Value of Nuclear Weapons,” *Journal of Conflict Resolution* 34, no. 2 (June 1990), pp. 270–90; Jesse C. Johnson and Brett Ashley Leeds, “Defense Pacts: A Prescription for Peace?,” *Foreign Policy Analysis* 7, no. 1 (January 2011), pp. 45–65; Matthew Fuhrmann and Todd S. Sechser, “Signaling Alliance Commitments: Hand-Tying and Sunk Costs in Extended Nuclear Deterrence,” *American Journal of Political Science* 58, no. 4 (October 2014), pp. 919–35; Jeremy Pressman, *Warring Friends: Alliance Restraint in International Politics* (Ithaca, NY: Cornell Univ. Press, 2008); Tierney, “Does Chain-Ganging Cause the Outbreak of War?”; Songying Fang, Jesse C. Johnson, and Brett Ashley Leeds, “To Concede or to Resist? The Restraining Effect of Military Alliances,” *International Organization* 68, no. 4 (Fall 2014), pp. 775–809; Glenn H. Snyder, “The Security Dilemma in Alliance Politics,” *World Politics* 36, no. 4 (July 1984), pp. 461–95; Robert Jervis, “What Do We Want to Deter and How Do We Deter It?,” in *Turning Point: The Gulf War and U.S. Military Strategy*, ed. L. Benjamin Ederington and Michael J. Mazarr (Boulder, CO: Westview, 1994), pp. 122–24; Alastair Smith, “Alliance Formation and War,” *International Studies Quarterly* 39, no. 4 (December 1995), pp. 405–25; Brett V. Benson, Adam Meirowitz, and Kristopher W. Ramsay, “Inducing Deterrence through Moral Hazard in Alliance Contracts,” *Journal of Conflict Resolution* 58, no. 2 (March 2014), pp. 307–35; Neil Narang and Rupal N. Mehta, “The Unforeseen Consequences of Extended Deterrence: Moral Hazard in a Nuclear Client State,” *Journal of Conflict Resolution* 63, no. 1 (January 2019), pp. 218–50; Themnér and Wallensteen, “Armed Conflicts.”
 9. Tongfi Kim, “Why Alliances Entangle but Seldom Entrap States,” *Security Studies* 20, no. 3 (August 2011), pp. 352, 355; Lanoszka, “Tangled Up in Rose?”; Emma M. Ashford, “Hegemonic Blackmail: Entrapment in Civil War Intervention,” *Canadian Foreign Policy Journal* 23, no. 3 (July 2017), pp. 218–31; Daina Chiba, Jesse C. Johnson, and Brett Ashley Leeds, “Careful Commitments: Democratic States and Alliance Design,” *Journal of Politics* 77, no. 4 (October 2015), pp. 968–82; Thomas J. Christensen and Jack Snyder, “Chain Gangs and Passed Bucks: Predicting Alliance Patterns in Multipolarity,” *International Organization* 44, no. 2 (Spring 1990), pp. 137–68; Tierney, “Does Chain-Ganging Cause the Outbreak of War?”; Ronald R. Krebs and Jennifer Spindel, “Divided Priorities: Why and When Allies Differ over Military Intervention,” *Security Studies* 27, no. 4 (October 2018), pp. 575–606; Brad L. LeVeck and Neil Narang, “How International Reputation Matters: Revisiting Alliance Violations in Context,” *International Interactions* 43, no. 5 (2017), pp. 796–821.
 10. Kim, “Why Alliances Entangle but Seldom Entrap States,” p. 352; Chiba, Johnson, and Leeds, “Careful Commitments.”
 11. Snyder, “The Security Dilemma in Alliance Politics”; Jan von der Felsen and H. Christian Breede, “*Friede, Freude, Pancakes?* The Concept of War and What Is Lost within the NATO Alliance,” *Canadian Foreign Policy Journal* 22, no. 2 (2016), pp. 147–62.
 12. Gene Gerzhoy, “Alliance Coercion and Nuclear Restraint: How the United States Thwarted West Germany’s Nuclear Ambitions,” *International Security* 39, no. 4 (Spring 2015), pp. 91–129; Jesse C. Johnson,

- “The Cost of Security: Foreign Policy Concessions and Military Alliances,” *Journal of Peace Research* 52, no. 5 (September 2015), pp. 665–79; Pressman, *Warring Friends*; Kim, “Why Alliances Entangle but Seldom Entrap States”; Fang, Johnson, and Leeds, “To Concede or to Resist?”
13. James D. Morrow, “Alliances and Asymmetry: An Alternative to the Capability Aggregation Model of Alliances,” *American Journal of Political Science* 35, no. 4 (November 1991), pp. 904–33.
 14. Tongfi Kim, *The Supply Side of Security: A Market Theory of Military Alliances* (Stanford, CA: Stanford Univ. Press, 2016), pp. 35–36; Johnson, “The Cost of Security.”
 15. Kim, “Why Alliances Entangle but Seldom Entrap States.”
 16. Ole R. Holsti, P. Terrence Hopmann, and John D. Sullivan, *Unity and Disintegration in International Alliances* (New York: Wiley, 1973), p. 55; Michael N. Barnett and Jack S. Levy, “Domestic Sources of Alliances and Alignment: The Case of Egypt, 1962–73,” *International Organization* 45, no. 3 (Summer 1991), pp. 369–95; Erik Gartzke and Kristian Skrede Gleditsch, “Why Democracies May Actually Be Less Reliable Allies,” *American Journal of Political Science* 48, no. 4 (October 2004), pp. 775–95; Brett Ashley Leeds, Michaela Mattes, and Jeremy S. Vogel, “Interests, Institutions, and the Reliability of International Commitments,” *American Journal of Political Science* 53, no. 2 (April 2009), pp. 461–76; Stephanie C. Hofmann and Andrew I. Yeo, “Business as Usual: The Role of Norms in Alliance Management,” *European Journal of International Relations* 21, no. 2 (June 2015), pp. 377–401; Tongfi Kim and Jennifer Dabbs Sciubba, “The Effect of Age Structure on the Abrogation of Military Alliances,” *International Interactions* 41, no. 2 (2015), pp. 279–308; Brett Ashley Leeds and Burcu Savun, “Terminating Alliances: Why Do States Abrogate Agreements?,” *Journal of Politics* 69, no. 4 (November 2007), pp. 1118–32.
 17. Molly Berkemeier and Matthew Fuhrmann, “Reassessing the Fulfillment of Alliance Commitments in War,” *Research and Politics* 5, no. 2 (April 2018), pp. 1–5.
 18. Timothy W. Crawford, “Preventing Enemy Coalitions: How Wedge Strategies Shape Power Politics,” *International Security* 35, no. 4 (Spring 2011), pp. 155–89; Yasuhiro Izumikawa, “To Coerce or Reward? Theorizing Wedge Strategies in Alliance Politics,” *Security Studies* 22, no. 3 (August 2013), pp. 498–531.
 19. Evan A. Feigenbaum, “Reluctant Stakeholder: Why China’s Highly Strategic Brand of Revisionism Is More Challenging Than Washington Thinks,” *MacroPolo*, 27 April 2018, macropolo.org/; Sugio Takahashi, “Development of Gray-Zone Deterrence: Concept Building and Lessons from Japan’s Experience,” *Pacific Review* 31, no. 6 (2018), pp. 787–810.
 20. For example, North Korea, China, and Russia all have active cyber units that engage in disinformation campaigns, cyber crime, and other illicit behavior that cannot be attributed directly enough to justify deterrence through punishment under international law.
 21. For example, see Chinese “debt diplomacy,” Chinese island building in the South China Sea, Russian disinformation campaigns, and North Korean theft of Bitcoin currency.
 22. Daniel Deudney and G. John Ikenberry, “The Nature and Sources of Liberal International Order,” *Review of International Studies* 25, no. 2 (April 1999), pp. 179–96.
 23. U.N. Charter ch. VII, “Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression.” Emphasis added.
 24. This is the model for every U.S. alliance treaty since 1945, including the North Atlantic Treaty, the U.S.-Japan Mutual Security Treaty, and the U.S.-Philippines Mutual Defense Treaty. A prominent example of a non-American alliance treaty built on this framework is that between China and North Korea, of which article 2 states, “The Contracting Parties undertake jointly to adopt all measures to prevent aggression against either of the Contracting Parties by any state. In the event of one of the Contracting Parties being subjected to the armed attack by any state or several states jointly and thus being involved in a state of war, the other Contracting Party shall immediately render military and other assistance by all means at its disposal.” Douglas M. Gibler, *International Military Alliances, 1648–2008* (Washington, DC: CQ Press, 2008), p. 423.

25. Military and Paramilitary Activities in and against Nicaragua (Nicar. v. U.S.), Judgment, 1986 I.C.J. Rep. 14 (27 June).
26. Both level of intensity and impetus for response are predicated on international legal frameworks and precedents for the use of instruments of power in response.
27. For the Japanese law, see Ryōkai oyobi Setsuzoku suiiki ni kansuru hōritsu [Act on territorial waters and contiguous water area], Law No. 210 of 2 May 1977; for UNCLOS, see United Nations Convention on the Law of the Sea, *opened for signature* 10 December 1982, 1833 U.N.T.S. 397.
28. Charles J. Dunlap Jr. [Maj. Gen., USAF], “Lawfare Today: A Perspective,” *Yale Journal of International Affairs* 3, no. 1 (Winter 2008), pp. 146–54.
29. South China Sea Arbitration (Phil. v. China), Case No. 2013-19, Award (Perm. Ct. Arb. 2016).
30. Patrick J. Cullen and Erik Reichborn-Kjennerud, *Understanding Hybrid Warfare* (n.p.: Multinational Capability Development Campaign Countering Hybrid Warfare Project, January 2017), assets.publishing.service.gov.uk/.
31. Michael Aaronson et al., “NATO Countering the Hybrid Threat,” *Prism* 2, no. 4 (2011), p. 115.
32. “Joint Declaration on EU-NATO Cooperation,” *North Atlantic Treaty Organization*, 10 July 2018, [nato.int/](https://www.nato.int/).
33. This is especially true if one ascribes to Schweller’s argument that alliances are formed on the basis of a balance of interests, the most basic being interest in the status quo vs. revisionism. Randall L. Schweller, “Bandwagoning for Profit: Bringing the Revisionist State Back In,” *International Security* 19, no. 1 (Summer 1994), pp. 72–107.
34. Wigell reinforces this notion with his concept of *hybrid interference*, which is the use of hybrid tactics specifically as part of a wedge strategy to divide a target country or coalition and weaken its counterbalancing potential. Mikael Wigell, “Hybrid Interference as a Wedge Strategy: A Theory of External Interference in Liberal Democracy,” *International Affairs* 95, no. 2 (March 2019), pp. 255–75.
35. Lanoszka, “Tangled Up in Rose?”; James D. Morrow, “Alliances: Why Write Them Down?,” *Annual Review of Political Science* 3 (June 2000), pp. 63–83.
36. Hans J. Morgenthau, *Politics among Nations: The Struggle for Power and Peace*, 7th ed. (New York: Knopf, 2007), p. 198.
37. For more on asymmetric alliances, see Morrow, “Alliances and Asymmetry,” and Kim, *The Supply Side of Security*.
38. The 1993–94 North Korean nuclear crisis consisted of a series of escalatory security incidents following discovery of North Korean nuclear weapons development, North Korea’s denial of entry to International Atomic Energy Agency inspectors, and the Kim regime’s decision to withdraw North Korea from the Non-Proliferation Treaty. As a result, the United States placed regional military forces on alert for the possible execution of military strikes against known nuclear weapons facilities. The most notable missile launch was the 1998 Taepodong launch, in which the missile traveled over Japanese territory.
39. The prior consultation requirement was clarified via a formal exchange of notes, having following as the subject matter: “Major changes in the deployment into Japan of United States armed forces, major changes in their equipment, and the use of facilities and areas in Japan as bases for military combat operations to be undertaken from Japan other than those conducted under Article V of the said Treaty.” Exchange of Notes Incorporating Agreed Consultation Formula, Japan-U.S., 19 January 1960. Article 5 details the obligation for defense of Japan. Article 4 of the U.S.-Japan Mutual Security Treaty states: “The Parties will consult together from time to time regarding the implementation of this Treaty, and, at the request of either Party, whenever the security of Japan or international peace and security in the Far East is threatened.”
40. North Korea dramatically demonstrated its ability to hit Japan with ballistic missiles when it launched its Taepodong over Japanese territory in 1998. “North Korea Fires Missile over Japanese Territory,” *New York Times*, 1 September 1998, [nytimes.com/](https://www.nytimes.com/).
41. In March 2010, ROKS *Cheonan*, a South Korean naval corvette, sank off the west coast

of the peninsula, killing forty-six sailors. A formal investigation conducted by the UN Command Military Armistice Commission concluded that the vessel was sunk by North Korean forces, despite the Kim regime's denial of any involvement in the incident. In November 2010, North Korea shelled the South Korean island of Yeonpyeong-do, killing four and injuring sixty-eight. Situation in the Republic of Korea, Article 5 Report (Int'l Crim. Ct. 23 June 2014), icc-cpi.int/.

42. In 2002, the allies formally established the Bilateral Coordination Mechanism to handle coordination in the event of crises or contingencies, including those related to "situations in areas surrounding Japan." *Situations in areas surrounding Japan* (often referred to as SIASJs, pronounced "sai-es-jays") were codified officially under Japanese law as those that, if allowed to go unchecked, would have an important influence on Japanese peace and prosperity. If declared, the existence of a SIASJ would grant authorities to the JSDF, cabinet, and relevant ministries and agencies that normally are not available for peacetime operations. Following the publication of the "2015 Guidelines," the Japanese government updated the SIASJ law to align with alliance expectations for support. The archived law is entitled *Shūhenjitai ni saishite wagakuni no heiwa oyobi anzen wo kakuho surutame no sochi ni kansuru hōritsu* [Law concerning measures necessary for securing peace and security in situations in areas surrounding Japan], Law No. 253 of 1999. The updated law is entitled *Jyūyō eikyō jitai ni saishite wagakuni no heiwa oyobi anzen wo kakuho surutame no sochi ni kansuru hōritsu* [Law concerning measures necessary for securing peace and security in important influence situations], Law No. 60 of 2015.
43. Headquarters, U.S. Forces, Japan, "DGL—BCM—SIASJ Changes Briefv3" (2014), held in author's collection.
44. This issue was handled in the 1960s via two secret agreements known as the "Kishi (or Korean) minute" and the "Korea clause." The former came in 1960 as a concession from Prime Minister Nobusuke Kishi's government, asserting that the U.S. military had the administration's tacit agreement to launch immediate military action from Japan in the event of a North Korean armed attack. The latter was part of the November 1969 joint communiqué that, on the basis of a verbal affirmation, noted that if the U.S. military was required to respond to either a Taiwan or a North Korean crisis, the Japanese government would say yes in response to U.S. prior consultation. However, these arrangements never have been renewed, and neither side has negotiated a current position on the matter. Michael M. Bosack, "The Relationship between United Nations Command and Japan: 1950–2018," *International Journal of Korean Studies* 23, no. 1 (Spring/Summer 2019), pp. 71–105.
45. House of Councillors of Japan, *Dai 186 kai kokkai, Yosan iinkai dai 1 go* [No. 186 Diet Session, Budget Committee No. 1 Session], 15 July 2014, available from kokkai.ndl.go.jp/.
46. A *status of forces agreement* lays out the legal provisions covering one or more foreign militaries operating within a state's sovereign territory. Provisions include but are not limited to taxation, basing, entry and exit procedures, criminal jurisdiction, and host-nation support.
47. Prior to reversion, U.S. military forces used the Senkaku Islands as bombing ranges.
48. "Taiwan, Japan Agree on Status Quo in Fishing around Senkakus," *Mainichi Shimbun*, 11 April 2019, mainichi.jp/. See "The Numbers of Chinese Government and Other Vessels That Entered Japan's Contiguous Zone or Intruded into Territorial Sea Surrounding the Senkaku Islands," *Ministry of Foreign Affairs of Japan*, 30 April 2019, www.mofa.go.jp/.
49. Michael O'Hanlon offers other wargaming situations that would not constitute a clear "armed attack" scenario, including using *maskirovka* tactics and feigning the "rescue" of Chinese tourists or fishermen supposedly forced to make landfall on the islands. Michael E. O'Hanlon, *The Senkaku Paradox: Risking Great Power War over Small Stakes* (Washington, DC: Brookings Institution, 2019).
50. For example, several CCG vessels have the same displacement and armament as naval frigates. Andrew S. Erickson, Joshua Hickey, and Henry Holst, "Surging Second Sea Force: China's Maritime Law-Enforcement Forces, Capabilities, and Future in the Gray Zone and

- Beyond?," *Naval War College Review* 72, no. 2 (Spring 2019), pp. 11–34.
51. See Ministry of Defense of Japan, *Defense of Japan 2018* (Tokyo: 2018), esp. pt. 1, chap. 2, sec. 3, "China," available at www.mod.go.jp/.
 52. Alagappa explains the relevance of core values in unilateral security practice, which invariably affects decision-making vis-à-vis alliance relationships. Muthiah Alagappa, ed., *Asian Security Practices: Material and Ideational Influences* (Stanford, CA: Stanford Univ. Press, 1998). This is also relevant to Morgenthau's concept in *Politics among Nations* of the "community of interests" underwriting alliance relationships.
 53. Every joint statement of the Security Consultative Committee since 2000 either explicitly mentions the "2015 Guidelines" or details some activity related to implementation of roles, missions, and capabilities codified within the guidelines. See "Japan-U.S. Security Consultative Committee," *Ministry of Foreign Affairs of Japan*, 19 April 2019, www.mofa.go.jp/.
 54. Article 5 reads as follows: "Each Party recognizes that an armed attack against either Party in the territories under the administration of Japan would be dangerous to its own peace and safety and declares that it would act to meet the common danger in accordance with its constitutional provisions and processes. Any such armed attack and all measures taken as a result thereof shall be immediately reported to the Security Council of the United Nations in accordance with the provisions of Article 51 of the Charter. Such measures shall be terminated when the Security Council has taken the measures necessary to restore and maintain international peace and security."
 55. "2015 Guidelines."
 56. Such emerging threats include the so-called *kyūyōeikyō jitai* (important influence situation), which replaced SIASJ and includes, among other scenarios, response to a Korean Peninsula crisis. The section regarding response to an armed attack against a country other than Japan expanded the *casus foederis* to include limited exercise of collective self-defense in support of the United States. Despite the absence of such a military obligation under the Mutual Security Treaty, the guidelines clearly state the conditions under which Japan could use military force in support of its U.S. ally. Definition of a major natural disaster as a security incident warranting alliance response represented another change to the *casus foederis*. International activities were included within the scope of the alliance in the 1997 guidelines, but the "2015 Guidelines" expanded the RMCs associated with this category of cooperation.
 57. The ACM was formally established in November 2015 via secretary/minister-level affirmation of a bilaterally negotiated implementation instrument.
 58. Part of this necessity is borne from article 4 of the 1960 Mutual Security Treaty, which dictates that the allies will consult "whenever the security of Japan or international peace and security in the Far East is threatened."
 59. Given Japanese constitutional limitations, the JSDF is prohibited from operating within a command-and-control structure in which partner militaries have rules on the use of military force that are different from its own (a concept known as *ittaika*). As a result, the U.S.-Japan alliance operates bilaterally with parallel command structures, unlike NATO or the U.S.-South Korean alliance. Ministry of Defense of Japan, "Basic Policy for the Development of New Security Legislation," pt. 2, chap. 1, sec. 3 in *Defense of Japan 2014* (Tokyo: 2014), available at www.mod.go.jp/. Michael M. Bosack, "Article 9, *Ittaika*, and Japan's Liaison Officer Corps," *Japan Times*, 29 January 2020, japantimes.co.jp/.
 60. The U.S. government designated cyberspace a domain of combat in its 2004 version of the national military strategy. Joint Chiefs of Staff, *The National Military Strategy of the United States of America: A Strategy for Today; A Vision for Tomorrow* (Washington, DC: 2004), available at history.defense.gov/. The U.S. Space Command originally was activated in 1985. "Pentagon Christens U.S. Space Command," *Washington Post*, 24 September 1985, www.washingtonpost.com/.
 61. In adherence to a policy set in 1976, Japanese defense spending was capped at 1 percent of gross domestic product every year but one (1986) until 2019. Matt Williams, "Japan Becomes a Military Space Player with Latest

- Launch,” *Universe Today*, 25 January 2017, www.universetoday.com/; Mizuho Aoki, “New SDF Unit Shores Up Thinly Protected Cyberborders,” *Japan Times*, 7 April 2014, www.japantimes.co.jp/.
62. Early versions of the negotiated guidelines included language specifically naming Japan’s law-enforcement entities, but those were struck owing to Japanese domestic political constraints. Michael M. Bosack, “Realizing a ‘Seamless Response’: Incorporating the Japan Coast Guard in the U.S.-Japan Alliance,” *Sasakawa USA Forum*, no. 13 (15 May 2018), spfusa.org/.
63. “2015 Guidelines.”
64. Notably, the ACM was employed in response to the 2016 North Korean nuclear test, coordinating the execution of a “sequenced bilateral” show-of-force mission with the South Korean government. Ministry of Defense of Japan, “Alliance Coordination Mechanism (ACM) Video-Conference at the Director-General Level,” press release, 10 September 2016, mod.go.jp/.
65. It is worth mentioning that the U.S. government’s first formal reassurance on the Senkakus came in 2014, *after* the allies had agreed in October 2013 to renegotiate the guidelines. “Japan Activates First Marines since WWII to Bolster Defenses against China,” *Reuters*, 7 April 2018, www.reuters.com/; Brice Cutler [Cpl., USMC], “IRON FIST 2019 Strengthens U.S.-Japan Alliance; Certifies ARDB,” *Marines*, 12 February 2019, marines.mil/.
66. Rajan Menon, *The End of Alliances* (New York: Oxford Univ. Press, 2007); Wilkins, “‘Alignment,’ Not ‘Alliance’”; Zachary Selden, *Alignment, Alliance, and American Grand Strategy* (Ann Arbor: Univ. of Michigan Press, 2016).
67. Johnston offers useful insight into institutional adaptation within alliances. Seth A. Johnston, *How NATO Adapts: Strategy and Organization in the Atlantic Alliance since 1950* (Baltimore: Johns Hopkins Univ. Press, 2017).

“THINGS DONE BY HALVES”

Observations from America’s First Great-Power Competition

Benjamin F. Armstrong

The return of great-power friction and competition to the world’s oceans has initiated a good deal of self-reflection in naval and maritime circles. The U.S. Navy, in particular, has begun to reassess how it approaches the tactical and operational questions of establishing sea control during wartime. At the same time, the Royal Navy (RN) seeks to understand how Britain’s departure from the European Union will change its role in world affairs, and Japan continues to adjust its defense policies and the norms of its naval involvement in the Pacific and Indian Oceans. These are just a few of the shifting dynamics among the United States and its maritime allies.

A great deal of the official U.S. response to the developing power dynamics of the twenty-first century is focused on capability for conventional, or nation-state, warfare. Yet, concurrently with calls for developing greater lethality and greater high-end naval capability, observers have identified a second challenge: maritime conflict outside the boundaries of peer combat, or short of the threshold of high-end warfare.

Commander Benjamin F. Armstrong, USN, is assistant professor of war studies and naval history at the U.S. Naval Academy in Annapolis, Maryland. Prior to earning his PhD and becoming a military professor, he served as a helicopter pilot, with multiple deployments flying amphibious search-and-rescue and special-warfare missions, and served in the Pentagon as well. His most recent book is Small Boats and Daring Men: Maritime Raiding, Irregular Warfare, and the Early American Navy (2019), published by the University of Oklahoma Press.

By looking to the maritime past and scuttling the idea that somehow the “gray zones” of today have initiated something unique to our contemporary world, naval forces will be better prepared to address the challenges presented by maritime security, naval irregular warfare, and great-power friction on the world’s oceans. In particular, an examination of America’s first postindependence conflict, the Quasi War with

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France, illuminates key questions for strategists and planners considering the interactions among great powers.

Our contemporary *National Defense Strategy* assures readers that the world has entered an era of renewed “great-power competition.” Unfortunately, much of the strategic and national-security writing that has adopted the phrase then immediately turns the discussion to the ability to conduct or deter peer-combat operations. Over centuries, however, maritime conflict short of declared war or open hostilities has been a fundamental part of the competition and maneuvering among powerful nations. Rather than looking only at our immediate past, or at most at the history of the post–world war era, strategists must open their aperture to a wider understanding of how the international dynamics of earlier eras might inform what *great-power competition* means for military and naval forces beyond *great-power war*. For the purposes of this article, debates over the theoretical and definitional constructions of *gray zone*, *hybrid*, *asymmetric*, and other labels are less important than seeking to understand how this history can inform our understanding of the present and our thinking about the future.¹

Concepts surrounding the advancement of *hybrid war* or conflict in the *gray zones*—or whichever contemporary buzzword is a strategist’s or planner’s favorite—have developed from Russian activity in the Black Sea region and Chinese activity in the South China Sea.² Much of the writing implies that modern Russian, Chinese, and Iranian efforts have introduced something new to the maritime world. Admiral James G. Stavridis has written that “the fundamental idea of hybrid warfare is to find the space short of clear-cut military action with direct and recognizable tactical, operational, and strategic impact.”³ He suggests that the maritime versions of these conflicts will be conducted in the coastal or littoral regions of the world and will involve both naval “gray-hull” warships and civilian vessels. Other commentators have pointed out that the mixing of law-enforcement responsibilities with more-traditional naval missions complicates the situation for naval planners who think in Mahanian terms of decisive sea battles or Corbett-inspired bombardment and power projection ashore.⁴ Despite the fact that some identify these hybrid or gray-zone conflicts and competition as a particularly complicated and somewhat unprecedented change to the maritime world, they actually are nothing new to naval history.

The very beginning of the history of the U.S. Navy and Marine Corps is as good a place as any to take up an examination of unconventional conflicts, irregular operations, and great-power competition. The conflict between the United States and France from 1798 to 1800 was, after all, a maritime conflict, caused by great-power friction, that remained short of declared war. It led the U.S. Congress to form the Department of the Navy and to outfit and deploy U.S. warships for the first time. Originally known as “the war with France,” the conflict became

known more commonly in the twentieth century as the Quasi War, and the new nomenclature suggested its unusual and unconventional nature.⁵ By looking back on the U.S. Navy's first conflict—an undeclared war that occurred in the gray area between peace and war, but resulted in both combat among nations and fighting against nonstate groups in a hybrid manner—observations emerge that may help today's strategists and planners examine our modern challenges. Understanding the long history of American involvement in maritime operations short of declared war will lead to better-informed questions to help us understand our contemporary challenges, and will help us develop twenty-first-century approaches.

A WAR THAT WAS NOT A WAR

Today, the history of the Quasi War is largely unknown to naval planners and national-security professionals. It also lacks a wide body of literature from academics and historians themselves. The Barbary Wars of early American history have attracted a cottage industry of recent publishing on the topic, from academics to Fox News hosts—even sportswriters. The bicentennial of the War of 1812 also brought a wealth of recent scholarship on that declared war. In contrast, in the past half century there has been only a single book about the U.S. Navy and the Quasi War: Michael Palmer's excellent *Stoddert's War*. As a result, returning to the historical primary sources, alongside the work of Palmer and older and related scholarship, can offer a useful and generally unfamiliar case study for the twenty-first century.

The French Revolution was an enormous event in world history, with effects that rippled across oceans. In the still-infant United States, the uprising that overthrew and executed Louis XVI created both international and domestic political problems. Britain's reinitiation, in the aftermath of the Revolution, of its intermittent eighteenth-century wars with France put the United States in the middle. The revolutionary government (known as the Directory) demanded that the United States fulfill its responsibility to France, in accordance with the alliance that had helped Americans win their own independence. However, President George Washington did not want the two great powers of Europe—each of which had constituencies and supporters in the United States—pulling the young nation into a war it could not afford, economically or politically. Instead, Washington followed a circuitous line of diplomatic reasoning to escape the alliance that had helped ensure his own victory at Yorktown. His administration, claiming that the country's treaty had been with the recently guillotined Louis, explained that the alliance had died with the king, and that as a result the United States had no responsibility to support revolutionary France.⁶

The U.S. government tried to walk the fine line of neutrality, while at the same time American merchant traders set sail to carry supplies to both sides in the

conflict. American merchants knew that when great powers were at war they could make high profits carrying cargoes under a neutral flag.

The Directory, however, also realized Americans' profit motives. Following Washington's declaration of neutrality, the French abrogated the 1778 treaty with the United States. In doing so, it went beyond simply ending the alliance, also repudiating the treaty's support for the American belief that "free ships make free goods." This uniquely American ideal claimed that a neutral flag protected a ship from seizure regardless of whether the ship's cargo constituted contraband of war. Instead, France returned to the traditional interpretation of maritime law, which believed that the destination of the cargo was what mattered in determining whether it was contraband and legal to seize, not who was carrying it.⁷

The 1794 commercial treaty between United States and Great Britain, which became known as the Jay Treaty, was seen as yet one more insult to the French, who interpreted it as an effort by the Americans to assist the British enemy. The French accused American merchants of allying themselves with London, and privateers and warships sailing under the tricolor opened up a campaign of *guerre de course* (commerce raiding) against American ships in the Caribbean and western Atlantic.⁸ In June 1797, Secretary of State Timothy Pickering would report to Congress that French privateers and cruisers had captured 316 American ships during the previous year.⁹

After the election of 1796, Washington turned over the presidency to John Adams. In an attempt to negotiate a solution, the new administration sent a diplomatic mission to Paris. Instead of a diplomatic success, the negotiators came back with a story of solicitation of bribes and other covert dealings in what American newspapers called the XYZ Affair.¹⁰

President Adams and Congress began putting the United States on a war footing.¹¹ American political leaders authorized the final outfitting and deployment of the U.S. Navy's first three frigates. They appropriated funds to finish building the second group of three frigates, whose construction an earlier Congress had halted to save money, in 1794. They authorized the president to buy or build a dozen small warships, of twenty-two guns or fewer. And finally, the legislature formed the Department of the Navy, under the leadership of the newly created Secretary of the Navy, to administer and lead naval operations against French depredations.¹² However, Congress did not pass a declaration of war. The forces began to deploy in the summer of 1798, in what President Adams and Congress both considered a defensive measure. Between Congress's first authorization for combat operations—ordering U.S. warships to engage armed French vessels in the early summer of 1798—and the Convention of 1800—which ended the conflict in September of that year—the U.S. Navy deployed dozens of warships into the Caribbean and western Atlantic.

FOUR OBSERVATIONS

In today's maritime and military concepts and jargon, those ships' mission can be described quite accurately as carrying on a maritime hybrid conflict brought on by great-power competition. Studying the records of the nascent American naval force to examine how the ships operated during the Quasi War yields four observations about the experience and how the Navy and its leaders approached the conflict.

The remainder of this article will examine those four observations rather than continue a chronological retelling of the story of the war.¹³ These observations can help inform our understanding of how naval forces interact within the alleged "gray zones" and offer a starting point for considering hybrid maritime conflict in today's era of great-power competition.

Presence Matters

Initially, the American warships deployed in 1798 patrolled only the nation's coastlines, but it was only a matter of weeks before Secretary of the Navy Benjamin Stoddert realized that these operations were insufficient—French ships were attacking American merchant ships not only on the coast but also far from their own shores.¹⁴ The French had established a privateering base, with supplies and a court for adjudicating prizes, on their colonial island of Guadeloupe in the Lesser Antilles.¹⁵

With Adams's approval, Stoddert deployed the first small squadrons of warships into the Caribbean. Under the command of captains who were elevated to the largely honorary title of commodore while in command of multiship squadrons, these units patrolled the common transit routes, convoyed American merchant ships when they could gather them, and discovered and captured French privateers. The first cruises were relatively successful, especially for a naval service that had existed for only a matter of months. However, after several months of continuous operations the ships required maintenance and supplies, so commodores and their squadrons began returning home—whereupon the French privateers surged back out of the safe havens they had found to renew their attacks.¹⁶

Despite how it appears when you draw a straight line on a map from the United States to the Caribbean, the Navy was operating far from home. Because of the prevailing winds and currents, in the age of sail a ship leaving Chesapeake Bay had to sail east into the Atlantic to find the winds that would allow it to tack back to the southwest toward the Caribbean. This route resulted in a passage that sometimes took American warships almost as long to get to the West Indies as it took them to reach Europe.

When reports of the renewed French attacks reached American newspapers, Stoddert and his commodores quickly realized that dealing with an adversary that

was using both state naval forces and privateers required constant presence.¹⁷ The squadrons appeared to work well when they were on station. However, the Navy could not wait for the first squadron to make it home before deploying a second. The gap in presence allowed privateering attacks to surge and the admiralty court at Guadeloupe to fill with cases as General Edme É. B. Desfourneaux, the French governor, issued more commissions for privateers and reinvigorated the *guerre de course*.¹⁸

So Stoddert worked with President Adams to design a rotational deployment model for American squadrons. The secretary planned to order multiple squadrons to cover different parts of the Caribbean, and almost immediately he began preparing the new squadrons needed to replace them. Stoddert then issued the original commodore orders that forbade them to leave their stations until relief arrived.¹⁹

The American experience in the Quasi War revealed that in a hybrid conflict physical presence and patrolling constituted an important part of addressing the ebb and flow of the threat. The occasional appearance of a warship, to prove the simple possibility of presence, was insufficient; the number and types of adversary efforts quickly adapted to a strategy that left the seas uncontested, or at least unpatrolled. The resulting solution was the U.S. Navy's first use of rotational deployments—a method that has become a hallmark of modern global operations. In the Quasi War, for the Navy to remain operationally and strategically effective, the secretary had to ask, “How do I maintain regular, physical presence?”

Multiple Adversaries

When the U.S. Navy initiated operations in the Caribbean in the summer of 1798, its leaders knew they would be facing at least two different adversaries.

The French Navy. France's navy had a small but capable presence in the West Indies to patrol the country's colonies and protect its trade. This force, at different points in the conflict, included several frigates, such as *L'Insurgente*, *Volontaire*, and *La Vengeance*. They were roughly equivalent in capability to the American frigates, although each ship was of slightly different size and had a slightly different armament. These vessels represented a conventional threat, and one that Americans had designed and armed their larger warships to be able to handle.²⁰

French Privateers. But in addition to the French naval adversary were the French privateers. Varying widely in size, these ships deployed from French colonies in the Western Hemisphere to prey mostly on unprotected merchant ships from both the United States and Great Britain. Guadeloupe, located in the heart of the West Indies, was a primary base of operations.

The first privateer captured by an American warship was a typical example of the threat. In the summer of 1798, the American naval ship *Delaware*, a

twenty-gun converted merchantman commanded by Captain Stephen Decatur Sr., confronted *La Croyable* off the coast of New Jersey. After a brief exchange of gunfire the French surrendered, because they thought their opponent was a British warship.²¹ The privateer was relatively small, with a schooner rig and a total burden of approximately one hundred tons. Armed with a dozen small (six-pound) guns, it was strong enough to overtake any merchant ship, but the captain knew he would have a hard fight against a warship.²²

The rig and size of *La Croyable*, which generally matched the type built in the United States known as Baltimore clippers, became familiar throughout the nineteenth-century Caribbean as commerce raiders, not only as licensed privateers, with government-issued commissions, but also as pirates, engaged in maritime crime.²³ These French privateers attacked hundreds of American ships, although exact numbers are hard to come by. In 1827, Henry Clay collected the records of 444 ships that were taken as prizes and brought into French ports, yet that total does not include an unknown number that simply were robbed of supplies, sunk, or burned without a French legal proceeding.²⁴ The line between privateer and pirate could be blurry.

Insurgents. Congress authorized combat operations against any armed French vessel, whether a warship or a privateer. Yet as the American commodores began operating throughout the West Indies, they discovered that there were other adversaries as well. In 1791, following news of the revolution in France, a slave revolt and black insurgency had erupted in the colony of Saint Domingue (known today as Haiti). Between 1791 and 1804, when Haiti declared its independence from France, its island was in a near-constant state of civil war and violence.²⁵ American merchants wanted to trade with the island, but the instability made it difficult. The involvement of American merchants, despite initial government claims of neutrality in the island's fighting, and the fact that Haiti was still ostensibly French pulled the U.S. Navy into the surrounding waters and embroiled its ships in the local fighting. Aligning themselves with the revolutionary François-Dominique Toussaint-Louverture (who sometimes returned his allegiance to France), American naval forces found themselves involved in operations against other factions both ashore and in the littorals around the island. Forces loyal to André Rigaud, who claimed to be fighting for France against Toussaint-Louverture, launched raiding attacks from shore with small boats on the southern coast of the island. Sometimes they sailed under the tricolor of France and sometimes under the red banner commonly flown by pirates in the West Indies. American warships found themselves in combat with both flags.²⁶

Other Threats. In the closing year of the conflict other threats popped up as well. The Spanish colonies of Cuba and Puerto Rico began to involve themselves in the

turmoil in Caribbean waters. The United States, France, Great Britain, and local revolutionary forces all were pursuing their own agendas, and Spanish authorities did not want to be left out. Reports of Spanish privateering and pirate bases began to reach the American commanders, so they deployed ships along the Cuban coast to patrol against the new threat.²⁷

Thus, the commodores who commanded the American squadrons during the Quasi War did not have the luxury of contending with a single naval adversary. The French navy certainly posed the greatest danger in ship-versus-ship combat, but French privateers perpetrated the bulk of the attacks on American shipping and were the most important target of American operations. Yet despite the clear congressional direction toward French forces, the commodores and leaders in Washington could not ignore the civil war raging in Haiti, the insecurity it caused in the maritime world, and the threats of other great powers entering the fray. Initially, it seemed clear that America's adversary was "the French," but as the conflict developed and introduced other threats American leaders had to ask the question "Who are our adversaries, and what do they really want?" if they were to come up with operationally and strategically effective plans.

Keeping an Eye on Allies and Partners

U.S. naval forces discovered that they had numerous adversaries in the Caribbean. However, they also could count on a number of potential partners in their conflict with revolutionary France.

Toussaint-Louverture. While the Haitian leader appeared to present more demands than offers of assistance, Toussaint-Louverture and his forces regularly shared information and intelligence with American naval commanders and diplomats. The civil war raged in Haiti among groups that at various times received backing from British, Spanish, French royalist, and Directory forces. At the start of the conflict between the United States and France, Toussaint-Louverture had pushed back effectively against British and Spanish attempts to gain control of Haiti. President Adams saw the opportunity to reestablish the profitable commercial connections that Americans had had with the island previously while encouraging Toussaint-Louverture to maintain the separation between his territory and the government in Paris. The Americans, the British, and Toussaint-Louverture signed a secret three-way alliance in June 1798, just as the first American warships deployed into the Caribbean.²⁸

The relationship with Toussaint-Louverture and Haiti was a conflicted one for the Americans. The fighting on the island, and with it the possibility that France would lose control of its most valuable colony in the Western Hemisphere, was clearly a positive development for American interests. The territory that

Toussaint-Louverture held at Cap-Français (now Cap Haitien) and Port-au-Prince offered places for American ships to obtain supplies such as food and fresh water. And American merchants made sure the Navy and politicians understood the future commercial benefits.²⁹

But the Haitian Revolution also was a movement that started with a slave revolt. The racial politics of the era created massive fear that the revolution in Haiti would lead to unrest within the slave populations of states such as Georgia and the Carolinas. This fear was not unwarranted, since a Haitian veteran eventually would play a role in the “German Coast Uprising” in Louisiana in 1811.³⁰ There also was a more desperate concern: that the French might launch an invasion of the Southern American states using black troops, with the goal of fomenting a full-fledged slave revolution.³¹ Yet despite the concerns of politicians and Southerners back home, American naval commanders in the Caribbean realized that even an imperfect partnership could be beneficial, so they continued to work with Toussaint-Louverture and his army.

Britain. The most powerful partner with which the United States worked during the Quasi War was the world’s dominant naval power: Great Britain. There still were plenty of bad feelings between the two nations, which had gone their separate ways barely more than a decade prior. Yet both were fighting revolutionary France, and many of their interests in the Caribbean appeared to coincide, as witnessed by the joint secret pact with Toussaint-Louverture. During the first summer of American operations, Secretary Stoddert and Vice Admiral George Vandeput, who commanded British naval forces on the North America station, created a shared set of codes and signals that allowed American and British captains to communicate and coordinate their efforts.³² At the start, the partnership appeared to be a solid one, as the Navy Department distributed the signal book and the commodores became aware of the common cause in Haiti. American merchant ships sometimes sailed in convoys under British protection, and the two nations’ warships passed intelligence to one another.³³

However, it was not long before the relationship began turning sour, at least occasionally. In the middle of November 1798, the American sloop of war *Baltimore* (twenty-four guns) was escorting a convoy of merchant ships along the north coast of Cuba toward Havana. As the convoy neared its destination lookouts called out several sail on the horizon, and a squadron of British warships approached. The squadron’s flagship, the ship of the line HMS *Carnatic*, hailed Captain Isaac Phillips aboard *Baltimore*. Commodore John Loring asked him to come aboard the British ship to consult, and the American officer crossed in a boat. Phillips then was surprised when Loring refused to acknowledge his papers and instead ordered a press-gang aboard *Baltimore* and the other ships

of the convoy. The Royal Navy removed fifty-five seamen from the ships who they alleged were British subjects. Although about half eventually were returned, when the British sailed off they left Phillips impotent and embarrassed. Not long after, Secretary Stoddert relieved him of command.³⁴

Cooperation and conflict ebbed and flowed between the Americans and the British throughout the war. Washington continued to receive reports of British assistance to American merchants, and the passing of intelligence between warships remained a regular occurrence.³⁵ However, there continued to be occasions on which the interests of the two nations diverged, including incidents of impressment and the occasional capture of American merchant vessels.³⁶

One of the most dramatic examples occurred on the island of Curaçao, a Dutch colony, in the closing month of the conflict. In September 1800, French forces launched an invasion of Curaçao by landing over a thousand troops, who marched on the primary town, Willemstad. The port did heavy trade with American merchants, and there were many American ships in the harbor as the French approached.³⁷ The U.S. warships *Merrimack* and *Patapsco* arrived to help protect American interests, and the British sent the frigate HMS *Nereide* to ensure that the French did not take control of the island. The Dutch initially appeared ready to concede to the French, but with the arrival of the Anglo-American naval forces and the subsequent landing of marines and sailors to strengthen the defenses, they stood to fight the French attack. The two smaller American ships positioned themselves so their guns could support the town's small fortifications, and the combined force successfully repulsed the attack, leading the French to withdraw from the island.³⁸

After the end of the combined defense, the American ships reembarked their Marines and sailors and set off to patrol around the island to try to capture some of the retreating French ships. While the Americans were gone, Captain Frederick Watkins landed British forces and annexed the town for Great Britain. He placed seven American ships in quarantine under British control, took custody of all the gold and cash of the American merchants in Willemstad, and sent orders for RN ships to seize all American vessels in nearby waters. Watkins's perception of British interests appeared to outweigh both his promise to the American captains that he would protect American merchants and any appreciation for the American contribution to the recent joint defense of the island.³⁹

Alliances and partnerships are always a complicated part of military and naval operations. In maritime conflicts short of declared war, awareness of the motives and intentions of friends can be just as important as understanding adversaries. Because these conflicts rarely appear existential, and because they remain below many nations' threshold of what they consider *war*, members of defensive

alliances can be conflicted over their responsibilities to one another. The result is that while multiple nations may become involved in the same conflict, they do it for mixed reasons and with mixed rules of engagement. This may result in a situation counterproductive to American interests.

In the Quasi War, Secretary Stoddert and his commodores discovered that the partnership with Toussaint-Louverture produced both operational and political limitations, alongside its local benefits. They also experienced a complex relationship with the Royal Navy in the West Indies. As a result, during the Quasi War American leaders repeatedly had to ask the question “What are my partner’s motives, and do we have the same goals?”

The Role of Fleet Architecture

Congress founded the Department of the Navy to manage, organize, and command the Navy for the Quasi War with France. In the opening month of the conflict, the House and the Senate began authorizing the funds to build up the fleet. They started with finishing the fitting out and commissioning of the first three frigates, funding the completion of the second three frigates (whose construction had been suspended to save money), and appropriating funds to build or buy a dozen ships of up to twenty-two guns each. The Navy also took command of the cutters of the Revenue Service, reflagging them as warships. The department aimed to obtain converted merchant ships that were on the larger size and could carry around that limit (twenty-two guns). Examples are *Delaware* and *Baltimore*, which the Navy generally classified as sloops of war. These were the first ships deployed.⁴⁰

What the commodores quickly discovered once they were on station, however, was that larger ships with deep drafts had operational limitations. The squadrons had to complete much of their required patrolling in archipelagic waters—the littorals and shallows of the Caribbean. The privateers that made up the vast majority of the French threat tended to have shallow drafts and fast schooner rigs, which made them maneuverable and harder to chase with a big, square-rigged warship. Instead of squadrons made up of a handful of large, strong ships, with an overwhelming firepower of thirty-six to forty-four guns, the commodores discovered that in their hybrid conflict they needed larger numbers of smaller combatants.

Two of the warships purpose-built for the Quasi War demonstrated the value of small combatants both in combat and in patrol and presence work. Built in Baltimore, the schooners *Experiment* and *Enterprise* put to sea in 1799. Approximately eighty-five feet long, with a draft of just nine feet and a small armament of twelve six-pound guns, *Experiment* first sailed with the squadron of Commodore Silas Talbot in the waters around Haiti.⁴¹ Generally the same size and with the same capabilities as the privateers it hunted but with a trained crew, *Experiment* made more captures than any other ship deployed that year. Henry Spencer built

Enterprise on lines similar to those of its sister ship, and the second schooner deployed a month after *Experiment*. In the ship's first year of operations, its crew captured eight privateers and recaptured eleven American ships that the French had attacked and taken. These two small ships appeared more operationally effective than most of the frigates in the conflict. Commanded by aggressive young officers, they quickly made reputations for themselves, and the name *Enterprise* would enter American naval lore.⁴²

The commodores realized they had a problem with the architecture of their squadrons. They simply did not have enough small combatants to patrol their areas of responsibility properly. To address the problem, many of them began using ships they had captured as American warships. This solution was a relatively common practice of navies in the age of sail. For example, British captains regularly purchased ships they had captured back from prize courts and called them "tenders" for their larger vessels. Placing a favorite junior officer in command with a handful of sailors from the larger ship, commanders deployed the tenders to patrol the littorals where the larger ship could not reach.⁴³

American commodores such as Silas Talbot and Thomas Truxtun began using this method to augment their forces. In early 1799, within days of *Constellation's* defeat of the larger French frigate *L'Insurgente*, Truxtun and his men also captured the privateers *Le Diligente* and *L'Union* off Guadeloupe. Truxtun took *L'Union* into American service and manned and deployed it as a tender to hunt more privateers.⁴⁴ Talbot followed the same path in the spring of 1800 when the Americans captured the French sloop *L'Ampherite*. Talbot renamed the small ship *Amphitheatre* and placed it under the command of a young Lieutenant David Porter, with orders that suspicious vessels "may be stop'd, and examined strictly, and brought to the *Constitution* if she is near to be found."⁴⁵ Talbot also used the American smuggler *Sally*, which his boats had captured along the beach on the north coast of Hispaniola, as a raider to attack the privateer *Sandwich* in the harbor of Puerto Plata.⁴⁶

The American commanders in the Quasi War discovered that a balanced architecture for their squadrons, including a range of capabilities in their ships, was important for prosecuting an irregular campaign successfully. This is not to claim that big warships, with the ability to conduct conventional naval battles, were unnecessary; on the contrary, Truxtun and *Constellation's* battles with the French frigates *L'Insurgente* and *Vengeance* demonstrated that units deployed for hybrid conflicts must be able to participate in high-end naval combat when threatened.

However, the administration back in Washington was not happy with the commodores' practice, and none of the tenders operated for more than a couple of months.⁴⁷ But the success of purpose-built small combatants such as *Experiment* and *Enterprise* and the commanders' desperate use of captured

vessels as tenders to expand the low-end capability of their squadrons suggest that in hybrid conflict a balanced force is vital to efficient operations.

CONSIDERING QUASI WARS

In his report to Secretary Stoddert on *Constellation's* victory over *L'Insurgente*, Thomas Truxtun lamented the complex character of the operations he was leading. He wrote, "The french Captain tells me, I have caused a War with France, if so I am glad of it, for I detest Things being done by Halves."⁴⁸ Maritime great-power competition is complicated, rarely conforming to the popular image of great naval battles and other decisive moments on the sea. Despite many officers' dislike of the circumstances, the very first U.S. armed conflict following independence was a maritime hybrid conflict conducted with a backdrop of great-power competition in the Caribbean. Close examination of the records of the conflict demonstrates a number of parallels and similarities to the challenges that have been identified in the study of irregular or hybrid conflicts and gray-zone operations in the twenty-first century. In their study of these similarities, today's scholars, policy makers, and planners can start with four observations that might help guide their questions about modern maritime insecurity and complexity.

The leaders of the early American navy discovered the necessity for presence as an operating principle in maritime hybrid conflicts. Benjamin Stoddert, with President Adams's concurrence, developed the first use of rotational deployments and other efforts to maintain physical presence. In the modern world, there is a temptation to view the virtual presence of air- and subsurface-based intelligence, surveillance, and reconnaissance platforms as providing a technological solution for the twenty-first century. Yet the physical presence of surface combatants is likely to be just as important as it was two centuries ago, because it provides the maritime equivalent of what strategist Rear Admiral Joseph C. Wylie Jr., USN, described as "the man on the scene with the gun."⁴⁹ The *possibility* of a ship arriving and the actual physical *presence* of one already operating in theater affect the adversary's operational planning in fundamentally different ways. Virtual presence denotes actual absence.

The U.S. Navy struggles with this challenge in the twenty-first century. The occasional presence of American warships in the waters of the South China Sea sends important messages—but so does the absence of presence between those visits. In maritime regions that share many of the hallmarks of hybrid conflicts of the past, such as the Baltic or the South China Sea, regular naval presence has been hard to maintain; instead, episodic exercises and occasional patrols have become standard. Strategists considering regions that have the potential to escalate into hybrid or quasi wars may benefit from considering the same issues regarding the maintenance of regular presence that Secretary Stoddert addressed.

Early American naval leaders also discovered that hybrid conflicts usually offer up multiple adversaries. These adversaries typically have differing motives for their involvement in the conflict and employ different tactics or operating concepts. Planners must work actively to understand these differences if they are to prepare operations effectively. If they appreciate these divergences as a fundamental part of the maritime challenge, they even can use them as an opportunity. Recent developments of Yemeni rebels deploying coastal-defense missiles raise these kinds of concerns. It is unclear whether the group that fired on USS *Mason* (DDG 87) and other American ships in October 2016 did so with the full knowledge of its proxy supporters.⁵⁰ In the Quasi War, the French privateers frequently were more aggressive than the warships, and this complicated some of the Directory's efforts to resolve the conflict. The government in Paris eventually recalled General Desfourneaux, the French governor at Guadeloupe, for being too antagonistic and aggressive toward the Americans. The maritime militias the People's Republic of China has developed have the potential to impose similar complications on their alleged supporters and commanders.⁵¹ There is potential that the militias, operating under the assumption that People's Liberation Army Navy forces will support them, will become more aggressive than their government expects, and they may place China in an untenable position. American and allied planners must understand not only that this possibility exists but also how to identify it when it happens.

Likewise, partners and allies constitute a complicated element of hybrid conflicts. Just as with potential adversaries, most partners bring their own goals and their own limitations to a conflict. These sometimes will make cooperation difficult, and even may be counterproductive to American interests. This will be particularly true when neither side sees an existential challenge, but instead perceives a slow "salami slicing." Balancing the differing interests of partners and allies will require just as much attention as understanding the motives of and differences among adversaries. U.S. interests already have experienced this challenge in recent years with the developments in the Philippines. Asking explicit questions about the interests of potential partners also raises important considerations about other nations, such as India or Vietnam, whose interests appear on the surface to match those of the United States but may not connect at a deeper political level. This truism may seem obvious when one reads it in an academic journal, but strategists and planners sometimes overlook it when they work from an American-centric view of the world and the country's challenges, as issues of rules of engagement, caveats, and relationships from Afghanistan have shown.⁵²

Finally, the force architecture that commanders employ in the gray zone requires a hard examination of the capabilities available and the best way to balance the force employed. Large, powerful warships offer important deterrent

effects and address the challenges of survivability and force protection. However, they also tend to be inefficient and operationally limited when engaged in missions that fall short of war between major powers or ship-on-ship battles. Likewise, their expense results in smaller numbers, which adds to the presence challenge. Early American naval leaders were forced to recognize that small combatants are a vital part of the mix needed to address the myriad capabilities that hybrid adversaries may deploy. The large, forty-four-gun superfrigates such as *Constitution* were superior in a fight with other warships and eminently survivable; however, they had significant operational and acquisition limitations. Recent discussions of force architecture and fleet design in the U.S. Navy have focused on the big numbers—a 350-ship fleet, and how many large, powerful, guided-missile destroyers and globe-spanning aircraft carriers should be included.⁵³ But if the U.S. Navy is going to prepare itself for the hybrid maritime conflicts of the future, it should remember the experience of the quasi wars of the past and recognize the insistent need for small combatants as a fundamental part of a balanced fleet.

In his *Design for Maintaining Maritime Superiority* Admiral John M. Richardson suggests that today's challenges "will require us to reexamine our approaches in every aspect of our operations," but he immediately goes on to remind sailors that "as we change in many areas, it is important to remember that there will also be constants." The Chief of Naval Operations wrote that the best way to identify these constants and to balance them against the ever-changing character of conflict is to "[b]egin problem definition by studying history."⁵⁴ While this call to historical context and wisdom appears fresh and new, Professor Andrew Lambert has written that the very founding of the academic discipline of naval history was "driven by the requirements of naval education, doctrinal development, and strategic reflection."⁵⁵ It is natural that, to understand our present, we should return to the maritime past.⁵⁶

History provides an important starting point for the examination of these kinds of challenges in the modern day. The suggestion that twenty-first-century threats are unprecedented or that consideration of them cannot be informed by experience does not stand up to critical scrutiny. However, it also is important to understand that there are limitations to historical analogy and the use of historical study in military strategy. Modern planners, policy makers, and naval officers will not find "school solutions" or easy answers derived from the study of America's first maritime hybrid war. Instead, the observations that can be made from studying history may help refine the questions asked and the assumptions made, so as to develop better the underlying principles of a strategy or operational concept. As Alfred Thayer Mahan himself wrote, "The instruction derived from the past must be supplemented by a particularized study of the indications of

the future.”⁵⁷ The character of war is ever changing, even if parallels continue to resonate, and historical study offers us ways to build frames of reference, context, and background knowledge.

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“NEITHER FISH NOR FOWL NOR YET GOOD RED HERRING”

Joint Institutions, Single-Service Priorities, and Amphibious Capabilities in Postwar Britain

Ian Speller

In December 1948, the U.S. *Marine Corps Gazette* published an article by Lieutenant Colonel Rathvon M. Tompkins, who reported on British policy on and organization for *combined operations*, the term the British used at the time to describe amphibious operations.¹ Tompkins was a U.S. Marine Corps (USMC) veteran of landings at Tarawa and Saipan during the Second World War and had just completed a period working with the British at their School of Combined Operations in North Devon.² He praised them for their development of amphibious techniques during the war, but was less than complimentary about their postwar structures. In particular, he was critical of the “joint” (interservice) nature of the Combined Operations Organization, stating that “[b]elonging to no one in particular and belonging to everyone in general, it is neither fish nor fowl nor yet good red herring.” Reflecting on the lack of priority given to amphibious operations, Tompkins argued that, as it was not “squarely the responsibility of any one service,” the

subject tended to “take on the aspects of an orphan child dependent on the indulgence and generosity of older members of the family.”³ When times were hard, as they were in Britain in the postwar years, the family was unlikely to be indulgent.

Tompkins clearly did not believe that the joint approach provided a model to be emulated. Perhaps inevitably, given his own experience and institutional loyalties, he believed that a more logical solution would be to give the naval service,

Ian Speller is an associate professor of military history and director of the Centre for Military History and Strategic Studies in the Department of History at the National University of Ireland, Maynooth. He also lectures at the Irish Military College, Kildare. His books include, as author, Understanding Naval Warfare, 2nd ed. (Routledge, 2018); as coauthor, Understanding Modern Warfare, 2nd ed. (Cambridge Univ. Press, 2016); and, as coeditor, Europe, Small Navies and Maritime Security (Routledge, 2019).

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specifically the Royal Marines, primary responsibility for amphibious warfare. In contrast, British policy consistently had emphasized the importance of joint approaches and joint structures or institutions in one form or another.

In the years immediately before the war, interservice activity in this field was enabled by work at the staff colleges, by joint committees, and at a small joint training and development center. Next, wartime requirements saw the establishment of an entirely independent joint organization, with responsibility for amphibious policy, training, and development and the conduct of minor raids. Major operations remained the responsibility of the established services, relying on nonspecialist forces. This system survived the end of the war and the independent organization endured, in truncated form, until the early 1960s. At that point, the existing institutions were absorbed into a wider “joint warfare” structure, losing their independent status. In some respects, the result was a return to the prewar system, with interservice coordination achieved through joint committees and a small joint-training establishment. However, the Royal Marines now were identified as the “parent arm” for amphibious warfare, giving the naval service primacy in a role that previously had been considered entirely joint. This represented an important break from previous practice.⁴

This article explores institutional responsibility for amphibious warfare from the late 1930s until the reforms of the 1960s. It will argue that a joint approach served British needs during the Second World War but contributed to poor results after 1945. British capabilities did not recover until amphibious warfare became the particular responsibility of the naval service, lending credence to the argument that Tompkins advanced. The key point is that joint imperatives tend to prosper when they have the support of a powerful patron or when key furnishers of support and material (usually the army, navy, or air force, or some combination thereof) recognize the value of the service or capability provided and are willing to make sacrifices to support it. This case study suggests that the most effective way to promote the development of joint capabilities is to link these explicitly to the self-interest of the key provider(s) and to build joint structures that encourage rather than inhibit this. These issues have wider relevance, and the article’s conclusion explores them with reference to contemporary joint initiatives in the United Kingdom (U.K.) and U.S. armed forces.

THE EMERGENCE OF JOINT INSTITUTIONS

It sometimes is argued that, discouraged by the failure at Gallipoli in 1915, the British ignored amphibious warfare during the interwar period. This was not the case. The army and navy both retained an interest in amphibious operations in the 1920s and 1930s and some useful training and experimental work was undertaken, particularly at the staff colleges, which combined annually to conduct

a joint exercise. Lack of funds and lack of priority meant that the results were relatively modest, but practical exercises were conducted, doctrine was updated, and prototype landing craft were built. In accordance with long-standing practice, amphibious operations were understood to be a joint responsibility, and coordination among the services was achieved by employing joint committees and through cooperation at the staff colleges. The idea of employing the Royal Marines as a specialist amphibious force gained occasional backing within naval circles but had little support elsewhere.⁵

In 1936, a subcommittee of the Deputy Chiefs of Staff Committee was established to support interservice training, and this group (DCOS[IT]) also was given responsibility for updating doctrine, in the form of the *Manual of Combined Operations*. The new manual, completed in 1938, addressed all forms of “combined” (interservice) operations, although over half the text was devoted to topics relating to amphibious operations.⁶ DCOS(IT) also proposed the creation of what became the Inter-Service Training and Development Centre (ISTDC), established at Fort Cumberland (Portsmouth) in 1938.⁷ The ISTDC was tasked with training and development across the range of interservice operations, but amphibious considerations quickly came to dominate its work.

The ISTDC was an overtly joint organization. Prior to its establishment the naval staff college had proposed an entirely different approach, in which a training and development center would be built around a military force provided by the Royal Marines and supported by joint assets “as requisite.” The notion was that the navy and the marines would be given primary responsibility for amphibious warfare and that joint cooperation would be maintained on that basis.⁸ These ideas did not gain support from the other staff colleges or from DCOS(IT), despite the support of the deputy chief of the naval staff. The joint vision prevailed.⁹

The ISTDC had a small staff consisting of a naval commandant, one staff officer each from the army and air force, and a Royal Marines (RM) adjutant. It was instructed to study all joint operations and not to focus primarily on amphibious matters, in accordance with the prevailing view that *combined operations* encompassed any operation that the army, navy, or air force might have to conduct in cooperation with another service.¹⁰ In the event, the ISTDC ended up devoting much of its time to amphibious warfare. This reflected the sympathies of its first commandant, Captain Loben E. H. Maund, Royal Navy (RN), who was enthusiastic about amphibious operations and was able to push the center’s focus in that direction. However, his attempts to win for the ISTDC a role in planning such operations proved unsuccessful.¹¹

The ISTDC managed to do some good work before the war, particularly in supporting the design and construction of a small number of new, modern landing craft. In this respect Britain was ahead of the United States.¹² Unfortunately,

amphibious capabilities were not accorded a high priority in prewar British defense planning. Lacking any obvious requirement for amphibious operations in the war they expected to fight, the British naturally prioritized other capabilities in an environment in which both time and money were desperately short. The approach was logical, but it left Britain ill prepared to deal with the unexpected realities of war. Lack of a dedicated amphibious force available at short notice undermined the British response to the German invasion of Norway in April 1940. The absence of such a force made evacuation from Dunkirk more difficult in May–June 1940, and it forced the army to leave all its supplies and equipment on the beach. The fall of France brought a new requirement for raids to harass the enemy coast and a need to prepare for the kind of large operations that eventually might allow Allied armies to return to Europe, but Britain was not well placed to perform either role in the summer of 1940.

THE COMBINED OPERATIONS ORGANIZATION

The story of the wartime Combined Operations Organization has been told many times and will not be addressed in detail here.¹³ This new joint organization began as a tiny directorate set up within the Admiralty in June 1940, safely under the control of the navy. Within weeks, however, the prime minister intervened and appointed Sir Roger Keyes as Director of Combined Operations. Keyes, an old acquaintance of Churchill and veteran of operations at Gallipoli (1915) and Zeebrugge (1918), was a retired admiral of the fleet and had been an outspoken critic of the Admiralty's conduct of the war to date. His appointment was not popular with the Chiefs of Staff; the First Sea Lord was particularly aggrieved. One of Keyes's first steps was to relocate his command out of the Admiralty and into a separate building in Whitehall, establishing Combined Operations Headquarters (COHQ) as an independent joint headquarters—a move that further alienated the navy, which viewed the new organization with suspicion.¹⁴

Unfortunately, Keyes achieved rather little in his new role, lacking the tact, organizational skills, and intellect required for a position that naturally trespassed on ground that other, more-powerful groups considered to be their concern. He was replaced in October 1941 by the dynamic young naval officer Louis F. Mountbatten, who was promoted from captain to commodore and given the title of Adviser of Combined Operations.¹⁵

Mountbatten, like Keyes, had been chosen by Churchill rather than the Chiefs of Staff. He rapidly expanded the staff of COHQ, from twenty-three individuals under Keyes to around four hundred, drawn from all three services. He was at pains to emphasize the interservice nature of the organization, particularly to those within COHQ.¹⁶ Reportedly, he succeeded to the point where his staff “almost forgot the colour of their uniform.”¹⁷

Like Keyes, Mountbatten sought to establish COHQ as an operational command independent of the services and, like Keyes, he failed. COHQ was responsible for planning minor raids employing special-service troops (i.e., commandos) but was not responsible for the conduct of major operations, responsibility for which remained with the army, navy, and air force. COHQ's key role remained the provision of technical advice on all aspects of opposed landings, coordination of training policy, command of training institutions, study of tactical and technical developments, and research and development (R&D) into new equipment and landing craft.¹⁸

The importance of amphibious warfare within British policy was reflected in the March 1942 decision to promote Mountbatten to the acting rank of vice admiral and the honorary ranks of air marshal and lieutenant general (to reflect the joint nature of his appointment). He was given the new title of Chief of Combined Operations (CCO), and as such sat as a full member of the Chiefs of Staff Committee when major issues were discussed or when amphibious matters were on the agenda—a major elevation in status. COHQ had a representative on the Joint Planning Staff and a representative on the British Joint Services Mission in Washington. Mountbatten remained in this position until August 1943, by which time COHQ had done much to develop British proficiency in amphibious operations. Departing to take up his new position as Supreme Allied Commander Southeast Asia, he was replaced as CCO by an army officer (and former commando leader), Major General Robert E. Laycock, who remained in the post until 1947.¹⁹

From humble origins the Combined Operations Organization grew into something that began to resemble a fourth service. At the top of the organization was CCO, who sat as a full member of the Chiefs of Staff Committee when relevant issues were discussed. He presided over an independent, interservice headquarters in London, and by 1942 was responsible for administering around a dozen training and experimental establishments in the United Kingdom and for providing advice to a similar number of training centers overseas.²⁰ COHQ issued advice on a vast range of topics relating to amphibious warfare and maintained liaison with the United States to keep abreast of developments there. The arrival of nine American officers in summer 1942 made COHQ one of the first joint interallied headquarters in London. Combined Operations was also responsible for training landing craft officers and crewmembers and for administering the growing amphibious fleet. The Admiralty viewed this with concern, and in late 1942 moved to regain control of something that was beginning to resemble a rival navy.²¹

Starting from a low base, British amphibious capabilities expanded dramatically, and amphibious operations evolved from a neglected art into a war-winning instrument. In 1939, the ISTDC had reported that a shortage of landing craft meant that Britain lacked the capacity to land even a brigade with less than six

months' notice.²² By June 1944, the British were able to play the leading role in the largest and most complex amphibious operation of all time; 70 percent of the landing ships and craft employed during Operation NEPTUNE were RN vessels.²³

Small-scale raids became the business of amphibious specialists (commandos) but—as anticipated before the war—major operations were conducted largely by conventional military forces, assisted by a joint organization created for this purpose. Combined Operations played an important part in this, promoting training, development, and the identification of new techniques and new equipment. It was aided, of course, by close collaboration with the United States.²⁴ The independent organization grew out of an immediate need—in an environment in which amphibious forces were accorded a significant priority—and resources, while never sufficient, were plentiful in comparison with the 1930s. The organization enjoyed the support and sponsorship of the prime minister, as evidenced by his appointment of Keyes and promotion of Mountbatten—rather against the wishes of the Admiralty.

COMBINED OPERATIONS AND AMPHIBIOUS WARFARE AFTER 1945

The British established the principles that would govern the postwar organization for amphibious warfare in 1944, at around the same time as the Normandy landings were taking place. It is not surprising, therefore, that they remained wedded to established ideas about combined operations being a joint responsibility. Despite this, the navy continued to advocate an approach that would put it in the driver's seat. The Admiralty never had been reconciled entirely to the establishment of COHQ as an independent headquarters, nor did it maintain an easy relationship with either Keyes or Mountbatten, both of whom owed their position to Churchill, not the sponsorship of the First Sea Lord. Laycock was a less divisive character than either of his predecessors, but he often found himself facing the Admiralty as an adversary rather than an ally.²⁵

In May 1944, the First Sea Lord, Andrew B. Cunningham, advanced the notion that in the future the Royal Marines should become the main source of amphibious advice and expertise and that they should be given responsibility for the provision, training, and development of all special-assault forces. He accepted the requirement to retain an interservice aspect to combined operations but believed that in the future CCO should be an RM officer acting with a "divided responsibility."²⁶ In many respects, this was a return to the general idea the navy had advanced before the war; joint liaison would be maintained, but the Royal Marines (and therefore the navy) would take primary responsibility for amphibious warfare. An interservice committee was set up to investigate the matter, with Air Marshal Sir Norman H. Bottomley, the Deputy Chief of the Air Staff, as chairperson.²⁷

The Bottomley Committee submitted its report to the Chiefs of Staff on 29 June 1944. The report emphasized that amphibious warfare had to be accepted as a permanent commitment for the whole armed forces. This, the members argued, would require maintenance of the existing system, whereby CCO acted as the central advisory body, while the individual services remained responsible for the provision of equipment and personnel, and force commanders were responsible for actual operations. They recommended the maintenance of a permanent, central, independent, interservice combined-operations organization, because amphibious warfare, “whilst involving all three services, is the exclusive province of no one of them.”²⁸

The possibility of creating a specialist amphibious corps along the lines of the USMC was investigated but was rejected as being uneconomical and ill suited to British requirements. The committee thought primarily in terms of major operations such as the one so recently undertaken at Normandy. Under this model, a specialist corps would not fit into the framework for postassault operations, which would call for conventional military forces. Nor would the British be able to afford to maintain a specialist force of the size required to conduct operations on the scale envisaged. The report concluded that “[t]here is no escaping the conclusion that the Army itself must be ready to find the assault force required in war.”²⁹

The committee did consider the possibility of maintaining in peacetime a permanent amphibious brigade of Royal Marines, available at short notice for emergencies short of war, but, mirroring prewar assessments, it rejected the idea as being of doubtful utility. However, it was proposed that the Royal Marines should provide most of the personnel for a Special Service Group of 1,094 men, consisting of a headquarters, two commando units, and a Small Operations Group. The main role of this group was to facilitate training and to act as a nucleus for expansion in war, but it was acknowledged that it also might provide a small and highly mobile unit for imperial defense, reflecting prewar ideas about the value of a Royal Marines Striking Force.³⁰

To maintain proficiency in amphibious warfare, the committee argued for the retention of the post of CCO and of COHQ as the central advisory body. It also called for the establishment of a permanent training organization designed to keep the armed forces as a whole competent in the practice of amphibious warfare, and for the maintenance of a Naval Assault Force. The latter (consisting of sixty-four ships, 135 major craft, and 256 minor craft) would support training and act as the nucleus about which to expand in any future war. A portion of the force would need to be kept available permanently, but the majority would be manned only during the annual training season.³¹

Admiral Cunningham was not happy with these conclusions. He considered the Naval Assault Force to be too large, arguing that establishing a force of such

size would prejudice the maintenance of the postwar fleet. More fundamentally, the committee had rejected his proposal to make amphibious warfare the particular responsibility of the Royal Marines, thereby leaving responsibility in the hands of an independent interservice organization not subject to Admiralty control. In response, he revived proposals made in 1943 to replace COHQ with an interservice committee along the lines of the Joint Planning Staff.³²

Cunningham was opposed on this point by the other chiefs and CCO. The “Report by Committee on Inter-service Responsibility for Amphibious Warfare” was approved by the Chiefs of Staff Committee on 29 July 1944.³³ The armed forces thus agreed to maintain after the war an independent joint organization with responsibility for amphibious warfare; to set up institutions able to train joint forces and to promote R&D; and, in principle, on the need to establish a Naval Assault Force.

These plans did not long survive postwar austerity. The divisional-size lift envisaged for the Naval Assault Force soon was downgraded to brigade group-size lift, and even then the Admiralty complained that it could not resource this without denuding the regular fleet of personnel. The Admiralty preferred something more modest: at most, sufficient lift for a commando brigade, smaller than its army equivalent and with fewer vehicles and supporting arms.³⁴ It argued with CCO and the army over the requirement, but the debate was largely academic. Whatever the headline policy, only a handful of vessels was maintained in commission after the war, making large-scale or widespread training impossible. The requirement eventually was reduced to the maintenance of sufficient lift for a battalion group, and this finally was achieved in 1951 with the establishment at Malta of the Amphibious Warfare Squadron (AWS).³⁵

The failure to maintain a large training fleet undermined the aspiration to keep the army as a whole conversant with amphibious operations. Similarly, ambitious plans to maintain a major training establishment also failed. The large wartime training centers were closed and were not replaced. In the event, only a small Combined Operations School and a Combined Operations Signals School were retained to develop and teach the techniques of amphibious warfare, supported by the Combined Operations Experimental Establishment, which undertook R&D work. For reasons of efficiency and cost, these were brought together—in 1949, at Fremington in North Devon—to form the Combined Operations Centre (from 1951 known as the Amphibious Warfare Centre). The center did some useful work, despite Tompkins’s criticism that its approach confined amphibious warfare to an academic niche from which it was “removed annually, for a few days at a time, to satisfy a requirement in a staff college syllabus.”³⁶ The center at least did maintain a fruitful relationship with the USMC, hence Tompkins’s spell in North Devon.

Army interest in amphibious warfare was reflected in Exercise SPEARHEAD, a major joint exercise conducted at the Staff College at Camberley in May 1947. In addition, during the postwar years the army provided COHQ and CCO with much-needed support in the Chiefs of Staff Committee, frustrating numerous attempts by the Admiralty to downgrade or abolish the organization. In some respects, it was easy for the army to support COHQ—it cost it little to do so. However, the army's interest did not extend to maintaining the army commando units that were raised during the war, nor did it translate into regular or systematic training for army formations. Joint amphibious exercises did occur, but tended to be small-scale and rather ad hoc, much as they had been before the war.³⁷

The Royal Marines retained three battalion-size commandos, organized into 3 Commando Brigade, and these undertook commando training at the Commando School, Royal Marines (based first at Towyn, then Bickleigh, later Lympstone). In 1948, the Amphibious School, Royal Marines was set up to train landing-craft crewmembers, and the school also absorbed several joint combined-operations units that were too small to administer themselves.³⁸

Apart from a small number of combined-operations specialists, the Royal Marines were the only British troops to receive anything like regular amphibious training, although even they were unable to focus on this role as much as they might have wished. Commando units often were employed ashore in imperial policing or counterinsurgency duties, reducing their availability to perform their amphibious role. When the British agreed to send a commando unit to Korea to assist the United Nations in 1950, they had to raise a new unit, 41 (Independent) Commando, from volunteers and from a draft of reinforcements that had been due to be sent to Malaya, where 3 Commando Brigade was being employed ashore to chase Communist insurgents. The marines of 41 Commando undertook a number of successful raids behind North Korean lines and participated in the epic action with U.S. Marines around the Chosin Reservoir and in the retreat to Hungnam, earning a Presidential Unit Citation in the process. That they did so with American equipment; carrying American weapons; and landed from American ships, craft, and submarines may say something about the state of British preparedness for amphibious operations in 1950.³⁹

Lack of priority was particularly apparent with reference to the amphibious fleet. Despite the return to the United States of Lend-Lease vessels and the scrapping of hundreds of worn-out craft, the British still had many amphibious ships and craft available at the end of the war. However, shortage of finance and manpower made the navy reluctant to keep many of these in commission, and most quietly rotted away in low-priority reserve. Vessels built to wartime standards and designed to meet wartime contingencies were beginning to show their design limitations by the 1950s, and many were becoming rather dilapidated.

COHQ pressed for new construction to replace these, and also for new ships to fill the gaps that existed within the fleet (particularly with respect to fire-support and infantry-assault vessels).⁴⁰ The Admiralty successfully resisted such pressure and, with the exception of a handful of minor craft, no new amphibious ships or craft were built before the 1960s.⁴¹

The key problem was that, while lip service was given to the notion that amphibious warfare was important, it was not as important as other, more-pressing concerns. The army was keen to retain expertise in amphibious operations, but the cost of doing this fell largely on the navy. The admirals had other things to worry about and preferred to prioritize more-traditional sea-control tasks. CCO could advance the cause of amphibious warfare in the Chiefs of Staff Committee, and did so, but he was not well placed to force any of the services to devote scarce resources to the matter. The prevailing concept remained for amphibious operations on a similar model to Normandy in 1944. It was clear that such operations could not occur in the early stages of any war against the Soviet Union, when once again survival might be the major issue. If they were required only in the later stages, then the immediate need was for developmental work to keep techniques up to date and for a small cadre to provide a basis on which to expand after mobilization. Raiding might be needed in the early stages of war, although even here lack of priority meant that equipment, training, and personnel were recognized to be inadequate to meet planned requirements.⁴²

In some respects, the overall approach was logical enough, given the type of war that Britain expected to fight. Once again, however, the British armed forces neglected to recognize the potential for amphibious forces to provide the ability to deal with the unexpected. Failure to maintain in peacetime a credible amphibious force made it harder for Britain to respond effectively to several crises beyond Europe, as was evident in the case of Korea. A shortage of appropriate ships available at short notice undermined British planning during the Abadan crisis in 1951.⁴³ It complicated planning for reinforcement of the Suez Canal zone in the event of major trouble in the early 1950s. And, most seriously, it badly undermined the British response to Egyptian nationalization of the Suez Canal in July 1956.⁴⁴ Humiliation at Suez helped to illustrate the shortcomings in Britain's amphibious capability, notwithstanding the innovative use of helicopters to land marines on the beach at Port Said in November.

The navy's attitude to the independent Combined Operations Organization always had been, at best, ambivalent. Its leaders did not appreciate being harassed and held to account by CCO on matters relating to amphibious warfare when they lacked sufficient resources to support roles to which they accorded a much higher priority. In the period between 1944 and 1954, the Admiralty made repeated attempts to undermine COHQ's independence, reduce its staff, or have

it abolished entirely. The Chiefs of Staff discussed the matter numerous times. Army support for Combined Operations prevented the Admiralty from getting its way but could not stop a steady reduction in staff and resources; by 1949, there were just thirteen officers based at COHQ, and additional cuts followed.⁴⁵ The navy's preferred approach was to amalgamate the post of CCO with that of the Commandant General, Royal Marines (CGRM), but the prevailing concept of amphibious operations as a joint responsibility within the context of major war scenarios conspired to frustrate these plans.⁴⁶

This all began to change in the 1950s as British military planning began to reflect the implications of the emerging nuclear stalemate. There was growing appreciation that a major war in Europe was now unlikely and, if it did occur, probably would be characterized by an early and devastating nuclear exchange. In such circumstances, the need for sustained, large-scale, conventional military operations appeared doubtful. This posed challenges for all the services, but especially the Royal Navy, whose primary role—sea control in a major European war—began to lose credibility. The wider availability of nuclear weapons certainly posed problems for a concept of amphibious operations rooted in the Normandy model. On the other hand, there was a growing understanding that there was an increased likelihood of crises and conflicts beyond Europe, and the navy began to explore the potential to use flexible maritime forces as a means of responding to these.⁴⁷

In July 1954, the Chiefs of Staff endorsed the conclusions of a joint working party chaired by the Vice Chief of the Naval Staff. The joint working party argued that the advent of the hydrogen bomb meant that the requirement for amphibious operations in a major conflict now was limited to small-scale raids; operations on a larger scale would have to be sponsored by the United States. Given this, the requirement for training in peacetime could be limited to staff-level studies, with exercises up to the strength of a reinforced battalion group. There was no longer a requirement to keep the armed forces as a whole conversant with the principles of amphibious operations. Now, for the first time, such operations could become the primary responsibility of one group. The working party argued that the interservice nature of the amphibious warfare organization should be retained, but it concluded that the time was right for the Royal Marines to play the “predominant part.” The members also recommended that the Amphibious Warfare Centre should move from Fremington to amalgamate with the Amphibious School, Royal Marines at Poole. The Chiefs of Staff endorsed this move and the conclusion that the Royal Marines should become the “parent body” for amphibious warfare. It was accepted that there was “no requirement for the Army as a whole to be trained in amphibious warfare.”⁴⁸ As a result, Amphibious Warfare Headquarters (AWHQ), as COHQ had been renamed in 1951, continued

to represent amphibious needs in Whitehall (with a reduced staff), and a Joint Services Amphibious Warfare Centre (JSAWC) was created at Poole with the amalgamation of the Amphibious Warfare Centre and the Amphibious School, Royal Marines.⁴⁹ Amphibious warfare remained a joint responsibility, but for the first time the navy was in the driver's seat.

Ten years earlier this might have caused a problem; the Admiralty had been less than enthusiastic about amphibious operations. But by the mid-1950s things were beginning to change. In a context in which major war in Europe appeared unlikely, and any such war was expected to “go nuclear” in its early stages, the navy's focus on sea control in a third Battle of the Atlantic began to look less than credible; the service was preparing for the wrong war. As a result, the navy underwent a radical change in approach. Even before the 1956 Suez crisis, the Admiralty had begun to think about the provision of flexible options for limited war and crisis management beyond Europe, and the failure of Operation MUSKETEER reinforced the need for change. Within this context, amphibious forces gained a new relevance within a broader expeditionary approach.

A DIFFERENT TYPE OF JOINTERY

From the late 1950s, the Admiralty embraced amphibious forces as a key element within an expeditionary approach designed to provide Britain with flexible options for crisis management and limited-war contingencies beyond Europe. The inherent mobility of amphibious forces had the advantage of reducing reliance on a diminishing number of overseas bases and of providing access without the need to negotiate overflight or basing rights. The utility of this was demonstrated on numerous occasions, notably including the interventions in Kuwait (1961) and East Africa (1964). The role also gave the navy a means of justifying retention of a large, balanced fleet and could be mobilized to support the case for the next generation of large aircraft carriers. Thus—for the first time since the Second World War—amphibious warfare became a major priority for the navy, in support of an expeditionary strategy requiring balanced forces.⁵⁰

To support its new expeditionary approach, the navy replaced the aging AWS with two new assault ships (LPDs), commissioned in 1965 and 1967, and converted two light aircraft carriers into landing platform helicopter (LPH)-style “commando carriers” in 1960 and 1962. Six new logistic landing ships (LSLs) were built to carry follow-on forces and provide logistic lift for the army in peacetime. Operated initially by the British India Steam Navigation Company on behalf of the Ministry of Transport, the LSLs transferred to the Royal Fleet Auxiliary in 1970. This new capability was designed to carry, land, and sustain in combat a balanced army brigade group; it was not intended only for marines. The commandos could provide a very useful light “fire brigade” designed to deal quickly

with minor conflagrations, but British policy was built on the idea that larger and more heavily equipped forces might be required in some circumstances. Thus, the LPDs and LSLs were designed specifically to carry and land the full range of army equipment, including tanks. They were to be part of a joint capability that the navy dubbed the Joint Services Seaborne Force.⁵¹

Nonetheless, this was all good for the Royal Marines. The Commando Brigade expanded from three to five active battalion-size commandos. (Plans to raise a sixth were dropped quietly owing to fear of opposition from the army.)⁵² From 1962 the commandos were reinforced with 105 mm pack howitzers, provided by the Royal Artillery, further enhancing the offensive potential of the commando / commando carrier combination and reflecting the evolution toward an expeditionary role, as distinct from their previous rationale of wartime raiding.⁵³ It should be stressed that, despite these additions, 3 Commando Brigade was an RM unit with joint elements attached—it remained firmly within the naval service. The Admiralty rejected suggestions that the army routinely should contribute infantry battalions to the Commando Brigade, and that command of the brigade should rotate between the army and the marines, accurately surmising that these reflected gambits designed to protect army regiments from cuts rather than any serious or sustained interest in amphibious operations. It was not difficult to show that rotating line battalions through the brigade was a poor substitute for the employment of well-trained amphibious specialists, although this did not stop army battalions from working with the brigade, as they did during the 1982 Falklands War.⁵⁴

The 1958 edition of the *Naval War Manual* noted only two forms of amphibious operations, *raids* and *invasions*, and both within a major war context.⁵⁵ But by the time the edition was published, it already was apparent that Britain required a new concept of operations, one that focused less on tip-and-run raids or ponderous, large-scale assaults against defended beaches, but instead promoted enhanced range and mobility and greater responsiveness within a limited war context. The matter was explored in detail by AWHQ and by the Land/Air Warfare Committee, the two bodies responsible for amphibious and for airborne techniques. This led to the development of the “seaborne/airborne concept,” which was studied and refined in collaboration between these two organizations and the Staff Training Unit at the JSAWC and the School of Land/Air Warfare at Old Sarum (Wiltshire). The concept sought to exploit the complementary strengths of seaborne and airborne forces to enable a rapid and flexible approach to expeditionary operations overseas, with the idea that a light but adaptable force immediately available might be more effective than larger forces requiring a longer timescale. It represented a major departure from the traditional (1940s-style) amphibious operations envisaged to that point. Amphibious forces now

were to be viewed as being part of a single team that also included airborne and air-transported elements.⁵⁶

Under this new concept, seaborne and airborne forces were to cooperate in a seamless manner. Given this, it made little sense to divide responsibility for developing the concept between separate amphibious and land/air organizations; a new institutional structure was needed. A new Joint Warfare Committee (JWC) was established in January 1962, replacing both AWHQ and the Land/Air Warfare Committee. It reflected the latter more than the former, as it was not an independent headquarters but rather an interservice committee responsible to the services via the chiefs. The JWC met ten times in its first year, chaired by the Deputy Chief of the Defence Staff, with individual representatives from each service and the Director of the Joint Warfare Staff (see below).⁵⁷ Additional members were co-opted as required.⁵⁸

The JWC had three subcommittees, dealing with offensive support, air-transport support, and amphibious warfare. The first two reflected the focus of the two main wings of the old School of Land/Air Warfare.⁵⁹ The Amphibious Warfare Sub-Committee was responsible for providing advice and recommendations on policy, techniques, tactical developments, and training for amphibious operations. It also was to advise on the collection of intelligence required for amphibious operations and to ensure standardization and compatibility of equipment. Its remit was narrower than that of AWHQ, and responsibility for matters such as amphibious equipment and logistics was given to the services; for practical reasons, this fell largely on the navy.⁶⁰

The JWC was supported by a small interservice secretariat, known as the Joint Warfare Staff (JWS). This consisted of a two-star director, a one-star deputy, and ten other officers drawn from the three services. The first director was Major General Robert D. "Titch" Houghton, RM, who had been the last Chief of Amphibious Warfare (the Chief of Combined Operations had adopted this new title in 1951). His new role lacked the direct access to the Chiefs of Staff that had been a feature of his previous post. Instead he was to submit an annual report to the JWC, which would forward it to the chiefs for consideration. The JWS inherited AWHQ's location and its staff and adopted the old Combined Operations badge; it was, however, a very different type of organization. It had a much broader remit than had AWHQ, having also to address wider issues relating to joint warfare.⁶¹ The inevitable result was that it could devote less time to consideration of amphibious warfare than had the previous organization.

An important role for the JWS and JWC was the production of doctrine, in the form of a *Manual of Joint Warfare*, building on the principles outlined in the seaborne/airborne concept. The first edition was issued in February 1964. It focused on all aspects of nonnuclear joint warfare beyond Europe. The topic

of amphibious operations was addressed in volume 4 of the manual, which emphasized that such operations were essentially joint in nature. The manual was revised three times in the 1960s, with updated versions released in 1965, 1967, and 1970. By the time the last version was issued it no longer focused on non-nuclear options beyond Europe but instead covered all aspects of joint warfare. It reflected the growing reemphasis within British defense policy on war fighting within the NATO region.⁶²

In addition to the above, the Staff Training Unit of the JSAWC and the School of Land/Air Warfare were brought together to create a new Joint Warfare Establishment (JWE) at Old Sarum. This was responsible for formulating and teaching the tactical doctrine, procedures, and techniques required for joint warfare. The Royal Marines retained an Amphibious Training Unit and a Trials Section at Poole, where they continued to undertake amphibious training—a task more readily conducted there than at the JWE, which was situated thirty miles inland. The Chief of the Air Staff wanted the JWE always to have a Royal Air Force (RAF) officer as director, clearly believing that airpower issues predominated. However, neither the army nor the navy supported him in this matter, and the directorship rotated among the services.⁶³

The JWE concentrated initially on training and the development of doctrine designed to support the type of expeditionary operations envisaged in the sea-borne/airborne concept. However, it later expanded its scope to all forms of joint warfare, particularly as, by the early 1970s, British defense policy once again was focused heavily on the NATO region and the conduct of expeditionary operations began to be regarded as an unlikely requirement. The bread and butter of the JWE was a two-week Joint Warfare Course that focused on the conduct of conventional joint operations.⁶⁴ The JWE ran a number of other courses, including an Amphibious Warfare Planning Course, but amphibious operations were never its primary focus.

Christian Liles has emphasized that these new structures reflected the long-established British preference for a joint approach to amphibious operations. He argues that attitudes toward amphibious warfare reflected those that had existed in the 1930s, when the approach had focused on combined operations more generally, not solely on amphibious warfare. Thus, he notes, the remit of the ISTDC was similar to that of the new JWE, with its focus on air, land, and maritime cooperation. The new *Manual of Joint Warfare* covered much more than just amphibious warfare, as had the 1938 *Manual of Combined Operations*.⁶⁵

It is true that the British continued to identify amphibious operations as being a joint responsibility. There was no suggestion that amphibious operations were the sole preserve of the navy and the marines. This was evident in the institutional structure described above and in the new *Manual of Joint Warfare*. It was reflected

in the design of the new amphibious ships constructed during the 1960s, which were built to accommodate a balanced military force, including the full range of army equipment. The Commando Brigade—the unit most likely to be at the forefront of any amphibious operation—had joint forces attached. The joint approach also was apparent in the Admiralty’s vision for expeditionary operations in the early 1960s, the aptly named Joint Services Seaborne Force. However, the decision to make the naval service the “parent arm” for amphibious warfare represented an important change in policy and practice, with broadly positive consequences.

It became apparent to the Admiralty that the new joint institutions were neither staffed nor organized to do the work that AWHQ had done formerly, and that therefore, “in the absence of a joint organisation,” additional responsibilities relating to policy and development now would fall on the Admiralty itself.⁶⁶ The Director of Tactical and Weapons Policy, restyled the Director of Naval and Tactical Weapons Policy from 1965, became responsible for amphibious warfare and for the coordination of joint-warfare matters, and he sought additional staff to help carry the weight. He was advised by the CGRM on the military aspects of amphibious warfare and on all matters pertaining to the Royal Marines.⁶⁷

In a practical sense, amphibious training and development centered on the navy’s amphibious ships and the Royal Marine commandos. In 1965, the AWS changed its base from Bahrain to Singapore, prompting the Commander-in-Chief, Far East Fleet to request that a commodore be appointed to command these ships, promote amphibious training and development, and work with the commander of 3 Commando Brigade. This resulted in the appointment of Hardress “Harpy” Lloyd as Commodore Amphibious Forces, Far East Fleet in May 1965.⁶⁸ The post was relocated to the United Kingdom in 1971, with the Commodore Amphibious Warfare (COMAW) now responsible to the two-star Flag Officer, Carriers and Amphibious Ships.⁶⁹ In the years ahead, COMAW and his staff would represent the main repository of expertise in amphibious operations within the Royal Navy. The only military force to undertake regular training and exercises in such operations, and to work closely with COMAW, was 3 Commando Brigade. The institutional structure and latest doctrine may have stressed the joint nature of amphibious operations, but in most practical senses expertise in amphibious warfare was limited to those wearing dark blue uniforms and those in green berets.⁷⁰

The reorganization of the early 1960s was initiated at a time when expeditionary operations were emphasized within British defense policy and when there was interest in enhancing joint cooperation within the Ministry of Defence. This was evident in the reform of that ministry in 1964 and the adoption of unified (joint) commands in the Middle East (1959), Near East (1961), and Far East (1962).⁷¹ By the end of the decade, things had begun to change. The refocus on

Europe that accompanied the British withdrawal from “East of Suez” was characterized by growing doubts about the need for expeditionary capabilities and by the services retreating toward what were seen as core roles. Those roles tended to revolve around single-service priorities. As Admiral Sir Jonathon Band recalled, “The 1970s heralded the start of a bleak period for jointery.”⁷² The unified commands were abandoned and command and control was subsumed within NATO structures. The JWE was disbanded in 1979 and incorporated (with reduced staff) into the National Defence College at Latimer, as the new Joint Warfare Wing. Two years later it was decided to close this wing entirely—a decision reversed only after the Falklands War demonstrated the value of joint operations.⁷³

The change in policy meant that amphibious forces were confined, once again, to the periphery of British defense interest. In the 1970s, the Commando Brigade contracted back to three commando units, and the two commando carriers were decommissioned without replacement. In 1975, replacements for the LPDs were removed from the Ministry of Defence Long Term Costings, and by 1981 existing ships appeared under threat within the context of a defense review that sought to force the navy to focus ever more narrowly on sea control in the eastern Atlantic.⁷⁴ Perhaps typically, Major General Julian H. A. Thompson, RM, recalled that as a student at the joint Royal College of Defence Studies (1979–80) he submitted a paper on expeditionary warfare that was sent to the Ministry of Defence for comment. It was returned with the suggestion that he had wasted his time; such operations never would happen again.⁷⁵ Two years later, Thompson commanded 3 Commando Brigade during the Falklands War, in a campaign that included a brigade-level amphibious landing at San Carlos. Success there rested on the aging remains of the 1960s amphibious force and on the expertise possessed by the Royal Marines and by COMAW (Commodore Michael C. “Mike” Clapp) and his staff. This expertise was not evident in other elements of the joint force.⁷⁶

The Falklands War did not lead to an immediate change in overall British defense policy. Joint warfare and expeditionary operations did not regain their prominence in British defense planning until the end of the Cold War brought yet another reversal of defense priorities. The ensuing decade brought the rejuvenation of Britain’s aging amphibious fleet, and the navy once again emphasized the value of amphibious forces and aircraft carriers as a means of projecting power overseas. Joint warfare emerged from the shadows to become a key issue. The result was the formation of a joint operational command, joint logistics organization, joint doctrine and concepts center, and joint staff college to replace the single-service alternatives.⁷⁷ Amphibious warfare remained a joint concern and involved joint forces, but the Royal Navy and Royal Marines were clearly the parent arms. This was reflected in the confidential 1997 publication *The United Kingdom Approach to Amphibious Operations*, produced in collaboration between

the Headquarters Royal Marines and the Royal Navy's Maritime Warfare Centre.⁷⁸ The latter was responsible for delivering a short Amphibious Planning Course, once the responsibility of the JWE.⁷⁹ The only course at the new joint staff college that focused explicitly on amphibious operations, the Advanced Amphibious Warfare Course, was provided for Royal Marines officers.⁸⁰ Operational responsibility for amphibious forces was vested in Commander, Amphibious Task Group (a naval officer) and Commander, U.K. Amphibious Forces (a Royal Marine).

SUMMARY TO THE 1960s

Throughout the period covered by this article, the British viewed amphibious operations as an activity involving joint forces. However, what this meant in practice changed over time.

Immediately before the war, amphibious operations were considered within a concept of combined operations that encompassed all forms of interservice activity. Naval attempts to gain prime responsibility for amphibious warfare were not successful.

The events of 1940 gave amphibious operations a new priority, as complex, large-scale operations became a necessary precursor to eventual victory. To equip themselves for this unexpected task, the British created a new, thoroughly joint organization that developed a thoroughly joint approach. Amphibious operations were the business of all three services, and major operations were conducted by conventional forces, not a dedicated amphibious corps. Training and the development of equipment and doctrine were in the hands of an independent joint organization, which also administered a number of combined-operations units required for training, minor raids, or specialist tasks within major operations.

This model was retained at the end of the war, in the belief that the armed forces as a whole had to be able to undertake amphibious operations and that this was the best way to prepare to do so. Once again, attempts by the navy to take primary responsibility (via the Royal Marines) were rejected. However, while the joint model had worked well during the war—when amphibious warfare was a high-priority task and COHQ enjoyed the patronage of the prime minister—it was less successful after 1945. In the face of postwar austerity and ambivalence on the part of the navy, British capabilities atrophied. COHQ could study, teach, advise, and pressure, but it could not force the navy, or indeed the army and the air force, to devote scarce resources to something they did not consider a priority. Moreover, the very existence of this independent organization appeared to aggravate admirals, who did not appreciate being harassed by a junior partner over something they felt should be the business of the navy.

That situation did not change until the navy found a role for amphibious forces within an expeditionary strategy that could be used to justify the maintenance

of a balanced fleet. This was associated with the change in the accepted model for amphibious operations and an acceptance that, while amphibious operations would retain a joint element, the Royal Marines and the Royal Navy would play the predominant part. Fortuitously, this put the navy in control at the same time it discovered a new self-interest in developing this role. A joint-service element was retained, but amphibious warfare became what the admirals had argued consistently it should be: the primary concern of the navy and the marines, supported by joint forces as required.

It is important to note that the joint institutions created in the 1960s were very different from those that had gone before. In his semiofficial history of the Combined Operations Organization, Brigadier Bernard E. Fergusson, British army (Ret.), explained the difference as follows: “There is all the difference in the world between an inter-service meeting, however amiable and co-operative, from which all hands afterward return to their respective bases; and a combined [i.e., joint] headquarters, where all hands live together, use the same washbasins, and owe allegiance to a single chief.”⁸¹ The approach from 1940 forward was for a joint organization independent of the army, navy, and air force. In theory at least, those involved forgot the color of their uniforms and reflected the interests of “combined operations” above those of their parent services. All involved pulled in the same direction, under the authority of the Chief of Combined Operations. As Fergusson put it, “You cannot paddle your own canoe when you are all in the same boat.”⁸² It was a highly evolved form of jointery.

In the 1960s, this changed to an approach based on joint cooperation and collaboration, enabled by a joint committee, secretariat, and training establishment. The new structure, founded on consensus among service representatives, put control back in the hands of the army, navy, and air force. Members of the JWC were representatives of their own services; they were no longer in the same boat, and they paddled their own canoes. This was a less-evolved form of jointery, but it produced better results. The joint institutions promoted thinking about joint warfare and included within their remit the development and promulgation of doctrine for amphibious operations. By design, they devoted less time and attention specifically to this subject than had AWHQ. This did not matter, as the navy (and marines) had picked up the baton. From the mid-1950s onward, amphibious warfare was predominantly a naval-service responsibility, and the naval service—unlike AWHQ—had the power to turn interest into action.

MORE-RECENT APPLICATIONS

The historical case study illustrates the difficulty faced by a joint organization tasked with maintaining proficiency in a role to which the main provider (in this case, the navy) does not accord a high priority. It is not difficult to find other

examples of the same dynamic in action. Within the British context, the fate of fixed-wing naval aviation within Joint Force Harrier (JFH) offers a cautionary tale.

JFH (known initially as Joint Force 2000) was established in April 2000. It brought together the navy's Sea Harrier FA2 and the RAF's Harrier GR7/GR9 squadrons within a new joint structure, ultimately under the control of RAF Strike Command. The approach was designed to create synergies and savings in a situation in which both aircraft types operated from the navy's three *Invincible*-class aircraft carriers, the FA2s in an air-defense role and the GR7/GR9s for ground attack.⁸³ This case is not entirely analogous to the experience of the post-1945 amphibious forces, as the structures were different, but the history of JFH reveals the same central dynamic, in which joint approaches could not overcome the entrenched and self-interested attitudes of a dominant service.

Within just two years of the establishment of JFH a decision was taken to retire the navy's Sea Harriers to prioritize limited resources toward the RAF Harriers, which were considered more valuable for the operations then envisaged. The decision appears to have been taken against the wishes of the navy, whose carriers (and thus the fleet) were left without a fixed-wing air-defense capability. The decision was supported actively by the RAF and by the Deputy Chief of the Defence Staff (Equipment), Air Vice-Marshal Sir Graham E. "Jock" Stirrup, who, unusually for an airman, seemed confident in the ability of the navy's surface-to-air missiles to provide an appropriate alternative to fighter cover.⁸⁴ Later, as (joint) Chief of the Defence Staff, Stirrup also seems to have been instrumental in a decision during the 2010 Strategic Defence and Security Review to retire the entire remaining Harrier force earlier than planned.⁸⁵ Here the Harriers were offered up as a cost-cutting sacrifice required to keep the RAF's fleet of aging land-based Tornado bombers in service for a few more years. The decision appears to have been taken against naval advice and at the last minute, upon the personal intervention of Stirrup—who seems not to have forgotten the color of his uniform. It left the navy with no fixed-wing aircraft able to fly from its carriers, contributing to the early retirement of those vessels.⁸⁶

RAF reluctance to divert scarce resources to naval aviation reflected a long-standing preference for land-based, fast jets over anything that operates from the sea. The RAF desire to focus on established core roles, to the detriment of joint capabilities, may mirror the reluctance of the postwar Admiralty to divert resources to amphibious forces in the years after 1945; both organizations felt they should focus on other things, ones that reflected core service roles. It is not clear that any type of joint institution could have changed this; the key requirement would have been a parent organization able to recognize the importance of the joint capability.

The British currently are regenerating their fixed-wing carrier capability after an interregnum of almost ten years, with RAF and RN F-35B Lightning IIs

operating from the two new *Queen Elizabeth*-class ships. The aircraft fall under the control of a new joint organization, Lightning Force Headquarters, based at RAF Marham, commanded by an RAF officer and under the control of RAF No. 1 Group (the successor to Strike Command).⁸⁷ This appears to be jointery with one service in the ascendant. The analysis above suggests that this could be a positive thing, provided the RAF recognizes the importance of this role and identifies a self-interest in supporting it (as the Admiralty did with amphibious operations in the late 1950s). Ongoing debates over whether Britain will supplement the initial buy of forty-eight F-35Bs with more of the same or, as many in the RAF prefer, with F-35As unable to operate from British carriers may reveal the extent to which joint imperatives can prevail.⁸⁸ The history of RAF antipathy toward carrier-based aviation does not promote optimism.

The contemporary U.S. armed forces have not adopted jointery to the same degree as their British counterparts, although numerous joint initiatives have been pursued since passage of the Goldwater-Nichols Act in 1986. The functional component commands (Cyber, Special Operations, Transportation, and Strategic Commands) provide an interesting example, as they came about because of the need to coordinate joint elements and a fear that the parent services otherwise would not devote enough attention to these areas. The similarity to COHQ is obvious; however, differences also are apparent, most notably in terms of resources, power, and status. The component commands are led by four-star officers—equal in rank to the service chiefs. They have sizable budgets and access to Congress. They more closely resemble the wartime COHQ at the height of its influence under Mountbatten than the neglected, truncated organization in existence after 1945.

Despite this, periodic conflict between these commands and the parent services is inevitable. Thus, for example, note the differences between U.S. Transportation Command (TRANSCOM) and the U.S. Air Force over planned reductions to the latter's tanker fleet, with the commander of TRANSCOM (General Stephen R. Lyons, USA) arguing against the Air Force position in front of the Senate Armed Services Committee in early 2020.⁸⁹ The established dynamic of a service seeking to reduce emphasis on a joint capability so as to prioritize something else is evident once again. Important differences here, compared with COHQ, are that TRANSCOM is in a stronger position institutionally to advance its case, and also, critically, that TRANSCOM provides a service that is recognized widely as important.⁹⁰ Within this context, the joint approach has some chance of success and may provide an important coordinating function akin to that of COHQ during the war.

This article has argued that joint imperatives prosper when they have the support of a powerful patron, or when key furnishers of support and material recognize the value of the service they provide and are willing to make sacrifices

to maintain them. The most effective way to encourage this has been to link the needs of the joint organization to the self-interest of the services.

The experience of COHQ shows that structures that work well in one context (during a major war) may prove less advantageous once conditions and priorities change (after the war). In the latter case, the situation for Combined Operations might not have been so bad had it enjoyed the support and protection of a powerful Ministry of Defence, but the weakness of Britain's central organization for defense at that time, allied to severe resource constraints, militated against this.

With regard to responsibility for amphibious warfare, the analysis above appears to validate Lieutenant Colonel Tompkins's assessment from the 1940s. Amphibious capabilities were served best by a structure in which they became the responsibility primarily of one service, and when that service recognized the value in maintaining such capabilities. The American experience in this field, both past and present, appears to reinforce that conclusion. In the United States, proficiency in amphibious operations has been supported by the existence of a powerful parent organization with a strong institutional imperative to focus on such operations. The U.S. Marine Corps and U.S. Navy have an impressive track record in this respect—a case too well established to require further elaboration here.⁹¹

NOTES

1. Prior to the Second World War the British used the term *combined operations* to refer to what are now known as *joint operations*—that is, those involving more than one service (army, navy, or air force). During the war the term became synonymous with amphibious operations, and that was reflected in the remit of the wartime Combined Operations Organization. The British did not adopt the term *amphibious operations* officially until February 1951, whereupon they renamed all relevant institutions, posts, doctrinal manuals, etc. For ease of reference, this article will employ the term *amphibious* throughout, except when referring to specific institutions or appointments prior to 1951.
2. Tompkins would be remembered later for his role in command of the 3rd Marine Division during the battle of Khe Sanh in Vietnam in 1968, for which he was awarded the Navy Distinguished Service Medal.
3. Rathvon M. Tompkins [Lt. Col., USMC], "British Combined Operations," *Marine Corps Gazette* (December 1948), pp. 10–21.
4. For different perspectives on this, see Ian Speller, *The Role of Amphibious Warfare in British Defence Policy, 1945–1956* (Basingstoke, U.K.: Palgrave Macmillan, 2001), and Christian F. M. Liles, "The Development of Amphibious/Expeditionary Warfare in the United States and United Kingdom, 1945–68: A Study in Comparison, Contrast and Compromise" (PhD thesis, King's College London, 2010).
5. David R. Massam, "British Maritime Strategy and Amphibious Capability, 1900–1940" (DPhil thesis, Oxford Univ., 1996); Richard Harding, "Learning from the War: The Development of British Amphibious Capability, 1919–29," *Mariner's Mirror* 86, no. 2 (May 2000), pp. 173–85; Richard Harding, "Amphibious Warfare, 1930–1939," in *The Royal Navy 1930–2000: Innovation and Defence*, ed. Richard Harding (London: Frank Cass, 2005). Also see Kenneth J. Clifford, *Amphibious Warfare Development in Britain and America from 1920–1940* (Laurens, NY: Edgewood, 1983).

6. The text of the original manual was 238 pages long, plus appendices. Of these, 128 pages related to landing craft, seaborne expeditions, or landing operations. War Office, *Manual of Combined Operations*, 1938, 1939, Admiralty: Navy Board: Publications: box ADM 186/117, United Kingdom National Archives, Kew, London [hereafter UKNA].
7. Speller, *The Role of Amphibious Warfare*, chap. 1.
8. Massam, "British Maritime Strategy and Amphibious Capability," pp. 141–42.
9. *Ibid.*, pp. 139–55, 245–60.
10. War Office, *Manual of Combined Operations*, 1938, p. xiii.
11. L. E. H. Maund [Rear Adm., RN (Ret.)], *Assault from the Sea* (London: Methuen, 1949), esp. chaps. 1–3; Massam, "British Maritime Strategy and Amphibious Capability," pp. 147–51.
12. See Speller, *The Role of Amphibious Warfare*, chap. 1.
13. For example, see Bernard Fergusson, *Watery Maze: The Story of Combined Operations* (London: Collins, 1961), and Speller, *The Role of Amphibious Warfare*, chap. 1. For the "confidential" official history produced in the 1950s, see Defence Ministry, *History of the Combined Operations Organisation 1940–1945* (London: Amphibious Warfare Headquarters, 1956), available at Defence Ministry: Military Operations: Amphibious Warfare Headquarters: Miscellaneous Papers: box DEFE 2/1773, UKNA.
14. Phillip Ziegler, *Mountbatten: The Official Biography* (London: Collins, 1985), p. 154.
15. "Directive on the Role of Adviser of Combined Operations," COS (41) 629, 17 October 1941, Cabinet Office: Cabinet Committees: War Cabinet: Memoranda: box CAB 80/31, UKNA.
16. Defence Ministry, *History of the Combined Operations Organisation*, p. 18.
17. Joseph C. Haydon [Brigadier, British army], quoted in Fergusson, *Watery Maze*, p. 412. Haydon was Vice Chief of Combined Operations, 1942–43.
18. Defence Ministry, *History of the Combined Operations Organisation*. Also see Ziegler, *Mountbatten*, chaps. 11–12.
19. Laycock then was replaced by a Royal Marine, Maj. Gen. Godfrey E. Wildman-Lushington. All subsequent chiefs were Royal Marines officers. Speller, *The Role of Amphibious Warfare*, p. 217.
20. These included the ISTDC, which was divided into two parts in April 1942, with one section being brought to London to join COHQ under a Director of Experiments and Staff Requirements, while the other part remained at Portsmouth and became the Combined Operations Development Centre. Defence Ministry, *History of the Combined Operations Organisation*, pp. 94–95.
21. COHQ, briefing paper, "Early History and Events ISTDC and DCO," Defence Ministry: Military Operations: Amphibious Warfare Headquarters: Miscellaneous Papers: box DEFE 2/782A, UKNA; Ziegler, *Mountbatten*, p. 206.
22. Maund, *Assault from the Sea*, p. 19.
23. Stephen W. Roskill, *The War at Sea 1939–1945*, vol. 3, *The Offensive*, pt. 2, *1st June 1944–14th August 1945*, History of the Second World War (London: H.M. Stationery Off., 1961), p. 19.
24. See Defence Ministry: Military Operations: Amphibious Warfare Headquarters, box DEFE 2, UKNA for the vast archive of material relating to the work of COHQ.
25. For example, see Director of Combined Operations (Air), memorandum, "Inter-Service Combined Organisation," 29 July 1946, Defence Ministry: Military Operations: Amphibious Warfare Headquarters: Combined Operations Papers: box DEFE 2/1647: folio 2, UKNA.
26. First Sea Lord, memorandum, "Responsibility for Amphibious Warfare," COS (44) 414(0), 11 May 1944, and Chiefs of Staff Meeting, COS (44) 161, 18 May 1944, Defence Ministry: Military Operations: Amphibious Warfare Headquarters: Miscellaneous Papers: box DEFE 2/1178, UKNA.
27. Chiefs of Staff Meeting, COS (44) 164, 19 May 1944, Cabinet Office: Cabinet Committees: War Cabinet: Minutes: box CAB 79/74, UKNA.
28. "Report by Committee on Inter-service Responsibility for Amphibious Warfare," COS (44) 116, 29 June 1944, Cabinet Office:

- Cabinet Committees: War Cabinet: Memoranda: box CAB 80/44, UKNA.
29. Ibid.
 30. See Donald F. Bittner, "Britannia's Sheathed Sword: The Royal Marines and Amphibious Warfare in the Inter-war Years; A Passive Response," *Journal of Military History* 55, no. 3 (July 1991), and Massam, "British Maritime Strategy and Amphibious Capability," pp. 245–60.
 31. "Report by Committee on Inter-service Responsibility for Amphibious Warfare."
 32. Admiralty, memorandum, COS (44) 132, 22 July 1944, Cabinet Office: Cabinet Committees: War Cabinet: Memoranda: box CAB 80/44, UKNA.
 33. Chiefs of Staff Meeting, COS (44) 252 mtg(o), 29 July 1944, Cabinet Office: Cabinet Committees: War Cabinet: Minutes: box CAB 79/78, UKNA.
 34. Chiefs of Staff Meeting, COS (46) 18 mtg, 1 February 1946, Cabinet Office: Cabinet Committees: War Cabinet: Minutes: box CAB 79/44, UKNA; Chiefs of Staff Meeting, COS (47) 3 mtg, 3 January 1947, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 4/1, UKNA.
 35. "Report by Chief of Amphibious Warfare," COS (51) 601, 22 October 1951, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/34, UKNA; Chiefs of Staff Meeting, COS (52) 45 mtg, 1 March 1952, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 4/5, UKNA.
 36. Tompkins, "British Combined Operations."
 37. See Speller, *The Role of Amphibious Warfare*, chaps. 2–3, and Liles, "The Development of Amphibious/Expeditionary Warfare," pp. 73–108.
 38. "Establishment for an Amphibious School, Royal Marines at Portsmouth," 1948, Defence Ministry: Military Operations: Combined Warfare Headquarters: box DEFE 2/1619, UKNA. Also see James D. Ladd, *By Sea, by Land: The Authorised History of the Royal Marines Commandos* (London: HarperCollins, 1999).
 39. "Royal Marine Commando Operations in Korea," Admiralty: Navy Board: Correspondence and Papers: box ADM 1/21882, UKNA; "41 Independent Commando RM War Diary," Admiralty: Royal Marines: War Diaries: box ADM 202/459, UKNA; Peter Thomas [Lt. Col., RM], *41 Independent Commando RM: Korea 1950–52* (Portsmouth, U.K.: Royal Marines Historical Society, 1990).
 40. For example, see Chief of Combined Operations Staff, memorandum, "British Record of US/UK Discussions on Present World Situation," COS (50) 295, 9 August 1950, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/23, UKNA; Chief of Amphibious Warfare, memorandum, "Combined Operations Ships and Craft Required to Be Maintained in Peacetime," COS (51) 146, 19 March 1950, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/29, UKNA; and "AW Ships and Craft," 1954, Defence Ministry: Military Operations: Amphibious Warfare Headquarters: Miscellaneous Papers: box DEFE 2/1799, UKNA.
 41. See Ian Speller, "'Hit Hard, Move Fast and Sustain Action': The Replacement of the Royal Navy's Amphibious Warfare Squadron and the Rationale for HMS *Fearless* and HMS *Intrepid*," *Mariner's Mirror* 97, no. 3 (2011), pp. 177–200.
 42. "Policy for Raiding," COS (52) 192, 1 April 1952, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/38, UKNA; "Report by Chief of Amphibious Warfare," COS (52) 234, 30 April 1952, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/39, UKNA.
 43. See James Cable, *Intervention at Abadan: Plan BUCCANEER* (London: Palgrave Macmillan, 1991).
 44. "Operation RODEO FLAIL," Admiralty: Navy Board: Correspondence and Papers: box ADM 1/23562, UKNA; "Naval Report on Operation MUSKETEER," 1956–57, Admiralty: Navy Board: Cases: Dominions, Colonies, Protectorates, and Mandated Territories: box ADM 116/6209, UKNA; 3 Commando Brigade Royal Marines, "Report on Operation MUSKETEER," 1956–57, Admiralty: Royal Marines: War Diaries: box ADM 202/455, UKNA; Keith Kyle, *Suez* (New York: St. Martin's, 1991).

45. "Inter-service Committee to Review Combined Operations," COS (49) 336, 11 October 1949, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/17, UKNA.
46. First Sea Lord, memorandum, COS (50) 87, 9 March 1950, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 11/277, UKNA.
47. Board of Admiralty, Board Minute 5021, 7 June 1956, Admiralty: Navy Board: Minutes and Memoranda: box ADM 167/146, UKNA; "The Future Role of the Navy," COS (56) 280, 20 July 1956, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/70, UKNA; Eric Grove, *Vanguard to Trident: British Naval Policy since the Second World War* (Annapolis, MD: Naval Institute Press, 1987), chap. 5.
48. "Report by Davis Working Party," COS (54) 228, 9 July 1954, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/53, UKNA; Chiefs of Staff Meeting, COS (54) 82 mtg, 14 July 1954, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Minutes: box DEFE 4/71, UKNA
49. Chiefs of Staff Meeting, COS (54) 126 mtg, 25 November 1954, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Minutes: box DEFE 4/74, UKNA. For details on the establishment of the JSAWC, see "Amphibious Warfare Organisation: Action on the Report of the Working Party," Defence Ministry: Chiefs of Staff: Prior to 1964: Registered Files: box DEFE 7/1455, UKNA.
50. See Philip Darby, *British Defence Policy East of Suez, 1947–1968* (London: Oxford Univ. Press, 1973), and Ian Speller, "The Royal Navy, Expeditionary Operations and the End of Empire, 1956–75," in *British Naval Strategy East of Suez, 1900–2000: Influences and Actions*, ed. Greg Kennedy (London: Frank Cass, 2005), pp. 178–98.
51. "Report by the Admiralty," COS (58) 25, 1 November 1958, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/86, UKNA; "Report by the Joint Planning Staff," JP (58) 24, 11 May 1959, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Minutes: box DEFE 4/118, UKNA; "Presentation of Alternative Long Term Naval Programme," 17 May 1960, Admiralty: Navy Board: First Sea Lord: box ADM 205/192, UKNA; Admiralty, Explanatory Statement on the Navy Estimates 1962–1963, 1962, Cmnd. 1629.
52. See correspondence contained in the file "Expansion of Royal Marine Commandos," Defence Ministry: Chiefs of Staff: Prior to 1964: Registered Files: box DEFE 7/1681, UKNA.
53. Two units were created, one for each commando carrier: 29 Commando Light Regiment, Royal Artillery, and 95 Commando Light Regiment, Royal Artillery, both equipped with 105 mm pack howitzers.
54. Detailed correspondence relating to these matters is available in "RM Commandos: Role, Organisation, and Deployment," Admiralty: Navy Board: First Sea Lord: box ADM 205/185, UKNA, and "Future of RM Commandos," Admiralty: Navy Board: First Sea Lord: box ADM 205/191, UKNA. Also see "The Royal Marines and the Requirement for Royal Marine Commandos," COS 133/64, 15 April 1964, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/150, UKNA.
55. *The Naval War Manual 1958*, BR1806 (London: H.M. Stationery Off., 1958), cited in Liles, "The Development of Amphibious/ Expeditionary Warfare," p. 257.
56. "Report by Chief of Amphibious Warfare," COS (61) 12, 13 January 1961, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/110, UKNA; "The Seaborne/Airborne/Land Concept," COS (61) 180, 8 June 1961, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/114, UKNA; Joint Warfare Staff, "Notes on Amphibious Warfare," 31 July 1962, Defence Ministry: Military Operations: Amphibious Warfare Headquarters: box DEFE 2/2074, UKNA.
57. Later the chair was the Assistant Chief of Defence Staff (Joint Warfare). "JWC Terms of Reference," COS 365/63, 8 November 1963, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/144, UKNA.
58. "1st Annual Report by Director Joint Warfare Staff," COS 93/63, 4 April 1963, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/136, UKNA.

59. "The School of Land/Air Warfare," chap. 18 in *Brassey's Annual: The Armed Forces Yearbook 1960*, ed. H. C. Thursfield [Rear Adm., RN (Ret.)], W. M. Yool, and C. N. Barclay (London: William Clowes & Sons, 1960).
60. "Joint Warfare Sub-committees and Joint Warfare Staff," COS (62) 84, 28 February 1962, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/124, UKNA; "JWC Terms of Reference," COS 365/63, 8 November 1963.
61. "Joint Warfare Sub-committees and Joint Warfare Staff," COS (62) 84.
62. Defence Ministry, *Manual of Joint Warfare*, vol. 4, *Amphibious Operations* (London: Joint Warfare Committee, 1964), available in file LBY WO 166, Imperial War Museum, London. Other volumes focused as the following titles indicate: vol. 1, *Concepts, Planning, and Control of Limited War Operations*; vol. 2, *Joint Tactical Communications*; vol. 3, *Air Transport*; vol. 5, *Offensive Support Operations*; vol. 6, *Tactical Air Defence Operations*. Liles, "The Development of Amphibious/Expeditionary Warfare," pp. 259–61.
63. "Joint Warfare Training and Development," 31 October 1962, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/136, UKNA; "Report by the Joint Warfare Committee," COS (62) 426, 15 October 1962, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Memoranda: box DEFE 5/131, UKNA; Chiefs of Staff Meeting, COS (62) 68 mtg, 30 October 1962, Defence Ministry: Chiefs of Staff: Chiefs of Staff Committee: Minutes: box DEFE 4/148, UKNA. The first director was Air Vice-Marshal Cecil T. Weir.
64. D. C. Brewster, "The Joint Warfare Wing," in "Latimer Remembered," ed. M. B. Thornton, special ed., *The Cormorant* 11, no. 1 (1983), pp. 155–56.
65. Liles, "The Development of Amphibious/Expeditionary Warfare," chap. 6.
66. "Co-ordination of Amphibious Warfare. Matters with the Admiralty," 1962–63, Admiralty: Navy Board: Correspondence and Papers: box ADM 1/28875, UKNA. Also see Liles, "The Development of Amphibious/Expeditionary Warfare," p. 243.
67. "Amphibious Warfare—Responsibilities within Naval Service," 29 September 1966, Admiralty: Navy Board: Correspondence and Papers: box ADM 1/29217, UKNA.
68. "Command of Amphibious Naval Forces East of Suez," 30 July 1962, Admiralty: Navy Board: Correspondence and Papers: box ADM 1/29217, UKNA; "Captain 'Harpy' Lloyd," *Daily Telegraph*, 8 March 2001.
69. Grove, *Vanguard to Trident*, p. 308.
70. The green beret was (and is) awarded to those who have completed the Royal Marines All Arms Commando Course. The course is completed by marines and by personnel from other services who are attached to the Commando Brigade.
71. These were British Forces Arabian Peninsula and then, from 1961, Middle East Command (Aden), Near East Command (Cyprus), and Far East Command (Singapore).
72. Sir Jonathon Band [Vice Adm., RN (Ret.)], "British High Command during and after the Falklands Campaign," in *The Falklands Conflict Twenty Years On: Lessons for the Future*, ed. Stephen Badsey, Rob Havers, and Mark Grove (London: Frank Cass, 2005), p. 30.
73. The Joint Warfare Wing was replaced by a new Joint Warfare Staff, located first at the Headquarters Land Forces, then in 1983 relocated alongside the Royal Marines at Poole.
74. Grove, *Vanguard to Trident*, chaps. 8–9.
75. "Julian Howard Atherden Thompson," sound archive, cat. 28361, reel 37, Imperial War Museum, London. Also see Julian Thompson, *The Royal Marines: From Sea Soldiers to a Special Force* (London: Pan, 2001).
76. See Julian Thompson [Maj. Gen, RM], *No Picnic: 3 Commando Brigade in the South Atlantic, 1982*, 2nd ed. (London: Leo Cooper, 1992); Ewen Southby-Tailyour, *Reasons in Writing: A Commando's View of the Falklands War* (London: Leo Cooper, 1993); and Michael Clapp and Ewen Southby-Tailyour, *Amphibious Assault Falklands: The Battle of San Carlos Water* (London: Leo Cooper, 1996).
77. Trevor Taylor, *Jointery and the Emerging Defence Review*, Future Defence Review Working Paper 4 (London: Royal United Services Institute, November 2009), pp. 1, 4, available at www.rusi.org/.
78. Royal Navy, *The United Kingdom Approach to Amphibious Operations* (London: The Stationery Office, 1997).

79. The current Amphibious Warfare Course is provided by the relocated Maritime Warfare Centre at HMS *Collingwood*.
80. The Advanced Amphibious Warfare Course evolved from an earlier course (the Royal Marines International Maritime Strategy Course) that had been taught at the Royal Navy Staff College at Greenwich. The author was director of the course from 1997 to 2003.
81. Fergusson, *Watery Maze*, p. 412.
82. Ibid.
83. William M. Covington [Cdre., RN], "The Joint Force Harrier Concept," in Royal Air Force Historical Society, *The RAF Harrier Story* (Northmoor, U.K.: Royal Air Force Historical Society, 2006), pp. 101–106.
84. Defence Committee, *The Decommissioning of the Sea Harrier*, in Major Procurement Projects, 2001–2002, HC 779, available at publications.parliament.uk/; Andrew Sparrow and Benedict Brogan, "Military Chief to Retire Early as Hoon Denies Rift," *Daily Telegraph*, 6 July 2002, www.telegraph.co.uk/; Michael Smith, "Policy Row Made Chief of Defence Quit Early," *Daily Telegraph*, 24 July 2002, www.telegraph.co.uk/.
85. The U.K. Joint Strike Wing, previously known as Joint Force Harrier, was due to remain in service until the arrival of carrier-capable F-35B aircraft around 2018, but was disbanded early as a cost-cutting measure in the 2010 Strategic Defence and Security Review. HM Government, *Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review*, 2010, Cm. 7948.
86. Michael Smith, "Head of Royal Navy Threatens Resignation over Push to Scrap Harriers," *The Times*, 7 December 2008, thetimes.co.uk/; Michael Smith, "RAF Launches Dogfight for Control of Navy's Aircraft," *The Times* (London), 21 December 2008, thetimes.co.uk/; Rob Dover and Mark Phythian, "Lost over Libya: The 2010 Strategic Defence and Security Review—an Obituary," *Defence Studies Journal* 11, no. 3 (September 2011).
87. In February 2019, Air Cdre. David S. Arthur-ton replaced Air Cdre. David Bradshaw as Lightning Force commander. Bradshaw had replaced Air Cdre. Harvey Smyth in April 2017.
88. For example, see Deborah Haynes, "Royal Navy and RAF Locked in Dogfight over New Jets That Cannot Fly from Warships," *Sky News*, 1 December 2018, news.sky.com/.
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90. Lynn Williams and Velma Gray, *Defense Primer: US Transportation Command (TRANSCOM)*, CRS Report (Washington, DC: Congressional Research Service, 6 March 2018); Andrew Feickert, *The Unified Command Plan and Combatant Commands: Background and Issues for Congress*, CRS Report (Washington, DC: Congressional Research Service, 3 January 2013).
91. See Allan R. Millett, *Semper Fidelis: The History of the United States Marine Corps* (New York: Free Press, 1991), esp. pts. 3–4.

A “NEW LOOK” AT COLD WAR MARITIME DEFENSE

The Royal Canadian Navy’s *Seaward Defence Report* and the Threat of the Missile-Firing Submarine, 1955

Michael Whitby

Antisubmarine warfare (ASW) during the First and Second World Wars featured a relentless struggle of measure versus countermeasure as opposing forces sought a decisive edge. Examples abound from both world wars: unrestricted submarine warfare bred convoys; surface attacks by submarines spawned Q-ships; hull-mounted sonar triggered night surface attacks by U-boats; the so-called Black Pit in the North Atlantic demanded very-long-range (VLR) patrol aircraft; acoustic homing torpedoes begot towed decoy noisemakers; and so forth. Some measures required immediate response, while others induced more-subtle reactions; some required strategic adjustments, while others could be met by innovative tactics.

The measure-countermeasure pattern continued into Cold War ASW, during which improvements to the performance, sensors, and weaponry of submarines forced bold counterstrokes. One of the most significant challenges to Allied antisubmarine (A/S) forces during this so-called Third Battle arose in the mid-1950s with the receipt of intelligence that the Soviets were developing the capability to launch nuclear-armed missiles from conventional submarines. In 1956, the U.S. Navy’s Project Nobska—a group of scientists, academics, and naval personnel tasked with investigating trends in ASW—explained the problem as follows:

Michael Whitby is senior naval historian at the Directorate of History and Heritage, National Defence Headquarters, Ottawa, Canada. He is coauthor of the official histories of the Royal Canadian Navy in the Second World War—No Higher Purpose (Vanwell, 2002) and A Blue Water Navy (Vanwell, 2007). His most recent edited volume is The Admirals: Canada’s Senior Naval Leadership in the 20th Century (Dundurn, 2006). In 2002 he received a Moncado Prize from the Society for Military History for “Matelots, Martinets, and Mutineers: The Mutiny in HMCS Iroquois, 19 July 1943” (Journal of Military History, January 2001).

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“Confronted with quiet submarines of long endurance, a sufficiently accurate means of navigation, and suitable weapons, a defense against shore bombardment by submarines becomes a huge problem. Even the partial defense of a long coastline requires a very large effort.”¹

The U.S. Navy and the Royal Canadian Navy (RCN) arguably were the Allied navies that the missile threat impacted most. During the first years of the Cold War, the Atlantic Ocean had provided a moatlike buffer against maritime nuclear threats. Soviet strategic bombers could reach North America, but direct nuclear attack from the sea was thought to be beyond the Soviets’ capability. That changed when naval intelligence organizations forecast that the Soviets would have the capability to deploy missile-firing submarines (SSGs) within range of North American targets as soon as the late 1950s.² The prospect of enemy missile boats lurking within range of American and Canadian defense installations and population centers—a Cold War PAUKENSCHLAG, or *Барабанный Бой*, if you will—alarmed naval planners.³ Particularly troubling would be attacks on the bases and command centers of the Strategic Air Command (SAC), which was charged with delivering a nuclear response.

SSGs were a game changer, and planners and operators scrambled to develop countermeasures. In the spring of 1955, the RCN’s initial response was enunciated in the only recently declassified *Seaward Defence Report*. Described by one officer as a “new look” at the maritime threat confronting Canada, the study concluded that then-emerging sound-surveillance systems were the key to countering SSGs, and it enunciated the types of forces that should be used to supplement the systems and how they should be employed.⁴ In short, the *Seaward Defence Report* provided a blueprint for how to conduct seaward defense in the nuclear age.

The report is an invaluable historical tool. It reveals how a midsize navy with comparatively limited resources charged with defending a long coastline and valuable strategic targets proposed to cope with dramatically changing circumstances. It also shows what Canadian naval planners understood about the nature of the Soviet threat in the mid-1950s, as well as their ability to counter it, *at the moment* they confronted the challenge. And it demonstrates how they sought to use these circumstances to further their ambitions. Importantly, the report also allows a peek at probable American thinking, since the almost seamless cooperation that then existed between the RCN and the U.S. Navy suggests that their plans may have been similar. Finally, examination of follow-on exercises allows testing of the report’s hypothesis. The *Seaward Defence Report*, then, presents an intriguing case study of how Cold War naval planners adapted to Soviet offensive innovations in the maritime sphere.

THE HISTORICAL AND STRATEGIC CONTEXT

In the mid-1950s, Canadian planning revolved around overlapping maritime defense partnerships in the North Atlantic. (While the Pacific was not ignored, the North Atlantic dominated thinking.) Since Canada was a founding member of the North Atlantic Treaty Organization (NATO), the RCN had obligations to the Supreme Allied Commander Atlantic (SACLANT), including responsibility for the Canadian Atlantic Sub-Area (CANLANT). The SACLANT commitment was a cornerstone of RCN planning.

However, this relationship was matched, and occasionally overshadowed, by Canada's close defense partnership with the United States. Since the 1940 Ogdensburg Agreement, Canada and the United States had cemented their military cooperation through vehicles such as the Permanent Joint Board on Defense and the Military Cooperation Committee. The relationship was not allowed to wither after the war, and in February 1947 the two countries announced their intention to continue with joint cooperation for continental defense. Demonstrating the intimacy of the partnership, that August the RCN's Director of Naval Plans noted that "in view of the vital importance of the defense of North American war making ability in a future war, RCN planning will in future be largely based on the Naval forces now envisaged in the [U.S./Canada] Basic Security Plan. This will make desirable the standardization of the RCN and the USN by the time that the Basic Security Plan must be ready for immediate implementation."⁵

The creation of NATO in April 1949 led to the establishment of the Canada-U.S. Regional Planning Group (CUSRPG), which functioned in part as a liaison between the two North American navies and other NATO forces under SACLANT. Importantly, although CUSRPG was part of NATO, for security reasons the United States and Canada often were unwilling to share the details of continental defense with European allies, in particular regarding information about sound-surveillance systems.⁶ Beyond these relationships, the RCN preserved its umbilical cord with the Royal Navy (RN), although the U.S. Navy was emerging as Canada's predominant maritime partner.

In the mid-1950s, the RCN was in the early stages of a substantial modernization of its A/S assets. The destroyers and frigates that formed the backbone of the postwar fleet were British designs of Second World War vintage.⁷ Destroyer strength consisted of seven Tribal-class and two each of the *Valentine*- and *Crescent*-class intermediate designs; two of the latter had their A/S capability significantly enhanced through a conversion similar to the Royal Navy's Type 15 program, while another seven underwent the more limited Type 16 upgrade.⁸ Sixteen River-class frigates were scheduled to undergo the *Prestonian* conversion, which, like the destroyer modernization, provided significant upgrades to their

sonar, radar, weaponry, and other systems. The RCN's lone aircraft carrier, the light fleet carrier (CVL) *Magnificent*, also was of Second World War design, as were its Grumman A/S-3 Avenger and Hawker FB-11 Sea Fury aircraft. These ships and aircraft could prosecute moderately fast submarines but were challenged by improved types with performance similar to those undergoing the U.S. Navy's new Greater Underwater Propulsion Power Program (i.e., GUPPY) conversions.⁹

However, enhanced capability was on the horizon. As part of the increase in defense spending that came with the escalation of the Cold War in the late 1940s, the RCN was building seven *St. Laurent*-class destroyer escorts, with seven similar *Restigouche*-class ships to follow. Scheduled to begin commissioning in 1955, these ships ultimately would be considered among the finest A/S platforms in the world. The new destroyers were to be accompanied by ships of the recently approved *Vancouver*-class frigate program, which was intended to provide replacements for the *Prestonians* as oceangoing escorts. In addition, the significantly modernized CVL HMCS *Bonaventure*, equipped with advanced angled-deck, mirror-landing, and steam-catapult systems, was due to commission in 1956, with an air group composed of Grumman CS2F Tracker A/S aircraft and McDonnell F2H-3 Banshee fighters.¹⁰ Strides also were being made in the development of ASW helicopters. Submarine strength was limited to two A-class boats on loan from Britain's Royal Navy. The fleet was rounded out by the light cruisers *Ontario* and *Québec*, which were used as training ships and designated for reserve if war broke out, as well as a cadre of minesweepers. Although the fleet possessed the elements of a balanced capability, ASW was the RCN's primary focus, and the planners mulling over new concepts in naval warfare in the spring of 1955 did so with the confidence that they were working from the basis of an increasingly effective A/S component.¹¹

Under the SACLANT war plans in place in the mid-1950s, if conflict erupted Canada's most potent A/S assets would be deployed immediately away from home waters to the eastern Atlantic (EASTLANT) under the NATO strategy emphasizing support to Europe. The aircraft carrier and fifteen escorts would head overseas to form the nucleus of a joint RCN/RN A/S hunting group based in Brest, France. The remaining oceangoing escorts were committed to the protection of the transatlantic shipping that would reinforce Europe. Only minesweepers would be allocated to Canadian waters, with the *Algerine* class escorting coastal convoys while the smaller *Bangor* and *Bay* classes fulfilled local minesweeping tasks.¹²

Although the Canadian government recognized that circumstances might preclude the deployment of the core of its A/S strength overseas, the European commitment remained paramount. But the new notions associated with seaward defense would challenge that policy.

THE SEAWARD DEFENCE REPORT

The *Seaward Defence Report* originated from a December 1954 request from the Chiefs of Staff Committee that the navy investigate “the nature and extent” of Canada’s seaward defenses at various stages of a war at sea. The focus was to be on the period 1958–62 and, reflecting NATO’s conception of a two-stage war—opening with a thirty-day nuclear exchange, followed by a period of conventional warfare—it was to examine requirements “on M-day, M plus 30 days, and after M plus 30 days.”¹³

This spawned the Seaward Defence Committee, composed of the senior officers at the head of the warfare and planning branches at Naval Service Headquarters (NSHQ) in Ottawa. The Assistant Chief of Naval Staff (ACNS) (Plans), Commodore D. L. Raymond, led the group, with the ACNSs (Warfare) and (Air), Commodores Kenneth L. Dyer and W. L. M. Brown, respectively, and the Director of Naval Plans and Operations (DNPO), Captain William M. Landymore, the other members. A working group chaired by Landymore, with officers from NSHQ’s antisubmarine, aviation, communications, and navigation directorates, did the spadework preparing the numerous specialized studies that formed the backbone of the report.¹⁴

Taking four months to complete, the study ultimately spanned some two hundred pages, including twenty-eight papers and thirteen annexes. Tight security shrouded the report, which was protected on a strict need-to-know basis owing to the “special security regulations” that protected information pertaining to sound-surveillance systems.¹⁵

THE CONCEPT

The “new look” was driven by the nature of the threat that would confront the RCN at the end of the decade. On the basis of shared intelligence, including “current American Canadian Agreed Intelligence papers,” it was acknowledged that in the 1958–62 time frame the Soviets would have the capability to attack the Canadian coast with aircraft, surface forces, and submarines.¹⁶ The report graded these threats from “improbable” to “probable,” as follows:

- (a) The following forms of attack are considered *improbable*:
 - (i) Attack by surface forces, by virtue of almost certain prospect of detection and destruction
 - (ii) Attack by air on maritime targets other than major ports, due to there being other targets of greater strategic importance
 - (iii) Attack inside local defenses by oceangoing submarines, due to the greater risk of detection

- (b) The following forms of attack are considered *possible*:
 - (i) Commando-style attacks launched from submarines outside local defenses
 - (ii) Attacks by small battle units launched from submarines outside local defenses
 - (iii) Minelaying by clandestine means in approaches to defended areas
- (c) The following forms of attack are considered *probable*:
 - (i) Torpedo attacks from submarines on coastal convoys, in focal areas or on coastal routes
 - (ii) Minelaying from submarines on coastal shipping routes in focal areas and harbor approaches
 - (iii) Minelaying from submarines in approaches to defended areas
 - (iv) Missile attacks launched from submarines
 - (v) Air attacks on the major ports¹⁷

With the exception of missile attacks by submarines and air attacks on major ports, these threats fell within the bounds of the traditional and were almost identical to assessments made during the Second World War. Giving priority to the probable threats and acknowledging the primary responsibility of the Royal Canadian Air Force (RCAF) for air defense, the *Seaward Defence Report* zeroed in on the submarine threat.¹⁸ It enumerated three main naval tasks:

- (i) To deny enemy submarines access to waters from which they can effectively launch guided missiles
- (ii) To provide protection to shipping within the Canadian coastal areas against submarine attack
- (iii) To provide protection to Canadian harbors and approach channels against penetration and all forms of attack from enemy submarines¹⁹

Given the gravity of the threat, the report was concerned mainly with missile-firing submarines. The RCN estimated that by 1960 the Soviets would be capable of deploying eight long-range submarines to the Atlantic coast and six to the Pacific coast, and they accepted British intelligence that the “Z” or Zulu-class long-range boats would be capable of launching missiles. On this basis they determined that the “most recent estimate available of the capability during the period under review is that submarines will be able to launch a missile a distance of 500 miles and that they will be able to control over 200 miles. A second submarine operating in conjunction with the launching submarine could increase the controlled range to 400 miles.”²⁰

Interestingly, even though USS *Nautilus*'s initial exploits were well known, the report made no reference to nuclear-powered submarines and the immense capability they might bring to strategic or A/S roles.²¹ Regarding the missiles SSGs would carry, intelligence sources concluded that the Soviets "had available an improved V-1 type with a high explosive warhead" and "a larger twin pulse Jet V-1 type." Moreover, it was understood that the Soviet Union "had reached a point in weapon technology at which it was capable of producing a *wide variety of weapon types and nuclear weapons for weapons other than bombs.*"²² The threat from the sea was serious: "The improved range, speed, and accuracy of the subsonic pilotless aircraft, which could be ready for mass production in 1955, would greatly increase the number of good targets for submarine-launched attack. In about 1958 the estimated nuclear warhead yield will approach compatibility with the estimated accuracy of the weapon system and would greatly increase the likelihood of its use against such targets as air bases and coastal port facilities."²³ With the possible exception of the number of boats the Soviets would be able to deploy to North American coasts by 1960, these estimates proved accurate.²⁴

COURSES OF ACTION

So, what to do? The challenge for A/S forces was driven by the necessity to destroy SSGs before they launched their missiles; the value of dispatching them afterward paled in significance. The hunt was made more difficult because A/S forces were seeking individual, free-ranging submarines that were attempting to evade detection, instead of ones lying in wait for convoys or patrolling established shipping lanes—there would be no "flaming datum" of the traditional variety.²⁵ Complicating the problem was that since the Canadian seaward-defense zone now would extend to the range of sound-surveillance systems (i.e., hundreds of miles out to sea) the area to be defended would expand by thousands of square miles—and this in the notoriously poor oceanographic conditions of the Canadian northwest Atlantic. The conventional solution would be to use carrier hunter-killer (HUK) groups or long-range maritime-patrol aircraft (MPA)—conventional submarines dedicated to ASW (designated SSKs) were just coming into their own—but without the advantage of intelligence like that provided by direction finding and ULTRA during the Battle of the Atlantic the task of finding individual submarines in the vast, open ocean would be difficult indeed.²⁶

For Canada's senior naval planners, the solution to this complex A/S problem lay with pioneering sound-surveillance systems. These, it was thought, would "give the earliest possible warning of impending attack" and "enable our forces to locate and destroy the attackers."²⁷ Although the systems were still in the early stages of development, Canadians had familiarity with them through informational exchange agreements with both the Americans and the British. Moreover,

in November 1952 the U.S. State Department had approached Canada for permission to site a surveillance station on Sable Island off Nova Scotia to fill a gap in the planned network along the Atlantic seaboard. After initial surveys revealed Sable Island to be unsuitable, the two countries agreed to build a facility at Shelburne on Nova Scotia's south coast.²⁸

A high-level report described what became known as Station Fox: "The Sound Research Station at Shelburne is planned to consist of an array of special devices laid on the ocean floor in 1,000 fathoms of water, approximately 100 miles at sea, with a tail cable laid from the array to Shelburne, where the equipment and personnel would be housed. In addition to the deep water array, a shallow water array is being laid for the purpose of research into the conditions met in cold, shallow waters peculiar to the Canadian coastal areas."²⁹

Embracing the promise the technology represented, RCN planners made it the foundation of the philosophy espoused in the *Seaward Defence Report*. The new seaward-defense concept envisioned a combination of two sound-surveillance systems. Under the designations then used by Canadian naval planners, these were the LOFAR (for *low-frequency analysis and recording*) system, developed by the Americans, and the CORSAIR (for *co-relation of sound analysis and recording*) system under initial investigation in the United Kingdom.³⁰ The LOFAR system enabled the detection of submarines through the capture of low-frequency acoustics by arrays of hydrophones extending far out to sea on the ocean floor. The arrays were connected to naval shore facilities where the acoustic data were analyzed digitally, with any resultant target data passed to operational headquarters for prosecution. In 1950, personnel involved with the U.S. Navy's Project HARTWELL, which was investigating the viability of a long-range acoustic detection system, recommended the detection of submarines by using real-time spectral analysis of radiated sound energy as holding the most promise for a future A/S detection system. That November, the Western Electric Company was contracted to develop the technology; it assigned the work to its research organization at Bell Telephone Laboratories. Work proceeded quickly and the first operational evaluation began in April 1952, with a forty-hydrophone array installed in two hundred fathoms from Eleuthera in the Bahamas. The test proved so successful that the U.S. Navy immediately called for the establishment of a nine-station chain along the eastern coast of the United States, including the future Station Fox.³¹

The British CORSAIR system was more of an unknown. The Admiralty Research Laboratory had begun to work it up only in 1952 and oceanographic evaluation still was under way, so the *Seaward Defence Report* acknowledged that it was in "its very earliest stages for which no evaluation information is available."³²

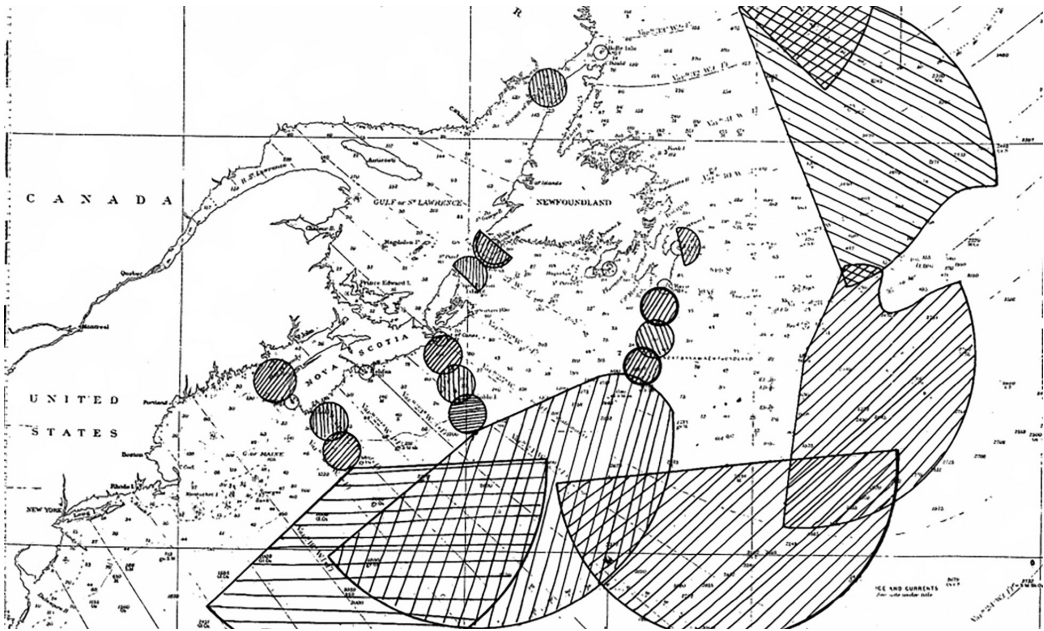
The *Seaward Defence Report* explained the differences between the two systems. The LOFAR system was “a network of surveillance stations strategically sited over the ocean approaches to the Coast,” built to form “a surveillance belt which will detect and locate snorkeling submarines and thereby assist the ASW forces in the protection of coastal shipping and defense against submarines capable of launching attack weapons against the mainland.” Spread evenly along the coast, the stations of the network would form “a surveillance belt about 500 miles to seaward.” Performance would be affected by many variables, including oceanography and the topography of the ocean floor; however, “ranges against snorking submarines up to 500 miles may be experienced under favorable conditions on some bearings while on others it might not exceed 150 miles.”³³ The systems would produce the best results against snorkeling boats; “[s]hould the submarine be on the surface or proceeding [submerged] on main motors, the detection capability is drastically reduced.” CORSAIR, on the other hand, “has been developed to determine the accurate location of submarines in comparatively shallow waters off the North Western European continental shelf by means of hydrophones connected to a shore station.” Expected ranges were far less than for LOFAR; preliminary evaluation indicated that “a submarine may be detected snorking out to ranges of 50 miles” and “a submerged submarine doing 4 knots on motors has been detected up to ranges of 10 miles.” Bearing accuracy would be superior; however, unlike LOFAR, which could identify individual submarines by their unique “signatures,” CORSAIR would be unable to provide specific target-classification information.³⁴

The report concluded that one system could backstop the other. The authors envisioned an overlapping network of LOFAR and CORSAIR installations.

With LOFAR, the U.S. Navy proposed siting stations two hundred miles apart to cover the required area and provide a degree of overlap to enable cross bearings to be obtained for contacts. Following that model—the only one in existence, after all—and taking “known conditions” into account, the Canadian report projected a network of five LOFAR arrays on the Atlantic coast, to be located off Sable Island; the southern and eastern extremities of the Grand Banks; Bonavista Bay, Newfoundland; and Hamilton Inlet, Labrador (see map 1). Some of these requirements already had been addressed: Station Fox at Shelburne covered the area seaward of Sable Island, and the RCN was aware of U.S. plans to site a shallow-water station at Argentinia, Newfoundland, to cover the southern Grand Banks. The three arrays required on the Pacific coast would be located off Cape Cook at the northwest extremity of Vancouver Island and at Cape Saint James and Cape Knox at the southern and northern points of the Queen Charlotte Islands (see map 2).³⁵

Shallow-water CORSAIR arrays would provide “a ‘road block’ inside the coverage obtained by the long range LOFAR system.”³⁶ The report did not specify

MAP 1 THE PROPOSED EAST COAST SOUND-SURVEILLANCE SYSTEM



The large arcs represent LOFAR coverage; the small circles depict CORSAIR coverage.

Source: CNS, "Underwater Surveillance Requirements."

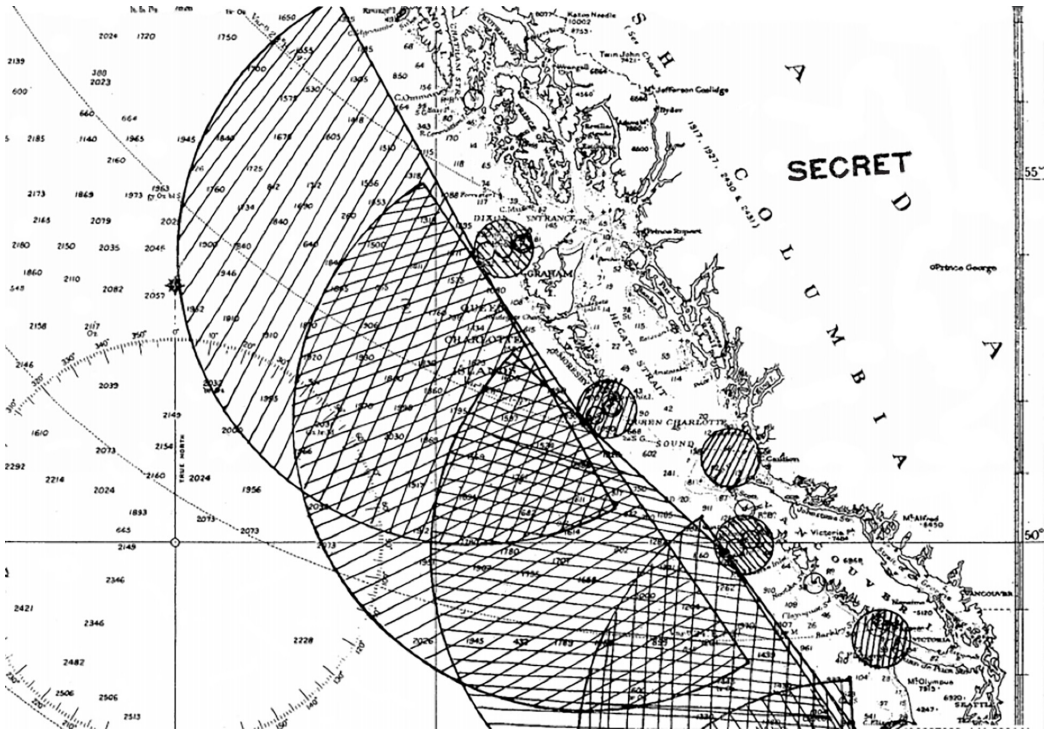
the number of CORSAIR stations required, but the accompanying charts gave a theoretical projection of as many as fifteen arrays on the east coast and five on the west. These would monitor the approaches to the Strait of Belle Isle, the Strait of Canso, and the Bay of Fundy on the Atlantic coast, and Dixon Entrance, Queen Charlotte Sound, and the Strait of Juan de Fuca on the Pacific.³⁷

Although the planners went "all in" on sound surveillance, they did not neglect the need for other detection technologies. In particular, since they presumed that Soviet submarine commanders would have to communicate with their headquarters before launching a missile attack, reliable direction-finding and electronic countermeasures (ECM) capabilities would be essential. Nonetheless, the LOFAR/CORSAIR combination would constitute the primary trip wire, and it promised to "provide the necessary warning to cover the seaward approaches to our coastal areas."³⁸

FORCE REQUIREMENTS

The *Seaward Defence Report* considered in great detail the nature of forces required to intercept SSGs using the information provided by sound surveillance. The situation confronting the planners was unprecedented; although the RCN had plenty of experience hunting submarines off the Atlantic coast in both world wars, never before had it faced a threat as grave as the missile-firing submarine.

**MAP 2
 PROPOSED WEST COAST SOUND-SURVEILLANCE SYSTEM**



Source: CNS, "Underwater Surveillance Requirements."

Consequently, the report's authors understood that to avoid a catastrophic nuclear scenario, A/S forces required the capability to prosecute any contact swiftly. This placed a reliance on "offensive support" to the sound-surveillance system. The report explained it this way: The nature of the threat, coupled with the long-range detection capability of LOFAR, defined the characteristics required in offensive supporting units. These were as follows:

- (i) Ability to locate the submarine as near as possible to the point of first detection
- (ii) Ability to attack and destroy the submarine, with the smallest possible time delay, by day or night, in any weather
- (iii) Ability to patrol continuously the outer limits of the detection arc³⁹

Mobility was key, requiring forces to have the ability "to locate, hold, attack, and destroy the submarine"—quickly. The RCAF's MPAs would form the backbone of the system, and they would require "all weather and long endurance qualities."⁴⁰ Here, Canada was in good shape. The majority of the RCAF's maritime-patrol squadrons were equipped with the Lockheed P2V-7 Neptune, which the report suggested "would provide the best type for the roles envisaged."⁴¹ But the

Neptunes were only a temporary stand-in until the VLR Canadair CL-28 Argus, arguably the most effective MPA of its generation, entered service in 1957. When the Arguses became operational, naval CS2F Trackers would supplement the RCAF effort by flying inshore patrols from shore bases or the carrier.⁴²

Despite its substantial capability, the air umbrella required seagoing support. The Second World War experience had shown that aircrews found it nearly impossible to confirm the results of attacks on submerged submarines, and the report concluded that since “the final destruction of the [missile-firing] submarine must be assured, in this task both aircraft and ships are required.” The authors determined that the ship designated for seaward defense “must be capable of high speed (say 30 knots), it must have long endurance at medium speeds, and it must be designed primarily to operate effectively under North Atlantic weather conditions.” Other desired features included superior sea-keeping qualities; the ability to operate sonar at high tactical speed; gun armament capable of destroying submarines and providing anti-aircraft defense; effective A/S weaponry; radar and communications systems able to control helicopters and provide long-range air warning; and, because of the expected long duration of patrols, a high level of comfort and habitability.⁴³

The Second World War-era destroyers that then formed the most potent element of the RCN’s A/S force had the speed and punch required, but lacked endurance. The River-class frigates, *Bangor*- and *Algerine*-class minesweepers, and Bird-class patrol boats that formed the remainder of the force were deemed wholly inadequate. The report’s authors thought the RCN had the solution in hand in the form of the new escorts about to join the fleet: “The destroyer of *St. Laurent* type with speed, sea-keeping qualities, if provided with an adequate gun armament, would most nearly meet the envisaged operational requirement.”⁴⁴

How would this combination of air and surface forces, cued by sound surveillance, locate and destroy missile boats? At the time it was thought that, to launch its missiles, a submarine would have to surface for little more than three minutes; however, the estimated duration grew over time.⁴⁵ Given current assessments of battery capacity, it was estimated that a submerged submarine would be able to penetrate about 175 miles into the three-hundred-mile LOFAR detection zone before it had to expose itself to detection from sound surveillance by snorkeling. From that point, “a submarine would be required to transit the remaining 55 miles to an optimal firing position at snorkeling depth or on the surface. At a snorting speed of 10 knots, time of transit would be approximately 5½ hours.”⁴⁶

Owing to the probability that submarines would be vulnerable only once they were well within the detection zone, a “perimeter type patrol” was deemed unsuitable; instead surface forces should be positioned within the LOFAR zone. Patrol areas for fixed-wing aircraft could be more variable and reserve aircraft

could be held in readiness at their airfields. In terms of numbers, it was thought that a “four ship support force for each LOFAR installation provides an efficient unit,” which meant a force of twenty-four dedicated surface vessels on the east coast and twelve on the west coast, for a total of thirty-six *St. Laurents*. For fixed-wing aircraft, the minimum number required for the east coast was calculated to be six on patrol and six at readiness, with half those numbers in the Pacific. These numbers increased dramatically when maintenance and training requirements were taken into account.⁴⁷

Although mainly concerned with countering missile boats, the *Seaward Defence Report* touched on tangential aspects of navy policy and operations. Perhaps most importantly, although it did not question sacrosanct SACLANT plans, the threat from missile boats raised the possibility that Canada might have to reconsider sending the bulk of its A/S forces overseas to EASTLANT at the outset of any conflict. The report also considered the implications of the U.S. Navy / Air Force Lamplight study into requirements for the continental air defense of North America. The report noted that some of the warning systems the American study recommended would complement the seaward-defense plan, and suggested that RCN escorts could contribute as air-defense picket ships, “both by providing information to the system and by acting offensively on the information provided by it.” This meant the ships would require sophisticated air-defense capability.⁴⁸

Communications, command-and-control organization, base requirements, and other vital factors also received consideration. In terms of sustaining seagoing forces, the RCN possessed only limited underway-replenishment capability and no fast oilers; however, the committee thought this unnecessary for warships operating in the LOFAR zone—which would seem to fly in the face of its stated requirement for the ships to have long endurance.⁴⁹ On the other hand, the committee recognized that A/S helicopters could play a critical role, either attacking contacts located closer inshore or operating from a dedicated carrier.⁵⁰

Mine clearance received considerable attention. Recent experience in the Korean War and ongoing intelligence emphasized the Soviets’ strong commitment to mine warfare and their use of moored, ground, and drifting mines with varied firing mechanisms, including contact and influence (magnetic, acoustic, and pressure), combined with various delayed fuses. In view of this threat, the committee recommended that the “main ports” of Halifax, Sydney, and Esquimalt/Victoria be kept open at all times, with forces available to clear “lesser ports” within forty-eight hours.⁵¹

In terms of the traditional static components of seaward defense, the report questioned whether there was any further need for coastal-artillery batteries and suggested that net defenses could be reduced. The authors thought that

controlled minefields and indicator loops still had utility, but the need for them could be reconsidered once the sound-surveillance system was developed.⁵² In terms of coastal convoys, the report suggested they would not be required on Canada's west coast but "will be required on the East Coast unless long range detection devices with adequate supporting forces can be developed."⁵³ In many areas, therefore, the potential of the new sound-surveillance system promised a transformation in seaward defense.

THE SHORTCOMINGS

Notwithstanding the presentation of a realistic concept to counter missile-firing submarines, the *Seaward Defence Report* suffered a number of shortcomings. Some of these can be attributed to patchy intelligence or a lack of concrete information about the actual capability of sound-surveillance systems, but others stemmed from oversights or flawed thinking. In his cover letter, the Chief of the Naval Staff (CNS), Vice Admiral E. Rollo Mainguy, explained that the report took no account of the costs or personnel implications associated with the concept.⁵⁴ Despite this, the authors stated some specific requirements, such as additional surveillance arrays, and the precise numbers needed to bring air and seagoing forces up to the proposed strength. Naval leaders also used the report's findings as a rationale for procuring additional *St. Laurents*. Consequently, the lines were blurred on whether the plan was a conceptual think piece or a road map to a specific objective.

Certain operational factors also were not taken into account. There was no statement regarding when the forces providing offensive support to the sound-surveillance system would be deployed. Would they be on constant patrol as a deterrent, or deploy only in an emergency? That, of course, would affect the numbers of ships and aircraft required, but also would depend on Soviet capabilities. Would the Soviets mount standing patrols in peacetime or only surge into missile-firing positions just before or at the outbreak of any conflict, thus likely providing a degree of warning? As mentioned previously, the report also surprisingly made no mention of the possibility of the Soviets adopting nuclear propulsion; if they could mate nuclear warheads with missiles, surely they could do the same with nuclear propulsion and submarines. By ignoring such issues, the report lost an element of rationality. As will be seen, senior defense officials did take these factors, and others, into account.

There was subtext to the *Seaward Defence Report*, which may help to explain its deficiencies. Since its establishment in 1910, the RCN had struggled to thrive in the face of government and public indifference. With budgets tightening with the end of the Korean conflict, the report offered an opportunity to allay the impact of cuts on the navy. Continental air defense was a primary reason the

RCAF captured a major portion of the defense budget. By inserting a maritime component into the continental-air-defense equation in the form of the missile-firing submarine, naval leaders hoped to obtain a greater share of the financial pot. In his cover letter to the report, Admiral Mainguy emphasized that vital targets within the range of SSGs “may be in just as much danger from thermo-nuclear attack delivered by submarine as from the same attack delivered by aircraft.”⁵⁵ Surely, when the specter of nuclear war lay at the forefront of defense considerations and was very much in the public eye, the government could not ignore the threat of nuclear attack from the sea? Naval leaders clearly hoped that their seaward-defense concept would enable them to take advantage of a real and substantial national concern and affirm the navy’s increased relevance to continental defense. It also presented an opportunity to upgrade the fleet. Although the recently approved *Vancouver*-class frigate program promised to deliver a useful oceangoing escort, the senior staff had become concerned by its limited performance and lack of general-purpose capability. The *Seaward Defence Report* made the case for replacing the *Vancouver*s with additional *St. Laurents*, which would strengthen the fleet.

Although the report’s authors did not express these ambitions directly, they clearly were in play. Given the chronic uncertainty that had shrouded much of the RCN’s history, it is hard to blame the authors for playing these cards.⁵⁶

THE U.S. NAVY’S APPROACH

The U.S. Navy also grappled with the SSG threat. An attack-at-source approach by carrier strike forces against Soviet submarine bases and the use of HUKs on barrier patrols were key elements of its existing ASW plans; however, like the RCN, the U.S. Navy envisioned sound-surveillance systems as “the most promising solution” to SSGs. As a December 1954 report to the Chief of Naval Operations (CNO) from the Anti-Submarine Plans and Policies Group explained, HUKs “were not created to search wide areas of ocean in the hopes of discovering an enemy submarine.” “It is our earnest hope,” the report continued, “that the LOFAR stations which form our Sound Surveillance System in the Atlantic and Pacific will furnish us with the necessary operational intelligence and will give us the advance warning that we need to meet the threat of a mass nuclear guided missile attack launched from submarines.”⁵⁷

The report referenced exercises using MPA/destroyer teams to chase down contacts detected by sound surveillance, while carrier HUK groups patrolled beyond the range of the detection system farther out to sea.⁵⁸ Although it is not known whether the two allies consulted one another at this early stage of the SSG problem—it seems likely that they did, given the cooperation over Station Fox and other matters—the concept showed that USN thinking paralleled that of the

RCN; the main difference was that the RCN was prepared to position its carrier group inside the LOFAR detection zone. Beyond this overall tactical harmony, the United States, like Canada, was shifting more of its A/S focus from overseas to home waters in response to the SSG threat; in October 1955, a senior Canadian official reported that the U.S. Navy had reassigned forty-four destroyers and destroyer escorts from EASTLANT (headquartered near London, England) and IBERLANT (Lisbon, Portugal) to WESTLANT (Norfolk, Virginia).⁵⁹

The fact that the U.S. Navy had dozens of escorts to shuttle among theaters underscores the greatest difference between the two navies: although the RCN could match its ally in terms of quality, it paled with regard to quantity. The U.S. Navy simply had the ability, and willingness, to devote more resources to the SSG problem. For example, in the summer of 1956 the U.S. Navy's Project Nobska study emphasized the potential of nuclear-powered submarines (SSNs) for ASW.⁶⁰ SSNs evolved into arguably the most effective A/S platform; however, while the RCN pushed hard to acquire them in the late 1950s, the Canadian government considered them beyond its means. In another example, in 1959 the U.S. Navy formed Task Group (TG) Alfa to evaluate new A/S concepts. Consisting of an A/S carrier, a destroyer squadron, A/S submarines, a shore-based MPA squadron, and abundant research support, Alfa rivaled the capability of the RCN's entire Atlantic fleet.⁶¹ The resources the U.S. Navy could apply were unmatched—and in anti-SSG warfare, numbers mattered.

DENUNCIATION

The *Seaward Defence Report* received mixed reviews when it was evaluated by senior naval and departmental leadership. Since most of the senior RCN leadership had been involved with the study, it is not surprising that the navy gave it close-to-universal acceptance. The only debate revolved around the recommended cancelation of the *Vancouver*-class frigates, a program for which the navy had fought long and hard; however, the argument for more *St. Laurents* eventually won out.⁶²

From there the plan encountered rough seas. When RCN leaders presented the *Seaward Defence Report* to senior defense officials in the autumn of 1955, they asked for an additional twenty-five *St. Laurents* on top of the fourteen already approved, as well as funding for surveys for a sound-surveillance system. The Chiefs of Staff Committee and senior defense officials agreed to the cancelation of the *Vancouver*s and endorsed a limited survey plan, but they balked at the numbers of additional *St. Laurents*; in a tortuous five-year process, the government ultimately approved only an additional six of the class.⁶³

And that was as good as it got; other elements of the report's findings encountered heavy criticism from those who had to grant final approval. At an

October 1955 Chiefs of Staff meeting, Lieutenant General Charles H. Foulkes and Deputy Minister of National Defence Frank R. Miller, the senior military and departmental leaders, respectively, questioned the assumptions on which the naval staff had based its planning, particularly on the likely course of nuclear war. They thought it “improbable” that the Soviets would deploy missile submarines to North American waters in advance of any conflict, because of the danger of provocation, and they noted the uncertainty within NATO about how a nuclear war actually might unfold. They also were dismayed by the lavish recommendations for additional ships and aircraft, believing the plans were based on numbers and not actual need. As Deputy Minister Miller put it, “What was required was a force to do the job rather than a specific number of ships,” with the navy using “effectiveness as a yardstick rather than numbers when considering the building programme”; since the new ships were vastly more capable than the old, should the navy not be able to get by with fewer of them?⁶⁴

The air force was more critical. The RCAF consistently had questioned the need for naval aviation in the Canadian context, so it was not surprising that the chief of the air staff, Air Marshal C. Roy Slemon, opposed the navy’s plans.⁶⁵ He complained that the RCAF had not been consulted, and insisted that aircraft alone could support the sound-surveillance systems, negating any need for additional ships. Slemon also noted that, according to his information, the Soviets would not possess seagoing nuclear-missile technology for another five years—which, of course, was precisely the window on which the RCN had focused.⁶⁶

These criticisms crippled the navy’s plans, and the final nail in the coffin was hammered home a few weeks later when the naval staff sought additional funds to fulfill some of the measures recommended by the *Seaward Defence Report*. The members of the powerful departmental finance committee were unmoved by the navy’s arguments and rejected a budget increase to cover the cost of additional *St. Laurents* or to fulfill any other measures associated with the plan. Although senior defense officials acknowledged that they were taking a risk in the face of the SSG threat, the navy’s plan simply was beyond what the government was willing to devote to maritime defense.⁶⁷

OPERATIONAL TRIALS

If the acquisition and budgetary aspects of the *Seaward Defence Report* largely went unachieved, its operational concepts proved enduring. In early 1956, NSHQ formed the Naval Warfare Study Group to investigate further how the RCN would fight a war at sea under the agreed NATO strategy, designated M.C. 48. The new group’s core, including Commodore Raymond and Captain Landymore, had been influential contributors to the Seaward Defence Committee.⁶⁸ Foremost among the new group’s aims was determining how to defend against the

“Principal Threat: Attacks on inland and Coastal targets by submarine-launched guided missiles with nuclear warheads.” One decision, obviously based on the deliberations of the Seaward Defence Committee, was to divide the seaward-defense area into three zones: “an inner firing zone (where submarines might fire [missiles] upon shore targets, a middle combat zone (where submarines might be destroyed), and an outer harassing zone (where submarines could be prevented from snorkeling).”⁶⁹ The distance of the zones from the coast would vary according to conditions, but the idea was to force submarines to snorkel well before they reached launching positions, to be detected by the sound-surveillance system, which would cue offensive forces onto the contact.

The RCN tested these concepts in a series of exercises called BEAVERDAM. More than anything, the exercises revealed the near impossibility of destroying missile boats before they launched their payloads. BEAVERDAM 3, carried out off Nova Scotia in March 1959, provided stark evidence of the challenges confronting A/S forces.

The exercise executed the so-called BEARTRAP plan, which anticipated an emergency situation in which missile attacks from submarines were “imminent.” For this scenario, the plan assumed the SSGs had penetrated the sound-surveillance net to reach their firing positions, with the objective of reducing Allied “retaliation capacity” by attacking SAC bases, with ports and population centers secondary targets. “Hostilities are assumed to commence,” the exercise orders explained, “with the first firm knowledge that a missile has been launched or with the discovery of a fully surfaced submarine in a position from which the Primary and Secondary targets could be effectively attacked.” Until those conditions prevailed, “submerged or snorting intruders can only be tracked and heckled—no live-load weapon attacks could be pressed home by anti-submarine forces.”⁷⁰ By this time it was thought that boats would have to surface for ten minutes to launch their missiles, and BEARTRAP called for “the concentration of surface and air forces within what are deemed probable missile launching areas, in such density as to ensure that a submarine can be observed and attacked within ten minutes of surfacing. This, of course, necessitates some calculated risks because of limitations imposed by the forces which are expected to be available. Equal intensity coverage could not be planned throughout the entire CANLANT area.” For BEAVERDAM III, the exercise was confined to an area amounting to one-third of the full CANLANT zone, with participating air and surface assets limited by the same proportion. Three submarines formed Orange, while Blue comprised the aircraft carrier *Bonaventure*, nine escorts, three maritime-patrol squadrons, and Station Fox.⁷¹

BEAVERDAM III tested counter-SSG tactics in the so-called inner firing zone, and the positioning of the Blue forces reflected the *Seaward Defence Report’s*

concept of an immediate offensive response. In line with how it was thought the Soviets would mount such an operation, the three Orange submarines, HMS *Alderney* and *Ambush* and USS *Redfin*, targeted specific U.S. air bases: *Redfin* was to hit Loring Air Force Base (AFB) in northeast Maine; *Ambush* was assigned Ernest Harmon AFB at Stephenville, Newfoundland; and *Alderney* targeted Argentia Naval Air Station on Newfoundland's south coast.⁷² It was thought that SSGs would have to approach to within visibility range of a geographic feature such as a headland to fix their position to input accurate navigational guidance for their missiles; accordingly, Blue surface groups were deployed on either "fixing point patrols" off obvious landmarks or "surface force patrols" in high-probability launch areas farther out to sea. Blue-force MPAs saturated the same areas. *Bonaventure*, with CS2F Trackers embarked, was positioned to seaward of the MPA patrols; the carrier was escorted by only a single plane-guard destroyer, since planners assumed an SSG would avoid attacking such a target before hostilities broke out.⁷³

The main aim of BEAVERDAM III was to determine whether an MPA orbiting within ten minutes' flight time of a surfaced SSG could detect and attack it before it launched its missiles. The postexercise analysis declared that "a measure of success was achieved"; however, that measure was small indeed. Of the eighteen opportunities MPAs had to detect surfaced submarines during the three phases of the exercise, two boats were detected within two minutes and killed, another was killed during the ten-minute launch window, another kill occurred just after launch, and in two instances air patrols prevented boats from surfacing. Thus, only three launches definitely were thwarted—which meant that as many as fifteen nuclear-armed missiles rocketed toward their targets.⁷⁴

The performance of the surface groups was even more dismal. Most ships failed to approach within a dozen miles of a submarine, and in the one close encounter, although *Ambush* sighted the new destroyer *Restigouche* through its periscope when passing within 2,800 yards, the ship's sonar failed to detect the SSG. Two summaries give a flavor of the encounters. At 0950 on 12 March:

Alderney surfaced in position 44-44N 59-36W, and at 1000 simulated firing her first missile at Argentia. Assessed as a successful missile launch. This launch was made 22 miles from the center of Area 2, in the close proximity of a fleet of approximately 30 fishing vessels. The area was being surveyed by Summerside Neptune Y4X04. At 1025, *Alderney* surfaced in the same position and at 1035 simulated firing her second missile at St. John's, NFLD. Assessed as a successful missile launch.

At about the same time:

Ambush surfaced in position 43-45N 59-36W, and at 1003 simulated firing her first missile at Stephenville. Assessed successful missile launch. This launch was made 7

miles from the center of Area 3 which was being surveyed by *Bonaventure* Tracker 34 Dressing Room. *Ambush* dived and surfaced again at 1018 to prepare her second missile for launch at 1031. She sighted *Bonaventure* Tracker 34 Dressing Room closing 90 seconds before scheduled launch time; however, *Ambush* remained on the surface, altered end-on to the aircraft, and simulated firing on schedule, again at Stephenville. She dived immediately on firing and was attacked with depth charges 30 seconds after submerging. 34 Dressing Room attack assessed possible kill.⁷⁵

The exercise analysis found numerous reasons why the SSGs carried out their missions virtually unscathed. The notoriously poor ocean environment off Nova Scotia hindered the performance of sonar; the dozens of fishing vessels in the area clogged radar screens and provided cover for submarines; aircraft failed to use ECM; and communication between ships and aircraft was poor or nonexistent. Interestingly, although it was thought that poor weather would hamper not only the MPAs but the SSGs as well, the submarines still were able to fix their launch positions from features ashore. “Consequently, even though adverse conditions appear to create a stalemate, any reliance upon unfavorable circumstances to discourage missile attacks, would be wishful thinking.”⁷⁶

The grim results of BEAVERDAM III were mirrored in other exercises in the series. This suggested that any optimism about defeating SSGs was itself “wishful thinking.”

TO THE FUTURE

Appearing before Congress in 1958, American naval leaders warned of the gravity of the SSG threat. Rear Admiral Hyman G. Rickover, Assistant Chief for Nuclear Propulsion at the Bureau of Ships, testified as follows:

We know [the Soviets] have operational missiles which are good for at least 200 miles and probably more. I would anticipate that in the not too distant future they will have operational missiles with a range of up to 600 to 700 miles. Therefore, with a large number of submarines that can carry missiles fitted with atomic or hydrogen warheads, they have the capacity to operate off our coasts and destroy our cities. . . . [This] is the gravest immediate threat that faces the United States.⁷⁷

The threat was indeed ominous, but a lot of flesh had been put on the bones of solutions to the SSG problem since the RCN had produced the *Seaward Defence Report* three years earlier. Intelligence had a firmer grasp of Soviet strategy and capability; sound-surveillance systems maintained their abundant promise; tactics had matured, through exercises such as BEAVERDAM III; and new and evolving countermeasures—such as A/S submarines, the *Jezebel* passive acoustic processor, magnetic anomaly detection, Julie explosive echo ranging, and nuclear depth charges—had increased the probability of killing missile boats. Canadian maritime forces and the U.S. Navy also arrived at a unified strategy to deal with

the SSG problem.⁷⁸ Against that, the Soviets were ready to deploy their first wave of SSGs with more-advanced missiles, and had developed another potentially devastating weapon in the nuclear torpedo.⁷⁹

Yet despite the relentless march of measure and countermeasure, the basic contentions introduced in the *Seaward Defence Report* remained valid. Any hope of intercepting SSGs before they launched their missiles required a reliable, long-range means of detecting them and the ability to respond quickly and decisively to the information.

When the Cold War threatened to explode during the tense weeks of October–November 1962’s Cuban missile crisis, Canadian maritime forces used the concepts of the *Seaward Defence Report* to defend the eastern seaboard of North America. MPAs saturated potential submarine launch positions, while surface groups were positioned to provide offensive support to the sound-surveillance arrays at Shelburne and Argentia; later in the crisis Canadian sea- and airborne forces moved south to help defend U.S. assets.⁸⁰ Although it is unknown whether the Soviets deployed SSGs or other boats into the Canadian northwest Atlantic during the crisis (current research suggests they did not), if they did so Canadian maritime forces, by implementing the concepts of the *Seaward Defence Report* and working seamlessly with their USN allies, were at least well positioned to intercept them; whether they could have destroyed them before the critical moment of missile launch is another question.⁸¹

Nonetheless, using the information at their disposal at the dawn of the SSG threat, the authors of the RCN “new look” delivered a sound, innovative defensive concept. And that concept proved adaptable and enduring.

The process of formulating a seaward-defense plan in the shadow of an emerging nuclear threat, as well as the operational concept at which naval planners arrived, has utility beyond the scope of this article. In terms of the planning process, three avenues for further analysis present themselves.

First, what does the RCN and USN response to the SSG threat say about the two services’ ability to handle dynamic strategic and tactical circumstances? In particular, the U.S. Navy has served as a useful model of how such institutions deal with change; and, depending on the availability of historic documentation, an examination of its organizational response to the ASW challenges confronting it in the 1950s could be instructive in this regard.⁸²

Second, the stark contrast between the resources the two navies could apply to the SSG problem would make for useful analysis into how organizations with varying levels of fiscal, political, and public support cope with such dynamic change. Small- and medium-size navies such as the RCN simply cannot adjust to such circumstances in the same way the U.S. Navy can. Given that the U.S. Navy

has striven to enhance relationships with allies—to build what one CNO referred to as a “thousand-ship navy”—comparative analysis of how such relationships might be affected by the inability of other navies to meet change at the same pace as their American ally—which could result in a critical “capability gap”—would seem germane.⁸³

Finally, the measures of the seaward defense plan and the application of the forces potentially involved invite study in terms of their viability in the face of some of the challenges facing today’s naval planners. For instance, since aspects of the plan can be applied to the notion of antiaccess warfare, it can be used to weigh both defensive and offensive perspectives of the concept.⁸⁴

In the end, it is probably best that we do not know whether the seaward defense plan, or any similar plan, would have been successful if tested by actual nuclear attack. Nonetheless, studying the plan has value in both the historical and contemporary contexts.

NOTES

- This study originated from the author’s research as head of the team preparing the official history of the RCN, 1945–68. He acknowledges previous groundbreaking research by Dr. Isabel Campbell on this period for the RCN official history. Cdre. Jan Drent, RCN (Ret.), and Prof. Sean Maloney of the Royal Military College of Canada commented on this study, and over many years the latter generously has shared his insights into Cold War planning and operations. The author also thanks the three anonymous Naval War College referees who contributed valuable suggestions. Finally, the views expressed in this article are those of the author, not the Canadian Department of National Defence, and he alone is responsible for any errors.
1. Quoted in Owen R. Cote Jr., *The Third Battle: Innovation in the U.S. Navy’s Silent Cold War Struggle with Soviet Submarines*, Newport Paper 16 (Newport, RI: Naval War College Press, 2003), p. 20.
 2. Following USN and RCN practice in the 1950s, the term SSG is used to categorize Soviet conventionally powered submarines capable of launching guided missiles against continental targets. It should not be confused with the later designation for cruise-missile submarines targeting seagoing task forces.
 3. PAUKENSCHLAG (DRUMBEAT) was the name given the German U-boat offensive off the east coast of North America that began in January 1942. For more on Operation PAUKENSCHLAG, see Michael Gannon, *Operation DRUMBEAT: The Dramatic True Story of Germany’s First U-boat Attacks along the American Coast in World War II* (New York: Harper and Row, 1990).
 4. Capt. F. W. T. Lucas to Chairman, Chiefs of Staff Committee, 5 September 1955, in *Report of the Seaward Defence Committee*, April 1995, vol. 21471, file CSC 2110, vol. 1, Record Group [RG] 24, Library and Archives Canada, Ottawa, Canada [hereafter LAC] [hereafter *Seaward Defence Report*]. Lucas was secretary to the Chiefs of Staff Committee; his reference to a “new look” mirrored what Jeff Barlow describes as the “catchy” title of President Eisenhower’s New Look defense policy. Jeffrey G. Barlow, *From Hot War to Cold: The U.S. Navy and National Security Affairs, 1945–1955* (Stanford, CA: Stanford Univ. Press, 2009), pp. 378–79.
 5. Quoted in Nicholas Tracy, *A Two-Edged Sword: The Navy as an Instrument of Canadian Foreign Policy* (Montreal: McGill-Queens Univ. Press, 2012), p. 102.

6. Isabel Campbell, "Canadian Insights into NATO Maritime Strategy, 1949–70: The Role of National and Service Interests," *Northern Mariner* 25, no. 3 (July 2015), p. 241; Sean M. Maloney, "Parry and Thrust: Canadian Maritime Forces and the Defence of North America, 1954–62," *Northern Mariner* 18, no. 1 (January 2008), p. 40. These studies are available online at www.cnrs-scrn.org/. A good starting point into the history of the Canadian military during the Cold War remains Sean M. Maloney, *Learning to Love the Bomb: Canada's Nuclear Weapons during the Cold War* (Washington, DC: Potomac Books, 2007), while Sean M. Maloney, *Securing Command of the Sea: NATO Naval Planning 1948–1954* (Annapolis, MD: Naval Institute Press, 1995) covers the establishment of SACLANT.
7. RCN policy in the immediate postwar years is covered in Jan Drent, "A Good, Workable Little Fleet': Canadian Naval Policy, 1945–1950," in *A Nation's Navy: In Quest of Canadian Naval Identity*, ed. Michael L. Hadley, Rob Huebert, and Fred W. Crickard (Montreal: McGill-Queen's Univ. Press, 1992), pp. 205–20.
8. For the postwar modernization of British escorts, see Norman Friedman, *British Destroyers & Frigates: The Second World War and After* (Annapolis, MD: Naval Institute Press, 2017), and David K. Brown and George Moore, *Rebuilding the Royal Navy: Warship Design since 1945* (Annapolis, MD: Naval Institute Press, 2003). The Type 15 and 16 conversions were similar to the USN Fleet Rehabilitation and Modernization (i.e., FRAM) program.
9. For the poor outcome of a 1956 A/S exercise, see Michael Whitby, "Views from a Different Side of the Jetty: Commodore A. B. F. Fraser-Harris and the Royal Canadian Navy, 1946–1964," *Northern Mariner* 22, no. 1 (January 2012), pp. 11–13, available at www.cnrs-scrn.org/.
10. The CS2F was identical to the USN Grumman S2F but built under license in Canada.
11. This discussion is based on the author's ongoing research for the official history of the RCN 1945–68.
12. See Campbell, "Canadian Insights into NATO Maritime Strategy," pp. 245–53.
13. "Terms of Reference," in *Seaward Defence Report*.
14. The working group was chaired by the DNPO, with members as follows: Director, Naval Aviation, Capt. A. B. Fraser-Harris; Director, Naval Communications, Capt. R. W. Murdoch; Director, ASW, Cdr. P. S. Booth; and Director, Navigation and Direction, Lt. Cdr. P. G. Chance.
15. "Security Caution" on *Seaward Defence Report*, 15 April 1955. This summary for the Chiefs of Staff Committee explained that the study "is based in large part on the capability of underwater sound surveillance systems which have not yet been released to NATO and which are being developed on an informational exchange basis between Canada, the UK, and the US." See Joint Planning Committee to the Chiefs of Staff Committee, 7 October 1955, in *Seaward Defence Report*.
16. Secretary to COS, "Seaward Defence," 17 October 1955, in *Seaward Defence Report*.
17. "Assessment of the Threat and Tasks Arising Therefrom," paper 2 in *Seaward Defence Report*.
18. When the North American Air Defense Agreement came into effect in September 1957, the RCN's two fighter squadrons were assigned a specific continental-defense role. *Seaward Defence Report*.
19. "Assessment of the Threat and Tasks Arising Therefrom."
20. "Nuclear Weapons," annex 1 in *Seaward Defence Report*, app. D. To be more accurate, it was thought the Soviets might position a submarine inshore of an SSG to take over guidance of missiles launched from farther out.
21. *Nautilus's* commanding officer transmitted the famous message "Underway on nuclear power" on 17 January 1955.
22. Emphasis in original.
23. "Nuclear Weapons."
24. Describing the Soviet SSG threat, on 18 June 1953, Vice Adm. R. F. Good, Deputy CNO (Logistics), testified to Congress, "We know they have the submarines, Sir; we know they have exploded an atomic bomb. Whether they do in fact have the capability of delivering the bomb from a submarine, I do not

- personally know, sir. . . . Given the bomb and the submarine, I think it is quite probable they would put the two together.” Cited in U.S. Navy Dept., *Sea-Based Airborne Antisubmarine Warfare 1940–1977*, vol. 1, 1940–1960 (Washington, DC: Office of Naval Research, February 1978), app. 3, pp. 66–67. This important study was prepared under contract by R. F. Cross Associates.
25. The term *flaming datum* refers to the fact that when a submarine attacks a ship (and sets it afire) it at least momentarily provides a good indication of its own position.
 26. For a contemporary study of the utility of HUK operations, see A. L. Danis [Lt., USN], “Offensive ASW: Fundamental to Defense,” U.S. Naval Institute *Proceedings* 83/6/652 (June 1957), pp. 583–89. As far as can be ascertained, none of the officers on the Seaward Defence Committee were cleared for ULTRA during the war, so the members were unaware of its role.
 27. CNS, “Underwater Surveillance Requirements,” 14 September 1955, p. 2, vol. 1471, file CSC 2110, vol. 1, RG 24, LAC.
 28. Chiefs of Staff Committee minutes, 1 April 1954, 73/1223, file 1307B, Directorate of History and Heritage, Ottawa, Canada [hereafter DHH]. For a short, sanitized history of the Canadian navy’s role in sound surveillance, see Rodney R. Bickford [Lt., RCN], “Canadian Undersea Surveillance,” U.S. Naval Institute *Proceedings* 121/3/1,105 (March 1995), pp. 70–71.
 29. Chiefs of Staff Committee minutes, 1 April 1954.
 30. LOFAR later was known as SOSUS, for *sound-surveillance system*. Friedman describes the term LOFAR as “a made-up word, intended to sound like RADAR and SONAR.” See Norman Friedman, *Network-centric Warfare: How Navies Learned to Fight Smarter through Three World Wars* (Annapolis, MD: Naval Institute Press, 2009), p. 160.
 31. U.S. Navy Dept., 1940–1960, pp. 132–33, 153. See also Norman Polmar and Edward Whitman, *Hunters and Killers*, vol. 2, *Anti-submarine Warfare from 1943* (Annapolis, MD: Naval Institute Press, 2016), pp. 121–26; Friedman, *Network-centric Warfare*, pp. 159–61; Christopher Ford and David Rosenberg, *The Admirals’ Advantage: U.S. Navy Operational Intelligence in World War II and the Cold War* (Annapolis, MD: Naval Institute Press, 2005), pp. 36–38; and Gary E. Weir, *An Ocean in Common: American Naval Officers, Scientists, and the Ocean Environment* (College Station: Texas A&M Univ. Press, 2001).
 32. “The Use of Sound Surveillance Systems in the Defense of Canadian Coastal Waters,” paper 3 in *Seaward Defence Report*. For CORSAIR, see “Project CORSAIR: Involvement of ARL Stations in Cornwall, Northern Ireland and Shetland Isles,” *History of the Admiralty Research Laboratory (ARL) Teddington: 1921–1977*, arl.g3w1.com/.
 33. *Snorting* was informal naval terminology for *snorkeling*.
 34. “The Use of Sound Surveillance Systems”; “Long Range Underwater Detection Devices,” annex 4 in *Seaward Defence Report*, app. B; CNS, “Underwater Surveillance Requirements.”
 35. “The Use of Sound Surveillance Systems,” pp. 1–2.
 36. “Long Range Underwater Detection Devices,” p. 2.
 37. The RCN did not completely neglect northern waters. Although there was no reference to the Canadian Arctic, a follow-on study indicated that the U.S. Navy and the RN were considering a chain of stations to cover the approaches to the Arctic from the North Atlantic that would stretch from Greenland to Iceland, to the Faeroes and Shetlands, and to Norway. This would cover what became known as the GIUK gap. CNS, “Underwater Surveillance Requirements.”
 38. CNS, cover letter to *Seaward Defence Report*, 7 July 1955; “Offensive Support for Long and Medium Range Detection Devices,” paper 7 in *Seaward Defence Report*.
 39. “Offensive Support for Long and Medium Range Detection Devices.”
 40. Ibid.
 41. “Force and Type Requirements for Fixed Wing Aircraft,” paper 22 in *Seaward Defence Report*.
 42. For details of these aircraft, see Jerry Proc, “The Canadian Neptune P2V7,” “Argus Aircraft—Electronics Fit,” and “CS2F Tracker,” *Radio Communications and Signals Intelligence in the Royal Canadian Navy*, jproc.ca/.

43. "Force and Type Requirements for Coastal Area Surface Ships," paper 21 in *Seaward Defence Report*.
44. Ibid. The main gun armament of *St. Laurent*—and follow-on *Restigouche*-class destroyers was to be a mix of three-inch / .50 caliber and .70 caliber guns. At twenty-eight knots, the design speed of the *St. Laurents* was actually below the desired thirty-knot minimum, but planners thought it could be increased by modifications. They also later proposed acquisition of a Coastal Defense Ship to back up the *St. Laurents*, but the Chiefs of Staff Committee rejected this.
45. "Offensive Support for Long and Medium Range Detection Devices"; "Surface Forces Required for Area Offensive Support (LOFAR)," paper 11 in *Seaward Defence Report*; "Soviet Naval Strength," annex 1 in *Seaward Defence Report*. The calculated time a submarine had to sit on the surface to fire its missiles soon stretched to ten and later fifteen minutes.
46. "Surface Forces Required for Area Offensive Support (LOFAR)."
47. Ibid.; "Fixed Wing Aircraft Force Requirements for Area Offensive Support," paper 12 in *Seaward Defence Report*. These resulted in force projections involving some fantastic numbers, at least for Canada. With regard to fixed-wing aircraft, to meet the desired east coast levels of six aircraft on patrol and six at readiness meant a total of eighty-two midrange P2V-7 Neptunes or sixty-eight long-range CL-28 Arguses. The west coast would need fifty-one CS2F Trackers, thirty-two P2Vs, or twenty-five Arguses. In terms of surface ships, it was determined that sixty-six *St. Laurents* would be required to fill east and west coast demands. NB: Four dedicated surface platforms for each of the five Atlantic coast arrays would total twenty *St. Laurents*, not twenty-four. The sources provide no explanation for this discrepancy.
48. *Seaward Defence Report*.
49. The RCN still had not acquired a replenishment oiler (ship designation AOR) by the time of the 1962 Cuban missile crisis, and it was calculated that the destroyers' need to leave their patrol positions to refuel at shore bases degraded seagoing strength by 25 percent.
50. *Seaward Defence Report*.
51. "Requirements for Minesweeping and Clearance Diving," app. 13 in *ibid*.
52. "Summary of Harbour and Channel Defense Requirements," paper 14 in *Seaward Defence Report*.
53. "The Convoy System in Coastal Waters," paper 6 in *Seaward Defence Report*.
54. CNS, cover letter.
55. Ibid.
56. The RCN had employed similar strategy before, particularly at the 1943 Quebec conference, when the service hoodwinked the Canadian prime minister into agreeing to the acquisition of cruisers and destroyers from the RN in exchange for manning RN landing craft flotillas for Operation NEPTUNE. See W. A. B. Douglas et al., *A Blue Water Navy* (St. Catharines, ON: Vanwell, 2007), pp. 170–74.
57. D. E. MacIntosh [Capt., RCN], Anti-Submarine Plans and Policies Group, 15 December 1954, quoted in U.S. Navy Dept., *1940–1960*, p. 154. The best study of USN ASW strategy remains Cote, *The Third Battle*.
58. MacIntosh, 15 December 1954.
59. DNPO, "Briefing of the Chiefs of Staff Committee, 26 October 1955," 73/1223, 7 November 1955, box 61, file 1308, DHH.
60. For the Nobska study, see Weir, *An Ocean in Common*, pp. 278–83.
61. Thomas D. McGrath [Capt., USN], "Anti-submarine Defense Group Alfa," U.S. Naval Institute *Proceedings* 85/8/678 (August 1959), pp. 49–55; Michael T. Isenberg, *Shield of the Republic: The United States Navy in an Era of Cold War and Violent Peace* (New York: St. Martin's, 1993), vol. 1, pp. 744–47. The RCN worked closely with Alfa, assigning an officer permanently to its staff and contributing equipment and expertise. In return, the RCN received copies of Alfa's reports on the A/S problem. The U.S. Navy later established TGs Bravo and Charlie to investigate other aspects of the ASW problem.
62. Michael Whitby, "Vice-Admiral Harry G. DeWolf: Pragmatic Navalist," in *The Admirals: Canada's Senior Naval Leadership in the Twentieth Century*, ed. Michael Whitby, Richard H. Gimblett, and Peter Haydon (Toronto: Dundurn, 2006), pp. 213–46.

63. These were the four *Mackenzie*- and two *Annapolis*-class destroyer escorts. For the turmoil surrounding the acquisition programs, see *ibid.*
64. DNPO, "Briefing of the Chiefs of Staff Committee, 26 October 1955."
65. For the tortured history of Canadian naval aviation, see Michael Whitby, "Fouled Deck: The Pursuit of an Augmented Aircraft Carrier Capability for the Royal Canadian Navy, 1945–64," *Canadian Air Force Journal* 3, nos. 3/4 (Summer/Autumn 2010), available at publications.gc.ca/.
66. DNPO, "Briefing of the Chiefs of Staff Committee, 26 October 1955." Over the next few years, RCN and RCAF staff worked together to develop a joint plan. In light of Slemon's objections to the initial plan, it is ironic that the final RCN/RCAF version essentially duplicated the navy's original concept.
67. VCNS to CNS, undated, but after 16 November 1955, Naval Board minutes, 81/520/1000-100/2, 22 November 1955, DHH.
68. Naval Board minutes, 1 February 1956, 81/250, DHH. For the origins and deliberations of the Warfare Study Group, see Isabel Campbell, "A Transformation in Thinking: The RCN's Naval Warfare Study Group of 1956," in *People, Policy and Programmes: Proceedings of the 7th Maritime Command (MARCOM) Historical Conference*, ed. Richard H. Gimblett and Richard O. Mayne (Winnipeg: Canadian Naval Heritage Press, 2008), pp. 165–81.
69. Campbell, "A Transformation in Thinking," p. 176.
70. Documentation (see next note) suggests that the U.S. Navy's rules of engagement against unidentified submarines were more aggressive.
71. Maritime Commander Atlantic, "Analysis of BEAVERDAM III (BEARTRAP)," 73/56124, April 1959, pp. 2–3, DHH.
72. The two submarines were British but on loan to the RCN and under Canadian operational control.
73. Maritime Commander Atlantic, "Analysis of BEAVERDAM III (BEARTRAP)."
74. *Ibid.*
75. *Ibid.* Summerside, Prince Edward Island, was the site of the Neptunes' base.
76. *Ibid.*
77. Cited in U.S. Navy Dept., *1940–1960*, app. 3, pp. 75–76.
78. To unify anti-SSG efforts, in 1958 SACLANT created the North American Anti-Submarine Defense Force Atlantic. According to Rear Adm. H. F. Pullen, Canadian Maritime Commander Atlantic, the command was "responsible for the close-in defense of the North American continent against the guided missiles fired from a submarine." Its geographic area of responsibility was not rigidly defined but "extended along the entire eastern seaboard of North America out to the limits of the capability of the weapon he is defending against." H. F. Pullen [Rear Adm., RCN], "Evolution of Control over Naval Forces," n.d., H. F. Pullen Fonds, Manuscript Group 1, vol. 2526, file 3, Public Archives of Nova Scotia, Halifax, Canada. See also Campbell, "Canadian Insights into NATO Maritime Strategy," p. 259.
79. Sean Maloney's research has revealed that in 1958 the commander of SAC warned the U.S. Navy of the threat that radioactive residue from nuclear torpedoes could pose to SAC bases located close to the coast. Sean Maloney, interviews by author, ongoing.
80. After the Cuban missile crisis, Rear Adm. K. L. Dyer, Canadian Maritime Commander, observed, "It appears that SOSUS was not as successful as had been hoped." For more, see Bruce Rule, "Faulty Intelligence Nearly 'Sank' SOSUS during the Cuban Missile Crisis," *IUSS Caesar Alumni Association*, www.iussca.org/.
81. The conclusions about Soviet submarine activity are derived from the author's research into Canada's role in the Cuban missile crisis for the official history of the RCN, 1945–68.
82. See, for example, Gene I. Rochlin, Todd R. La Porte, and Karlene H. Roberts, "The Self-designing High-Reliability Organization: Aircraft Carrier Flight Operations at Sea," *Naval War College Review* 40, no. 4 (Autumn 1987), pp. 76–90.

83. Michael G. Mullen [Adm., USN], quoted in Jason Alexander [Lt., USN], “Don’t Forget Our Allies: Interoperable Maritime Operations in a Combined Environment,” *Center for International Maritime Security*, 27 March 2019, cimsec.org/.
84. For antiaccess warfare, see Sam J. Tangredi, “Antiaccess Warfare as Strategy: From Campaign Analyses to Assessment of Extrinsic Events,” *Naval War College Review* 71, no. 1 (Winter 2018), pp. 33–51, available at digital-commons.usnwc.edu/.

PEAK OIL, PROGRESSIVISM, AND JOSEPHUS DANIELS, 1913–21

Roger Stern

This article describes the management of an imaginary oil-scarcity crisis by Secretary of the Navy Josephus Daniels. The affair arose in response to “peak oil” claims by scientists of the U.S. Department of the Interior between 1908 and 1920. With increasing vehemence over those years, these scientists forecast—mistakenly—that a decline of domestic oil production was imminent, with total exhaustion to follow by the 1930s. Progressivism was the political ideology from which Interior’s peak-oil science sprang, and Progressivism likewise guided Daniels’s effort to protect the Navy from the ostensible peak-oil crisis.

Early-twentieth-century Progressivism was a movement for social and economic reform. Progressives of that era were alarmed over industrialization and urbanization and resented the power wielded by new, giant business organizations such as oil, automobile, and steel corporations. Progressives sought to reduce the great concentration of wealth that such new kinds of businesses had put into the hands of a few. They also resented the unfamiliar new workers in their midst: black laborers from the South and immigrants from Ireland and eastern and southern Europe.

Today, Progressivism is mainly an urban, racially diverse movement, but in

Roger Stern retired in 2017 from his position as a Faculty Fellow of the School of Energy Economics, Policy and Commerce at the University of Tulsa Collins College of Business. He earned a PhD in geography and environmental engineering from Johns Hopkins University in 2007.

Daniels’s time it also was a rural one. Many Progressives were deeply racist; for southern Progressives especially, white racial supremacy was both a belief and a political objective. Josephus Daniels was one such Progressive. He grew up in a rural North Carolina still smarting from Confederate defeat in the Civil War. Daniels was deeply

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affronted by the indignity (to him) of life in a society in which blacks could vote and hold high office. All his life, Daniels nurtured hostility against blacks and their ostensible sponsors—northern Republicans. He became a newspaperman, and his business acumen was such that by the age of twenty-one he owned three newspapers. Later, as owner and publisher of the *Raleigh News & Observer*, he led North Carolina's white-power movement. Daniels's role in the triumphs of southern Progressivism brought national attention.¹

Both political parties espoused Progressive ideals in the early twentieth century. Theodore Roosevelt was a Republican, yet his administration began the antitrust lawsuit that would lead to the breakup of Standard Oil of New Jersey in 1911. Roosevelt also set in motion an effort to use science as an instrument of politics. The idea of advancing civilization through scientific knowledge was an important tenet of Progressivism. Roosevelt believed that the conservation movement he did so much to advance should be guided by science. It was not simply that forests, wetlands, and wildlife were disappearing in an industrializing landscape; Americans, Roosevelt argued, would need these resources as the United States fought against other states for survival. In other words, to Progressives like Roosevelt, conservation was a national-security project.²

In 1908, Roosevelt proclaimed that domestic coal, oil, and iron ore were near exhaustion. The venue was a "Conference of Governors," which Roosevelt convened at the White House. The prestigious audience he gathered to his conference was a measure of the importance Roosevelt attached to conservation. In attendance were most of the nation's governors, most members of Congress and the Supreme Court, and top business and labor leaders. Such a powerful conclave of Americans never had met before and never has again.

Impending exhaustion of fossil fuels and iron ore, the president warned, was "the weightiest problem now before the nation," because "these resources are the final basis of national power and perpetuity." It was "ominously evident that these resources are in the course of rapid exhaustion."³ Although Roosevelt cited no evidence for his extraordinary claims, they drew legitimacy from the environmental destruction that Americans could see all around them. If fish were dying and forests disappearing, it made sense that minerals could be disappearing too.

Roosevelt initiated a scientific megaproject to confirm his peak-mineral theories and advance other scientific efforts that he deemed critical to American survival. Interior's first peak-oil forecast appeared in the scientific publication resulting from this project, a gigantic three-volume tome that covered diverse societal problems and their ostensible solutions. Along with prescient public-health and biological-conservation recommendations, the report called for ghastly eugenic measures such as forced sterilization and state intervention in citizens' choice of marriage partners.⁴ With respect to the oil problem, United States Geological Survey (USGS)

geologist David Day asserted that since new oil fields were unlikely to be found, U.S. production probably would cease by the mid-1930s.⁵

However, several USGS geologists cautioned that British scientists had been predicting exhaustion of Britain's coal production—mistakenly—since 1866, and saw no reason to expect exhaustion of American coal or iron ore. They also pointed out how easy it was to overlook how new technology steadily uncovered previously unimaginable volumes of mineral resources.⁶ The rest of government ignored these insights.

Although Woodrow Wilson did not share Roosevelt's enthusiasm for forests and wildlife, he was no less committed to the use of science as a tool of government. As a young Bryn Mawr College professor in 1887, he wrote a paper advocating that a "science of administration" could reform American governance. Scientists, Wilson argued, should govern almost all aspects of society, free from the messy business of democratic compromise, and applying best practices wherever found. "If I see a murderous fellow sharpening a knife cleverly, I can borrow his way of sharpening the knife without borrowing his probable intention to commit murder with it; and so, if I see a monarchist dyed in the wool managing a public bureau well, I can learn his business methods without changing one of my republican spots."⁷ This was a formulation that depended on perfect behavior by administrative scientists; Wilson trusted that they never would abuse the great power he proposed they should have by putting personal or bureaucratic interests ahead of verifiable truths.

Elected president as a Democrat in 1912, Wilson granted this kind of great power to scientists to manage the imaginary problem of peak oil. He also granted great power to his executive departments to persecute labor unionists, anarchists, and, in the end, anyone who questioned government policy. He oversaw passage of coercive laws—the Sedition Act, the Espionage Act—that criminalized criticism of the war effort. Sanctioned by the Department of Justice, a vigilante force known as the American Protective League harassed labor unionists, pacifists, and immigrants.⁸

Ostensibly, science provided the rationale for a foreign adventure promoted by Wilson's Secretary of State, William Jennings Bryan, who contrived the first iteration of "oil-scarcity ideology"—the ostensible imperative to do something aggressive to avert a peak-oil crisis. When Mexico experienced an extended period of banditry and revolutionary violence in its oil fields, Bryan wrote to President Wilson on 9 April 1914 to argue that the instability threatened oil exports to the United States. Interior's peak-oil forecast bore directly on this problem. As Bryan explained to Wilson, peak oil made Mexican oil strategic: "These fields are furthermore regarded as the inevitable source from which, in the near future, the supply of oil for the United States Navy will largely be drawn."

Bryan recommended that Wilson intervene to control the oil-producing region around Veracruz.⁹

Wilson obliged, sending a USN flotilla to that city. On 21 April 1914, American naval infantrymen and Marines went ashore and subdued the port; they suffered few casualties, but over a hundred Mexican soldiers, naval cadets, and civilians died defending the city. Wilson had secondary motivations in invading, one of which was to restore the recognized Mexican president, José Venustiano Carranza, to office. However, occupation restored neither order to the region nor Carranza to office; rather, the presence of foreign troops on Mexican soil gave the warring factions the only thing they ever could agree on: that the American invaders should leave. Opposition to occupation even came from the Carrancista faction that Wilson sought to help.¹⁰ After seven months, nineteen U.S. combat deaths, and at least two hundred Mexican combat deaths, American forces withdrew.¹¹ Thus peak oil, as imagined by Theodore Roosevelt and constructed by Interior, became the proximal rationale for America's first adventure to secure foreign oil. The subject of this article, however, is a more unusual instance of U.S. aggression rationalized by oil-scarcity ideology: aggression directed not against foreign oil-producing countries but against domestic oil firms, in a campaign directed by Josephus Daniels.

There has been relatively little scholarship on Daniels. When scholars do mention him, he sometimes is lauded as a Progressive hero for his battle to repatriate mineral patents adjoining Naval Oil Reserve lands.¹² A relatively recent biography gives a more balanced account of his life and times.¹³ This article offers a novel assessment of Daniels via a study of how he procured fuel for the oil-powered Navy he helped bring into being.

Daniels's time in office can be understood as a response to two ideals: Progressivism; and peak oil, the great oil-related fear of the Wilson years. Expectation of peak oil moved Daniels to do all he could to avoid drawing down the Naval Oil Reserve, which, according to his plan, was to sustain the Navy after the rest of the world's oil fields ran dry. To preserve the Naval Oil Reserve, Daniels ultimately resorted to seizing oil, always at a below-market price and sometimes without compensation at all. As will be shown, the secretary's campaign to save the Navy from both peak oil and the ostensible predations of "big oil" would end in a lawless fiasco; during his last months in office, Daniels oversaw fuel-oil seizures from California refinery wharves, led by armed Marines.

Daniels saw the Navy not only as an instrument of war but also as a venue for moral improvement. He decried the depravity of the rich and famous of Newport, Rhode Island, whose bad example threatened the moral well-being of sailors stationed there.¹⁴ Moral purpose also propelled Daniels's oil policy. Daniels had a straightforward attitude toward all Navy procurement terms—that they were

unfair until proved otherwise—a view that reflected Democratic Party suspicions of war profiteering undimmed since the Civil War.¹⁵ Daniels went to extraordinary lengths to contest perceived corporate exploitation of the government—a posture that would have a negative impact on the wartime oil supply.

Daniels generated controversy throughout his tenure as secretary. One manifestation was hearings in 1919 by the Senate Naval Affairs Committee, in which leading naval officers such as then-Vice Admiral William S. Sims aired their grievances against Daniels's unorthodox practices. A book by Lieutenant Tracy Barrett Kittredge, USN, a Sims aide and a historian, that summarizes the hearings declares that Daniels “was concerned solely with purely peace activities; with economy in expenditure, with semi-socialistic enterprises such as the establishment of industrial plants to manufacture armour, guns, clothing, etc.; with measures advertised as inspired by a desire to improve the lot of the enlisted men.”¹⁶ This behavior, Kittredge asserted, left the Navy unprepared for World War I.

Although this article also reaches negative conclusions about Daniels, some of his legacy is emphatically positive. He committed the Navy to oil propulsion sometime around 1913, catapulting the United States into the front rank of naval powers. Then, in 1920, he sent some of the new oil-powered warships to home ports on the Pacific coast. This made the Navy a truly two-ocean force for the first time since the advent of coal propulsion; previously, coal-burning warships would have remained confined during wartime to a relatively narrow sailing radius near the Pacific coast. The establishment of an oil-powered Pacific Fleet was a brilliant policy, yet Daniels's radicalism turned this triumph into a debacle of internal piracy.

PEAK OIL AND NAVAL PLANNING

Although oil was a superior fuel that would not require a network of far-flung coaling stations—which Britain had and America did not—the new oil-powered Navy still had a fueling problem, at least according to certain geologists of the Department of the Interior. U.S. oil production, they claimed, would be exhausted completely by about 1935, leaving the Navy to rely on imported oil to operate.¹⁷ Because the United States produced the vast majority of world oil at the time (69 percent in 1918, for example), the prospect of descending from this position to a future of import reliance was a fearful one, especially in an era that prized autarchy.¹⁸

Daniels's activism over petroleum-product prices began after his decision to commit the Navy to oil propulsion in 1913.¹⁹ Before committing the Navy to oil, Daniels consulted Interior about whether the oil supply from the federal lands that were planned as an oil reserve would be sufficient for the needs of the

oil-powered fleet in the future. Secretary of the Interior Franklin K. Lane assured Daniels that the Naval Oil Reserve then anticipated contained more than enough oil for all warships planned or under construction during their projected twenty-year life span. Lane cautioned, however, that the price would rise as oil ran out in the 1930s.²⁰ As Secretary Bryan had with respect to Mexico, Daniels took Interior's oil findings seriously. The prospect of peak oil would shape Daniels's decisions about the naval oil supply for his entire tenure in the administration.

Daniels's plan was to lock away the Naval Oil Reserve against the time when all other American fields were exhausted. A dwindling supply must mean higher oil prices, as Secretary Lane had warned, and higher prices already were worrying the Navy's General Board. The board's president was Admiral George Dewey, whose close brush with the bottom of his coal locker in the 1898 Battle of Manila Bay would seem a strong qualification for analyzing the Navy's fuel supply. Unfortunately, in 1911 Dewey accepted Interior's peak-oil dogma without question, as did some other flag officers. The chief of the Bureau of Steam Engineering, for example, anticipated "[t]he probability of an eventual demand for petroleum greatly exceeding the supply," recapitulating Interior's position on peak oil.²¹ This perspective led the board to the worrying conclusion that if price increases continued "oil producers might not care to bid for naval contracts, or if they did their prices would be practically prohibitive." The board's report, entitled "A Supply of Oil at a Reasonable Price," asserted that only via establishment of the Naval Oil Reserve and refining operation could the Navy be protected from profiteers.²²

Daniels enthusiastically adopted these recommendations, which, in addition to addressing peak oil, embodied suspicions regarding capitalism that were endemic to the era. Adding a tone of urgency to his advocacy for an oil operation of the Navy's own, he declared, "[T]o-day [in 1913] the United States Navy is paying over twice as much as it did for its oil in 1911. The only relief possible from what will be a staggering item in the expense account of the Navy in the future is the control of oil wells, and the refining of its own oil by the Navy department." Until the Navy had its own oil company, Daniels pleaded, government could not "escape the charge of willful waste of public money if it continues to purchase oil at prices which may fatten the pockets of a few oil companies."²³

Of course, a rising price was also what would be expected under peak oil, as Secretary Lane had explained. This presented a paradox that Progressives such as Daniels never tried to reconcile; that is, as oil became scarcer during the peak-oil crisis that supposedly was already in progress, the price must increase, yet Progressives also were certain that any price increase must be the result of profiteering by greedy, monopolistic oil firms.

Uncomfortably for Daniels, a price collapse in 1915 forced him to redefine why, with oil now abundant, peak oil was still a threat and his campaign for Navy oil operations was still necessary. Daniels declared that the market was cyclical,

then followed this unremarkable observation with a colossal non sequitur. “With the present methods of producing and marketing oil, there will be periods of overproduction, low price, and extended use of oil, and periods of shortage of oil production, high price, and limited use of oil, so that as a final result the oil resources of the country will be rapidly depleted.”²⁴ Daniels offered no evidence for this remarkable idea—that market cyclicity induced resource exhaustion.

Daniels’s proposal to Congress for a Naval Oil Reserve was equally astonishing. “[The reserve] would not be drawn upon when oil could be purchased on the open market at a fair price, but when the decreased production and increased price had shut off all other sources of oil for the Navy, then the reserves could be drawn upon and the United States Navy would have a supply of fuel for many years, whereas the navies of other nations that had not made a similar provision for a fuel oil supply would be forced to depend on coal as a fuel.”²⁵ Implicit in this scenario was that peak oil would strike all over the world at the same moment, leaving the U.S. Navy with the last oil on earth, in the form of the Naval Oil Reserve. In scientific debates it sometimes is said that extraordinary claims require extraordinary evidence; Daniels offered none. Not even the peak-oil scientist-advocates at Interior had gone so far as to assert that peak oil would occur simultaneously throughout the world.

When the price began to rise again in 1916, Progressives were quick to call for intervention to rein in Standard Oil of New Jersey (SONJ, often referred to as “Jersey”), the world’s largest oil firm, which they assumed must be responsible. Prohibition Party congressman Charles Randall offered a resolution to nationalize the oil industry.²⁶ Yet ultimately, Daniels found himself defending the idea of naval oil operations from opposition from within his own party. In March 1916, California senator James Phelan offered a bill to legalize patents within Naval Oil Reserve No. 2. Patents were legal rights to minerals on federal lands that were given to private claimants in the late nineteenth century or were granted to later claimants who promised to prospect for minerals. Phelan’s goal in attempting to legalize the patents was to stimulate California oil-production growth, which had declined during a legal campaign by Daniels to repatriate the patents, because oil developers were enjoined from working patent claims. Daniels bitterly opposed Phelan’s bill, claiming it would strip the Navy of the fuel it must have in the future, thus forcing a return to coal.²⁷ Since the Navy’s other two reserves ostensibly held just five years of wartime supply, Daniels argued, the viability of the fleet was at stake if patents to Reserve No. 2 could not be obtained. Phelan dismissed Daniels’s characterization of coming scarcity as absurd.²⁸ And history proved him right; when Reserve No. 2 was sold eight decades later, in 1998, it already had produced four times the amount Daniels believed it held, yet still brought \$3.7 billion.²⁹

Navy oil production was but one of Daniels’s ambitious plans to defeat profiteering. He also sought government ownership of telephone, telegraph, radio,

coal, steel, and merchant-shipping industries.³⁰ After Germany's resumption of unrestricted submarine warfare in February 1917, however, Daniels's nationalization campaign took a back seat to war planning. As the country's mood shifted from isolationism to war, Congress passed and Wilson signed a declaration of war against Germany in April 1917.

DANIELS AT WAR

Daniels's proclivity for dramatic economic action intensified once the United States entered World War I. The Navy suddenly stopped paying for fuel oil, or at least stopped paying market price.³¹ It is unclear whether Navy nonpayment began as a dispute over price or as an effort to overawe the large oil firms that Daniels saw as a threat to society.

It also is possible that Daniels anticipated passage of the Food and Fuel Control Act, known as the Lever Act, which would occur in the summer of 1917. This wartime law would give the president authority to requisition food or fuel for military use at a "fair" price. Daniels may have felt that he already knew the price of oil was unfair and, with President Wilson's recent reelection as a mandate, believed he could withhold payment while waiting for Lever to pass. As prices for commodities rose through the early summer of 1917 owing to war demand and war inflation, Daniels alerted Wilson that he had asked the arch-Progressive Federal Trade Commission (FTC) to determine a "reasonable price" for oil.³² Wilson apparently endorsed Daniels's combative approach, as two days later the secretary "threw down the gauge of battle to the producers of commodities needed by the navy in the prosecution of the war." The Navy, Daniels announced, would collaborate with the FTC to determine the cost of coal, copper, cement, iron ore, and oil. "I am going to know what these things cost and give the producers liberal profits, but beyond that I am not going to pay."³³

The Lever Act passed in August 1917. It warned vendors not to "exact excessive prices" and explicitly forbade "excessive profits," but it did not define *fair* or *excessive*. The act allowed government commandeering (as did wartime laws in many countries), but it stipulated that in disputes over price government agencies must pay what they believed fair, leaving the ultimate price to be adjudicated later.³⁴ Although Lever was meant to give the government leverage to procure war goods, it did not allow agencies to pay nothing for goods—which, as we will see, is what Daniels had the Navy do, in many cases.

The records of the Petroleum War Service Committee (PWSC), a voluntary body composed of industry executives whom the government had organized to support war logistics, chronicle an oil industry in submission to government coercion. In public, the oil industry kept silent on nonpayments for three years, perhaps for fear that complaints would revive calls for nationalization. From PWSC

meeting minutes, we know that oil-industry executives mentioned the nonpayment problem only twice before late October 1918—almost the end of the war.

However, even before the problem appeared in official PWSC records a federal official named Mark L. Requa had begun to address it. Requa was director of the oil section of a wartime agency called the U.S. Fuel Administration. Requa engaged an engineering firm, Sanderson & Porter, to report on “the costs of and prices for petroleum refinery products in the United States and relating especially to the fair prices for fuel oil *taken by the United States Navy* for the 1917–1918 federal fiscal year.”³⁵ This may be the earliest official record that a petroleum price dispute existed and that seizures were involved. How Requa became aware of the Navy’s nonpayment habits is unclear, but he was in almost daily communication with PWSC leaders, who may have communicated the nonpayment problems informally. Whatever the case, Requa clearly grasped that under Daniels’s leadership Navy commercial behavior might precipitate political or market crises. An independent price analysis, Requa may have thought, might resolve the problem quietly.

Daniels’s nonpayment policy put the Navy on the wrong side of the law. Yet in the days just before passage of the Lever Act, the secretary had gone even further. In New York Harbor, Navy vessels seized two cargoes of fuel oil destined for the Public Service Gas Company of New Jersey.³⁶ The Navy’s grounds, as reported to a USGS geologist with the U.S. Shipping Mission, were that “they could not get what they wanted in New York.”³⁷ This probably was a reference to SONJ’s refineries on the New Jersey side of New York Harbor.

The Navy’s seizure of oil from a public utility was brazen, to say the least, and attracted the attention of Attorney General (AG) Thomas Gregory. The AG was alarmed enough to urge a public-relations campaign to convince Americans to see the petroleum industry more positively. As things stood, he worried, the public tended to regard oilmen as “slackers,” usually a pejorative for anarchists and radical trade unionists viewed as lawless enemies of the state.³⁸ Gregory well understood how powerful such discourse could be; a decade before, he himself had used it skillfully in a legal assault against a Jersey subsidiary in Texas. Gregory’s client at the time was the State of Texas, which successfully sought to exclude an SONJ subsidiary from operating there.³⁹

Now that he was attorney general of the United States, Gregory seemed to fear that private citizens might follow the Navy’s example, raiding property and making business more difficult for companies of all kinds. As AG, Gregory was the titular head of the American Protective League, whose 50,000–350,000 volunteers already were breaching the civil rights of Americans and immigrants; it might take very little for them to move on to trashing oil companies. Although he had been Jersey’s archenemy in Texas, Gregory now grasped that the taint of

corruption, once focused only on Standard Oil, had come to apply to any firm and any person in the oil business. As two energy historians put it, “the onus so successfully attached to Standard Oil gradually extended to cover all large oil companies and, ultimately, the entire oil industry.”⁴⁰ The Navy’s action against the New Jersey utility cargo signaled that industry had become too easy a target, and Gregory feared where it all might lead. In a final indignity related to this seizure, the PWSC was asked to clean up Daniels’s mess by finding replacement cargoes for the power company.⁴¹

The PWSC refrained from official discussion of Navy nonpayment for fuel oil until late June 1918, when its members finally agreed that “[a]s to the Navy fuel price question, someone should see Mr. Requa and go over the whole situation with him.”⁴² The PWSC seems to have been unaware that Requa already had engaged Sanderson & Porter to investigate a fair price. The consultant duly reported in late August 1918 that the oil firms were asking for generally fair market prices.⁴³

But on 7 October 1918, Daniels rejected the consultant’s report in a letter to Requa’s boss, U.S. Fuel Administrator Harry A. Garfield, because, among other things, it did not account for large profits on crude oil by “big low-cost refiners and the general increase in refining profits over pre-war periods.”⁴⁴ Daniels’s rejection of the consultant’s report finally moved the PWSC to a “very considerable discussion on the subject of unpaid bills for the United States Navy.” Some bills, wrote SONJ chairman A. C. Bedford, “extend back to the time when the United States entered the War.”⁴⁵ This was the first complaint from the PWSC during seventeen months of nonpayment, and it was made in private.

The Sanderson & Porter report on Navy fuel-oil prices mainly supported industry positions. Among its many criticisms of the Navy’s approach, the most important concerned the pricing scheme the FTC had devised. Sanderson & Porter found flaws in FTC cost-accounting systems that tried to weight profits across all products or across all refineries. Using such methods to determine a fair price, so as to limit the profits of the most profitable firms, would have regressive effects, the consultant maintained. Less profitable refineries, already struggling to make unprofitable aviation gasoline, might be forced out of business if they had to accept a lower price devised from a weighted average skewed by larger profits of larger, more-efficient firms.⁴⁶

Daniels’s rejection of the Sanderson & Porter report came despite this warning from the consultant, apparently because the report did not sufficiently punish the most profitable firms for exceeding a “fair” price. Daniels’s real objection, as he made clear to Fuel Administrator Garfield, was that no remedy besides government control would do; “the only satisfactory solution can be found in complete, uniform government control over both production and distribution

of the commodity affected.”⁴⁷ Daniels failed to recognize that his obsession with “fair price” was becoming a readiness issue. The U.S. oil industry was straining to keep up with war demand from Europe, rampant inflation, and a burgeoning market for oil at home. The loss of any smaller, less profitable refiners would have a debilitating effect on the entire Allied military, whose main oil supplier was the United States.

Daniels meanwhile continued to refuse to pay refiners, even after passage of the Lever Act obliged the Navy to pay at least the price it believed fair. Sander-son & Porter related that prior to July 1917 the Texas Company and Gulf Refining Corporation had been supplying most oil to the Navy on the Gulf Coast. Around this time it became apparent that these companies could not meet “their quotas for the fuel oil needs of the Navy and Allies owing to the heavy demands on the oil supplies and to the lack of ships for transportation.” The Navy then asked other companies to bid, yet rejected all offers received because it deemed the proposed prices too high.⁴⁸ On this basis—because firms did not want the Navy’s business at the low price Daniels was willing to pay—seizures continued as war raged.

The consultant also disclosed that from 1 July 1917 to 12 July 1918 the Navy had seized five million barrels of oil, which probably was about 1.5 percent of U.S. production during federal fiscal year 1918 (FY18).⁴⁹ However, the burden of Navy seizures was borne by just eighteen companies, which meant that their losses were considerably greater than 1.5 percent. For obvious reasons, the Navy targeted only large firms with refining, storage, and loading operations at tidewater. Conveniently for Josephus Daniels, the big firms at tidewater also were the ones he believed most in need of punishment for the capitalist misdeed of seeking market prices for their products. The brunt of the seizures thus was borne by SONJ and its affiliates, followed by the Texas Company, Gulf Refining Corporation, and Atlantic Refining Company. Seizures from the Texas Company are of interest in that this firm had very close ties to Texas Democrats in the cabinet—most notably AG Gregory and Postmaster General Albert S. Burleson, as well as Wilson’s close adviser “Colonel” Edward M. House.⁵⁰ Daniels was a zealot, however; full payment was withheld from *all* the large oil firms, no matter their political connections.

The market value of the nonpayments was substantial. SONJ, for example, lost 1.54 million barrels to seizures in federal FY18, which was 5 percent of its refinery runs over the period.⁵¹ The impact to gross earnings probably exceeded 10 percent.⁵² Of interest is that two large second-tier firms with tidewater operations escaped seizures; these were Sinclair Oil and Mexican Petroleum, whose principals, Harry F. Sinclair and Edward L. Doheny, respectively, later were implicated, though not convicted, in the Teapot Dome scandal. After Mark Requa

left government, he became a Sinclair executive. These circumstances suggest, but do not show, collusion, as does Doheny's strong support for Senator Phelan in California politics. Future historians may learn more.

THE PETROLEUM WAR SERVICE COMMITTEE GETS RESTLESS

During a PWSC meeting in late October 1918, the committee asked the federal fuel administrator, Mark Requa, to express his views on a fair price, now that Daniels had rejected the estimate from Sanderson & Porter. Uncharacteristically, Requa recommended confrontation, and determined to take the matter to the highest level he could. He suggested that a report be made to Bernard Baruch's Price Fixing Committee, which would argue for the companies' compensation claims. The Price Fixing Committee and its predecessor, the War Industries Board, "were perhaps the most important" among government price-regulating agencies during World War I.⁵³

As the possibility of victory in the war came more firmly into sight, industry's willingness to keep quiet about the seizures waned. PWSC members eagerly committed themselves to collecting detailed reports from aggrieved firms and giving them "to Mr. Requa for whatever action he might deem wise to take."⁵⁴ A month later, the PWSC adopted a formal, yet still private resolution supporting Requa's effort to resolve the companies' claims, and another resolution calling for the FTC to desist investigating oil prices.⁵⁵

By the time the Treaty of Versailles was agreed to in June 1919, most government agencies had stopped wartime procurement practices under Lever Act authority. The act remained in force, however, because the United States never ratified the treaty; technically, America was still at war. This allowed Daniels to persist in coercing procurements from oil firms. Something had changed, however—one firm fought back in court. Within a day of the conclusion of the Versailles agreement, Atlantic Refining sued the Navy for \$2.2 million (over \$30 million in 2020 dollars) in compensation for fuel oil taken to date.⁵⁶

NAVY-INDUSTRY CONFLICT IN CALIFORNIA

The likelihood of a Navy-industry confrontation was mounting at a moment that otherwise was auspicious for American naval power. The end of the war meant that some oil-powered dreadnoughts could be reassigned from the Atlantic to the Pacific. This radically altered the Pacific balance of power in America's favor. To understand how great a change this was, consider that back in 1897 Assistant Secretary of the Navy Theodore Roosevelt had asked then-Captain French E. Chadwick what it would take to "smash the Japanese Navy" if it attacked Hawaii, not yet a U.S. territory. The limited range of coal-powered warships made Roosevelt's question almost unanswerable. Coal-powered warships from

West Coast home ports barely could reach Hawaii before having to turn around to refuel.⁵⁷ There simply was no way to stand and fight a “battle of Hawaii.” All this changed on 26 July 1919, when five oil-powered superdreadnoughts of the newly constituted Pacific Fleet completed their first transit of the Panama Canal, making the United States a Pacific superpower.⁵⁸ The fleet’s progress northward was celebrated in California with patriotic headlines such as “Giant Guns Thunder Salute to Navy Chief; San Diego Wild with Enthusiasm as Imposing Armada Steams before Daniels.”⁵⁹

It seems safe to infer that before the Pacific Fleet’s arrival in San Diego the Navy’s fuel-oil requirements on the West Coast were modest. Anticipating that requirements would rise, Daniels announced that the Navy would “commandeer fuel oil and gasoline required for the Pacific fleet because of unsatisfactory bids.” The so-called necessity to commandeer arose, as it had during the war, because Daniels was unwilling to pay market price. The Navy had a stark choice, Daniels maintained: either it could seize the oil it needed, as it had during the war, or it could abandon plans for a Pacific Fleet.⁶⁰ With this false dichotomy as apparent justification, Daniels announced a plan to procure fuel oil in California that was very like the plan established in 1917 for the Atlantic, under Lever Act authority. “Under the navy orders placed today the west coast concerns will be required to supply the navy’s demands and to accept a price to be fixed later after the navy department has carefully investigated the cost of production and delivery at Pacific coast points.”⁶¹

By 16 August 1919, it became clear that Daniels meant for the FTC to conduct an investigation to determine West Coast production costs. From this, Daniels ostensibly could determine what fuel-oil price would be “fair.” California oil marketers resisted loudly and in public. As the *Oil & Gas Journal* reported, citing an undated issue of the *Petroleum Reporter*, “the producers see in the proposed investigation an attempt on the part of Secretary Daniels to whitewash his action in forcing the companies to sell to the navy at 86 cents a barrel here, although [the companies themselves] pay \$1.53 at tidewater for the same product.” One producer averred that it was unfair that the Navy could force a 67-cent loss on the marketers on every barrel sold and threaten that “if they refuse they risk government seizure.”⁶²

The Navy soon escalated, threatening large firms with seizure of their refineries. This attracted national attention, albeit from a quarter friendly to the industry. The *Wall Street Journal* reprinted a protest by Standard Oil of California (Socal) against the seizures:

The oil companies have refused to execute the requisition agreements [from the Navy]. The necessities of the war are over and they decline voluntarily to submit to

the further taking of their property without just compensation. The marketing companies have expressed their readiness and desire to supply the Navy's requirements under ordinary commercial conditions, but they have declined to make deliveries upon the Navy's confiscatory terms except under duress and compulsion of force used by the Navy. . . . Refusal to deliver the product commandeered has been met with the formal threat of an immediate seizure not only of the products in question but also of the plants at which they are produced.

In the meantime, the indebtedness of the Navy to the oil companies piles up. . . . Its bills are being paid to unwilling sellers by promises of adjustment now more than two years old. . . . It is a serious matter when a great agency of the government embarks on a policy of confiscation without hindrance by Congress or the Chief Executive.⁶³

Public awareness was no barrier to Daniels's aggression; he continued to prey on the companies, apparently confident that he still could seize oil if he could not buy it at the price he wanted. Beginning in January 1920, however, Daniels acquired a vocal and influential adversary in Admiral Sims, whose critique of the secretary's war management caused an immediate sensation. Sims accused the secretary of having been laggard in adopting modern naval-warfare tactics and of several other managerial failures. The Senate Committee on Naval Affairs began hearings on Daniels's management that would last until the end of May. The committee recorded over 3,500 pages of testimony, much of it in vehement opposition to Daniels. By the time 1920 ended Lieutenant Kittredge had completed his 450-page book excoriating Daniels, basing his analysis on the Naval Affairs Committee testimony.⁶⁴

However, as those hearings began in March, Daniels—perhaps to demonstrate his resolve—threatened to commandeer still more fuel oil if the companies refused to offer contracts at “reasonable prices.” As they had done in 1919, the companies tried to evade supplying the Navy by bidding on only a tiny fraction of the volume sought.⁶⁵ In April 1920, Daniels's management was implicitly condemned in recommendations by the Naval Affairs Committee for a complete reorganization of the Navy. Defiant, Daniels advertised that he would step up seizures in anticipation of repeal of the Lever Act, whose authority he continued to invoke even in the second year of peace.⁶⁶

In late June, the General Petroleum Company began what would become the most forceful resistance yet to Navy commandeering. Up to that moment, only the Atlantic Refining Company had resisted by taking the United States to court over Navy confiscations.⁶⁷ After General Petroleum won a temporary federal restraining order protecting the firm from seizures, a rumor circulated that “unless the company agreed to sell oil to the navy at the navy department's price” Marines would be landed to seize fuel oil physically from General's refinery in Los Angeles Harbor.⁶⁸

The rumor was “nonsense,” according to Admiral Hugh Rodman, commander of the Pacific Fleet, who pushed responsibility for any commandeering of oil up the chain of command. This took little time, as Secretary Daniels was aboard Rodman’s flagship *New Mexico* in Los Angeles Harbor. The pride of the fleet, the two-year-old, oil-powered dreadnought had returned only recently from ferrying President Wilson to sign the Versailles Treaty (which the Senate declined to ratify). Now Rodman and his boss were about to take *New Mexico* on a jaunt to San Francisco to attend the Democratic Party national convention.⁶⁹

General Petroleum’s suit singled out Daniels; Rear Admiral Samuel McGowan, the Navy’s paymaster general; and a few other officers. It argued that the oil they sought at \$1.11 would cost \$1.42 to replace, and that the firm had contracts with buyers for the same oil at \$1.85. The Navy, in short, was seeking a price per barrel 22 percent below wholesale. The U.S. attorney defended the Navy, calling these “quibbling reasons,” and asserted that the Navy “had merely set a figure as a temporary price for an advance payment.” On Lever Act grounds, Rodman challenged the company’s right to sue, because without ratification of a peace treaty the United States was still “technically at war.” The Navy also noted that the Pacific Fleet faced a fuel-oil shortage, which moved a supply officer “to declare that the oil would be commandeered, by force if necessary, and that marines might be landed to seize the oil.”⁷⁰ Rumors of the use of force, it seemed, might come true. Daniels thus was sticking with the tactic he had used with such success ever since Lever’s enactment; that is, the Navy would pay nothing or a price well under market, evade the price adjudication that Lever mandated, and then attempt to use FTC estimates to justify a lowball price. What was new was the threat to use the Marines to enforce the scheme.

General Petroleum’s bid for a permanent injunction against seizures ultimately was dismissed, on the reasonable grounds that naval readiness could be at risk. Yet the presiding judge, Benjamin Franklin Bledsoe, evaded the core price adjudication problem, calling instead for just compensation “according to the usual rules and principles that obtain in courts of law.”⁷¹ The problem was that there never had been anything “usual” in the Navy’s seizures, nor any provision for how the price disputes that led to them were to be settled.

Judge Bledsoe also ruled that force could be used to compel the company to deliver oil at \$1.11 per barrel, even though the Navy already had contracted for a small quantity (two thousand barrels) at the much higher per-barrel price of \$2.85 then prevailing. The judge, however, insisted that only a jury could decide what the price for new procurements should be, and further muddied the issue of price adjudication by referring, vaguely, to a “judicial tribunal” that should determine the price.⁷² Since the Lever Act was silent on precisely how prices should be adjudicated, this left Daniels with the upper hand.

The companies' economic fight with the Navy continued around San Francisco Bay a few days later. On 7 July, the Union Oil Company refused to deliver a tiny quantity of oil at \$1.60 per barrel to the Mare Island Naval Station in Vallejo. A Union official declared that "it was unjust for the Navy to attempt the use of a war time measure to extract a more favorable price than other customers were paying, the market figure being \$2.60." The official also hinted at a passive-aggressive tactic that evidence suggests large California oil firms may have employed widely in the second half of 1920. "The navy may take oil from us and fix its price, but it cannot compel us to continue to refine oil at navy prices or sell at navy figures."⁷³ What this meant was that Union was minimizing fuel-oil production to avoid loss-making seizures; other firms probably were too. Perhaps for that reason, on 17 July Mare Island Station sent a demand for more fuel oil to four of the five California firms from whom the Navy had been seizing oil since 1917, offering \$1.72 per barrel; the fifth firm, General Petroleum, already had been subdued in Los Angeles. Although the Navy's \$1.72 was slightly higher than its offer from two weeks before, a reporter noted that market price was "steadily rising above that figure."⁷⁴

The California supply never had been tighter than in the summer of 1920, and meanwhile nationwide consumption was growing at 25 percent a year. Rapidly growing legions of California automobile owners pushed gasoline demand ahead of refinery capacity, while fine weather extended the driving season. To contend with the demand surge, the oil industry in California, Oregon, and Washington adopted a remarkable and comprehensive suite of demand-suppression measures. These included demand prioritization, tiered pricing, rationing, forced substitution to lower grades of fuel, and proselytizing for conservation. The companies also held down price and, as we will see, sold some grades at a loss. In a study of this unusual market, economists Alan Olmstead and Paul Rhode hypothesize "that the oil companies held prices down because they were afraid of hostile government actions."⁷⁵ The Navy's fuel-oil seizures, as revealed in the present article, strongly appear to be the "hostile government actions" that Olmstead and Rhode inferred had intimidated the oil companies into forgoing price increases.

The convergence of rapid demand growth, regional scarcity, and Daniels's anticorporate aggression created a strong incentive for California oil companies to do two things: (1) maximize gasoline production, which happened to require minimizing the refining of fuel oil, and (2) avoid supplying fuel oil to the Navy at a loss. For example, Union Oil's tactic of declining to refine fuel oil, which the other large California firms appear to have followed, seems to have been a response to both the general scarcity of gasoline and the desire to avoid supplying the Navy. Navy behavior also explains oil-industry reluctance to advance West Coast gasoline prices in line with national upward trends. The firms seem to have

feared that raising prices would harden public opinion further against them, thus allowing the Navy's economic aggression to intensify.

Meanwhile, the combination of crude shortages and company efforts to avoid further seizures was affecting Navy readiness in the Pacific. By late July, fuel oil was so scarce that the Navy began burning coal in three oil-powered dreadnoughts based in California home ports. Then the unthinkable happened: on or shortly before 24 July 1920, one of six destroyers en route from San Diego to San Francisco ran out of fuel oil at sea and had to be rescued by a coal-burning tugboat.⁷⁶

This moved the Navy to act even more aggressively against the companies. The Department of Justice was consulted, after which AG A. Mitchell Palmer instructed the U.S. district attorney to assist the Navy if necessary. Then a "high officer" of the Twelfth Naval District, headquartered at Mare Island, threatened that the companies' refusal to sell would result in either cancellation of a reservists' training cruise in the six destroyers or the seizure of 150,000 gallons of fuel oil so the cruise could proceed.⁷⁷ The companies would not sell at \$1.72 per barrel; hence seizures by armed force began on 26 July 1920 against northern California oil companies. Once the six destroyers from San Diego reached San Francisco Bay, they carried out a "threat to seize fuel oil from four companies [Socal, Union, Associated, and Shell] which had refused to sell at the price of \$1.72 a barrel."

Associated was targeted first. Ignoring the firm's protest, Navy vessels snatched not 150,000 gallons, as threatened, but five hundred thousand gallons (about twelve thousand barrels); "[t]he Navy virtually seized the fuel," Associated's plant manager declared, "because it has the men to make good its threat to take this oil." He complained that the cost of crude oil at the wellhead, two hundred miles away, was \$1.60 per barrel, so the notion that it could be transported from there to San Francisco, then refined, stored, and sold for \$1.72 was "ridiculous." The Navy's long habit of such behavior was why Associated earlier had declined to bid on new tenders. As the manager put it, "[W]e could not meet the price the Navy demanded without losing money."⁷⁸ Naval officers admonished the firm "to resort to court action" if it wanted a higher price for the confiscated oil.⁷⁹

With AG Palmer on his side, the following day Daniels took even-more-aggressive steps. At Naval Coaling Station La Playa in San Diego, a four-million-barrel storage facility was nearly empty, apparently because firms were unwilling to bid at a price the Navy would accept. So more than twenty warships from La Playa raided Union and Socal refinery wharves, paying \$1.72 per barrel.⁸⁰ Two days later, a subdued Socal agreed to a three-month contract for three hundred thousand barrels at \$2.00.⁸¹ Apparently Socal, to avoid future confrontations, was willing to accept payment that was well below market price. The price of fuel oil increased steadily for the remainder of the summer of 1920, which made Socal's

price concession ever more painful to sustain. However, although no one knew it at the time, the oil price bubble soon would burst; the thirty-year price maximum was just a few months in the future.

Shell was the last firm willing to risk physical resistance to the Navy. Daniels may have regarded the Anglo-Dutch giant as the least pliable of the five big West Coast firms, and saved his assault on it for last. Oil prices had continued to rise all summer, but in response to Shell's asking price of \$2.35 in early September the Mare Island commandant led a party of Marines into the Shell refinery at Martinez. On 11 September, they smashed heavy locks on outlet valves, apparently set in anticipation of the Navy's arrival. After a formal request to purchase at \$2.00 per barrel, the raiding party drew off two thousand barrels.⁸²

After that, Shell seems to have ceased refining, in an effort to avoid further losses. When the Navy tanker *Chenwa* arrived in Martinez on 20 September to procure a large order of fuel oil, Shell employees offered no resistance—nor any assistance. Soon after *Chenwa*'s pumps began to work, however, the sailors recognized to their horror that the oil they were drawing was “unfit of use owing to insufficient refining.”⁸³ Shell apparently had left unrefined heavy crude in the storage tank it expected the Navy to raid. The Navy understood Shell's action as the retaliation it was, and Daniels's campaign of economic intervention via armed force escalated in response. As of 24 September, “[a]rmed marines are today standing guard over the plant of the Shell Oil Co. at Martinez. Following the failure of the navy to procure the oil through forcible seizure because the company is said to have diverted its oil, Rear Admiral [Joseph L.] Jayne, commandant of the Twelfth naval district, detailed an armed guard to watch the oil plant. The guard has been instructed to prevent all shipment of oil by the company until the navy obtains its supply.”⁸⁴ Since Shell refused to deliver as expected, the Navy explained, these measures were necessary to ensure that the company supplied “its pro rata share and as an act of justice to other companies and their customers.” Shell, for its part, insisted it had no agreement with the Navy.⁸⁵

Thus, company resistance to the Navy was long in coming, beginning only late in 1919, by Atlantic Refining, and intensifying in California during 1920—more than three years after nonpayments and underpayments began. As the California companies began to resist, they were engaged simultaneously in a costly program of retail price restraint and rationing to suppress gasoline demand growth. The California firms understood that, politically, they could not raise the price of gasoline while the Navy was confiscating their products and berating them for profiteering, regardless of the economic reality that they lost money on every barrel seized.

Armed seizures from domestic businesses during peacetime by a U.S. military force were something new in American history—akin to internal piracy. Seizures

without force began before the Lever Act gave the Navy any sliver of legality and continued after fuel administrator Requa's failed effort to establish a fair price. At Daniels's direction, things escalated from there.

PEAK OIL AND THE COURSE THAT WAS FOLLOWED

Republican Warren G. Harding's landslide victory in the November 1920 presidential election dashed any hope Daniels had of remaining in government via the good offices of his former assistant secretary, Franklin D. Roosevelt, who was the losing Democratic Party candidate for vice president. Daniels's most ruthless ally, AG Palmer, also was a lame duck. Faced with impending replacement by a Republican appointee and with his public humiliation in the Senate hearings a recent memory, Daniels may have been moved by the prospect of further accountability to a change of political style. After eight years of either lambasting his critics or ignoring them, Daniels suddenly began trying to explain himself. In so doing he revealed the remarkable plan he had followed for eight years, in anticipation of the peak-oil crisis that Interior had predicted.

The secretary's revelation came in response to a pointed critique from Thomas A. O'Donnell, president of the newly constituted American Petroleum Institute (API). The Los Angeles oilman had worked closely with Requa on the PWSC, but ultimately resigned in exasperation at obstacles the government had thrown in the path of wartime production. In a long and combative speech to the API, O'Donnell rejected Interior's peak-oil theory and blamed the Navy and the FTC for the dire supply problems on the West Coast. A trade-journal reporter summarized O'Donnell's message as follows: "The only danger to the maintenance of an adequate supply that he sees is in continuation of agitation fomented by foolish politicians and pseudo-scientists against the industry, restrictions placed on the oil man by the government, and barring the American oil man from development of foreign fields [as Britain, the Netherlands, and some oil-producer states were doing]."⁸⁶

O'Donnell also attacked Interior's assertion that present shortages constituted evidence of peak oil. While acknowledging that there was "a serious world-wide shortage of petroleum" at that moment, he delivered the following explanation:

Important discoveries are continuing to occur in this country and, I believe, additional discoveries will be made long after the time limit set for exhaustion by some of our experts. . . . The present shortage has not been caused by any serious exhaustion of the petroleum deposits, but has been caused by extraordinary increased consumption. In the United States the production of petroleum has increased about 25 per cent in a little over a year. . . . Agitation by government officials, statesmen, or politicians is just as dangerous as governmental regulation and interference. It destroys stability, credit, and confidence.⁸⁷

O'Donnell was rightly confident that recent price increases would call forth more than enough new production, and he was particularly critical of Navy land withdrawals to create the Naval Oil Reserve. The land withdrawals negated millions of dollars invested there and discouraged further investment. As O'Donnell put it, "[T]he attitude of the navy department toward Pacific coast producers, coupled with agitation for governmental investigation of the industry, nearly always by men not familiar with the subject and frequently with preconceived prejudice, has had a destructive influence on the development of petroleum resources on the Pacific coast." Alluding to the oil seizures of the past summer and fall, O'Donnell complained, "While an armistice has been signed with the Germans, no armistice has been offered to the oil producers by the Navy Department."⁸⁸

Daniels responded to O'Donnell vigorously, revealing much about the centrality of the theory of peak oil to Wilsonian oil policy. Daniels maintained that he had had no choice but to act as he did. Referring to his consultation with Secretary Lane in 1915, Daniels wrote to O'Donnell, reminding him that "[b]efore we adopted the policy of burning oil, the question of the adequate supply for future use was thoroughly investigated and assurances received . . . from the Interior Department that such a supply would be available." As Daniels saw it, there was no alternative to his policy of oil seizures and mineral-patent repatriation. As he told the oilman, "I cannot see how any other course could have been followed when the unprecedented conditions following the war resulted in a world shortage of oil. It would have been suicidal to have opened up our reserves set aside for the future to meet a temporary situation in the present."⁸⁹

With respect to peak oil, Daniels's declaration was elliptical in comparison with his bold assertion of 1915 that the entire world would run out of oil at the same time, leaving the Naval Oil Reserve as the last oil on earth. Yet peak oil was still on the secretary's mind. The reserves, he told O'Donnell, were "set aside for the future," and not even the present severe shortage—in which a Navy warship had run out of oil at sea—was critical enough to open them. Implicit but clear was that the future for which the Naval Oil Reserve was being saved was one in which American oil production was exhausted.⁹⁰ Thus, what O'Donnell protested as Navy lawlessness was, to Daniels, an inevitable necessity if the Naval Oil Reserve was to be protected until peak oil arrived.

It was ironic that oil price was the issue that led to so many seizures. Progressives' ire against the oil companies over high prices rang hollow even at the time; prices of everything had increased greatly between 1916 and 1920, as economist Alvin H. Hansen explained in a 1920 article.⁹¹ The prices of naval stores (a category including pitch, paint, resin, tar, turpentine, and pine oil), as but one example, rose 300 percent in 1918 alone.⁹² In 1919 prices rose

still higher. In both years, industry observers compared the naval stores price increases to “the phenomenal prices of the Civil War period, when the supplies of turpentine and rosin were cut off by the armies of the South.”⁹³ Why oil prices should be considered too high for the Navy when the entire economy was racked by rampant postwar inflation was something Daniels never tried to explain. Interior’s peak-oil activism, meanwhile, was becoming more fevered. “[N]othing is more certain,” declared USGS chief geologist David White, than that U.S. production would begin its terminal decline within two to three years.⁹⁴ The price of oil, therefore, should rise. To an ultra-Progressive such as Daniels, however, an oil-price increase could have but one explanation: profiteering, which must be opposed as a matter of patriotism. Daniels thus maintained to O’Donnell that he had had no alternative but to act as he did: lowballing California producers, withholding their compensation, and ultimately seizing their oil by force. Daniels also claimed that the Navy had tried to obtain “so far as possible, oils from other than American fields.” This claim may be true, but research for this article found no records or discussion of procurements or seizures from the most conspicuous importer in California, Doheny’s Mexican Petroleum Company.

Lastly, Daniels reminded O’Donnell that California firms had been paid a “tentative price . . . until such time as just compensation could be determined.” This was not false, but it hid more than it revealed. First, only Socal had been offered “just compensation”; second, no method of adjudication had been established; and third, Daniels long since had rejected Sanderson & Porter’s methodology for fair price estimates. So firms had to consider the possibility that the “tentative price” might be the last one the Navy ever would offer. In any case, Daniels concluded to O’Donnell, his hands were tied; “I don’t see how we could have done anything else in this matter.”⁹⁵

Two extreme ideologies found expression in Josephus Daniels’s management of the naval oil supply. The first was Progressivism, which to Secretary Daniels meant an assumption that in any relation between a large, private business and the Navy the business had an unfair advantage that he was duty bound to overcome. The second was oil-scarcity ideology—that is, the peak-oil theory that Daniels absorbed from scientists of the Department of the Interior, and the inference drawn from peak oil that an aggressive policy was needed to avert terminal scarcity.⁹⁶

Following the ostensible imperatives of these ideologies, Daniels fashioned an unusual, confrontational, and almost delusional oil policy. To compensate for what he thought was the impending exhaustion of American oil production, Daniels created and defended the Naval Oil Reserve, which had to be kept untouched until the day when all the world’s oil fields ran dry simultaneously. Yet

Daniels never defined how the Navy would know that peak oil was near or what the criteria were for opening the Naval Oil Reserve. Having an oil reserve was, of course, not a bad thing, but Daniels had no policy other than to protect it against the presumptive day when exhaustion was near.

To preserve the reserve, Daniels determined to take oil at the price he considered fair—always *below* market price—or withhold payment from the oil companies altogether. This policy began even before the 1917 passage of the Lever Act allowed the government to seize fuel if a price could not be agreed on. Daniels's campaign of oil seizure continued throughout America's participation in World War I and right up until Daniels's last months in office. Some firms went unpaid or underpaid for three and a half years, from spring 1917 to late fall 1920.

Daniels's transfer of oil-powered warships to West Coast home ports was strongly positive for the growth of American naval power in the Pacific Ocean, but their arrival in California during a severe gasoline shortage provoked the secretary to harsher measures to secure oil. After the Navy began using force to enter the refineries of firms unwilling to sell at a price Daniels would pay, companies appear to have responded by minimizing their production of fuel oil. One firm even tricked the Navy, placing crude oil the Navy could not use in the tank it expected the Navy to raid. This defiance moved Daniels to surround the offending refinery with armed Marines so that, if the Navy could not get oil by seizure, no one else could get any by purchase. Daniels's most extreme acts took place in the summer and fall of 1920, during the run-up to the presidential election in November—which Republican candidate Warren G. Harding won. Daniels may have called an end to seizures once he knew Harding would take office; there is no direct evidence of this, but a California newspaper database that returned much useful information about seizures between 1917 and October 1920 returned nothing for the short portion of Daniels's tenure that came after the election.

While Daniels's oil-seizure campaign was an aberration in Navy history, it was not so unusual in the context of Wilsonian interventionism. Wilson normalized lawlessness against those whom Progressives considered unpatriotic or alien. However, that lawlessness mainly was directed downward, against the weak (e.g., labor unionists, blacks, and immigrants); Daniels, by contrast, used the imaginary peak-oil crisis to direct the power of the state upward, against large oil corporations. This use of peak oil as the rationale to do something aggressive is the essence of "oil-scarcity ideology," a thought system that has had a profound impact on American foreign policy.⁹⁷

The 1914 U.S. invasion of Veracruz, Mexico, was typical of aggressive policies rationalized by oil-scarcity ideology. These were foreign policies adopted to secure a supply for the United States and to preempt other countries from doing so for

themselves to the detriment of the United States. Daniels's use of scarcity ideology was unusual in that his aggression was directed inward, against corporations of his own country; it was more typical for such force to be exerted outward.

The most significant later policy rationalized by scarcity ideology was the Carter Doctrine of 1980. It asserted that the free flow of oil from the Persian Gulf constituted an American national interest, and that flow was to be defended by force, if necessary. The policy was based on a Central Intelligence Agency (CIA) peak-oil theory. By the mid-1980s, the agency claimed, the United States would be out of oil, along with many other countries; only the Middle East would have any oil left. This argument was put to President Carter in the days before he proclaimed the doctrine that now bears his name.⁹⁸ But the CIA was wrong, and for the same reasons that Britain's eighteenth- and nineteenth-century peak-coal forecasts were wrong, which were the same reasons that Interior's peak-oil forecasts of 1908–20 were wrong: their models assumed that there would be no technological progress, and that rising prices would not stimulate investors to look harder for oil than they had when prices were low.⁹⁹ The CIA also concluded that an oil-starved Soviet Union would invade Iran to replace its own failing supply; however, it was fairly obvious from Western energy journals that the USSR faced no oil crisis.¹⁰⁰ Nonetheless, to deter the anticipated Soviet attack on Iran that peak oil supposedly would provoke, a large USN force was sent to the Persian Gulf in 1980, where it remains to this day.¹⁰¹

Josephus Daniels hardly was alone in falling under the influence of a destructive and persuasive strain of bad science—perhaps the worst ever practiced. In a sense, he was a victim of the scientists who concocted an analysis that asserted that the United States would run out of oil by the 1930s. One might fault Daniels for ignoring the oil industry's consistent rejection of the peak-oil theory, but no other federal official questioned peak oil either, save for the four geologists who in 1908 challenged the plausibility of mineral-exhaustion forecasts but were ignored. One lesson of this affair is that American political leaders are vulnerable to persuasion that oil is running out and are willing to take extreme action, including attacks on their own nation's oil industry, to avert even imaginary oil crises. The other is that scientists are as willing as anyone else to invoke the specter of implausible catastrophe to enhance their personal or bureaucratic authority.

NOTES

1. Lee A. Craig, *Josephus Daniels: His Life & Times* (Chapel Hill: Univ. of North Carolina Press, 2013), chaps. 2–4. Daniels used his newspapers to campaign for white supremacy,

which meant subverting the enfranchisement of black voters that the Fourteenth and Fifteenth Amendments, the latter two of the three known as the Reconstruction

- amendments, had established. Daniels, like many Southern intellectuals and politicians of the era, sought to devise state- and local-level work-arounds that could defeat the Reconstruction amendments' intent without actually repealing them, which would have been impossible politically. His white-supremacy campaign first required strengthening the North Carolina Democratic Party to overcome the so-called Fusionists, an alliance of blacks, poor whites, and Republicans. Daniels was crucial to the success of this effort; by fanning the flames of racial hatred in the pages of the *Raleigh News & Observer (N&O)*, he helped pull poor whites away from the Fusionists. The *N&O* became the intellectual source for North Carolina politicians campaigning against blacks' rights to vote and serve in government; against local governments led by blacks; and against the social mingling of the races. He was lauded for his oratory; one agitator redirected praise for his own success to Daniels: "Any man can make speeches if he would read the *News and Observer*." The de facto and de jure disenfranchisement of black North Carolinians that this campaign achieved resulted from acts of terror against blacks, gerrymandering, revocation of local government authority in black-majority jurisdictions, and poll taxes and literacy tests. Poor whites could avoid the last two mentioned via a grandfathered right to vote.
2. Proceedings of a Conference of Governors in the White House, Washington, D.C., May 13–15, 1908, H.R. Doc. No. 60-1425, pp. 3–12 (W. J. McGee ed., 1909).
 3. *Ibid.*
 4. Henry Gannett, ed., *Report of the National Conservation Commission* (Washington, DC: U.S. Government Printing Office, 1909).
 5. David T. Day, "The Petroleum Resources of the United States," in *ibid.*
 6. Marius R. Campbell and Edward W. Parker, "Coal Fields of the United States"; C. W. Hayes, "Iron Ores of the United States"; and W. Lindgren, "Resources of the United States in Gold, Silver, Copper, Lead, and Zinc"; all in *Report of the National Conservation Commission*, ed. Gannett.
 7. Woodrow Wilson, "The Study of Administration," *Political Science Quarterly* 2, no. 2 (1887), p. 220.
 8. Joan M. Jensen, *The Price of Vigilance* (Chicago: Rand McNally, 1969); David C. Unger, *The Emergency State: America's Pursuit of Absolute Security at All Costs* (New York: Penguin, 2012), pp. 24–25.
 9. William J. Bryan to Woodrow Wilson, 9 April 1914, General Records of the Department of State, 1763–2002, Record Group [RG] 59, National Archives and Records Administration, Washington, DC [hereafter NARA].
 10. Jonathan C. Brown, *Oil and Revolution in Mexico* (Berkeley: Univ. of California Press, 1993), chap. 3.
 11. Robert E. Quirk, *An Affair of Honor: Woodrow Wilson and the Occupation of Veracruz* (New York: W. W. Norton, 1967), p. 103.
 12. Paul Sabin, *Crude Politics: The California Oil Market, 1900–1940* (Berkeley: Univ. of California Press, 2005), pp. 195–96.
 13. Craig, *Josephus Daniels*.
 14. "Naval Charges Denied," *Los Angeles Herald*, 21 June 1917, p. 1.
 15. Some profiteering was real but much was imagined. The coexistence of profiteering with legitimate practices is a recurring theme in Mark Wilson, *The Business of Civil War: Military Mobilization and the State, 1861–1865*, Studies in the History of Technology (Baltimore: Johns Hopkins Univ. Press, 2006).
 16. Tracy Barrett Kittredge, *Naval Lessons of the Great War: A Review of the Senate Naval Investigation of the Criticisms by Admiral Sims of the Policies and Methods of Josephus Daniels* (Garden City, NY: Doubleday, 1921), p. 452.
 17. Day, "The Petroleum Resources of the United States."
 18. David White, "The Petroleum Resources of the World," *Annals of the American Academy of Political and Social Science* 89 (May 1920), p. 126.
 19. U.S. Navy Dept., *Annual Reports of the Navy Department for the Fiscal Year 1913* (Washington, DC: U.S. Government Printing Office, 1914), pp. 14–16.
 20. *Estimates Submitted by the Secretary of the Navy, 1916: Hearings before the H. Comm. on Naval Affairs*, 64th Cong., p. 3604 (1916) (statement of Josephus Daniels, Secretary of the Navy).

21. From a letter to the Secretary of the Navy, cited in John A. DeNovo, "Petroleum and the United States Navy before World War I," *Mississippi Valley Historical Review* 41, no. 4 (1955), p. 647.
22. *Ibid.*, p. 650.
23. U.S. Navy Dept., *Annual Reports of the Navy Department for the Fiscal Year 1913*, pp. 14–15.
24. U.S. Navy Dept., *Annual Reports of the Navy Department for the Fiscal Year 1915* (Washington, DC: U.S. Government Printing Office, 1916), p. 63.
25. *Ibid.*; U.S. Navy Dept., *Annual Reports of the Navy Department for the Fiscal Year 1913*, pp. 14–15.
26. H.R. Res. 175, 64th Cong. (1916); "Report Made on Gasoline," *Federal Trade Reporter*, 15 April 1916, pp. 237–38; "Gasoline Question in Congress," *Federal Trade Reporter*, 15 April 1916, pp. 238–41.
27. *Estimates Submitted by the Secretary of the Navy, 1916*, pp. 3602–609 (statement of Joseph Daniels, Secretary of the Navy).
28. "Daniels in Defense of Navy Oil Reserve: Asks President to Block Legalizing of Entries on the Land Withdrawn by Taft; Secretary Says Claim, If Allowed, Would Leave Only Fuel for Five Years of War," *New York Times*, 20 May 1916, p. 6.
29. "Naval Petroleum Reserve #1 and #2, California," *Center for Land Use Interpretation*, clui.org/; Chris Kraul, "Occidental's \$3.7-Billion Bid Buys Elk Hills Field," *Los Angeles Times*, 7 October 1997.
30. Manley Rutherford Irwin, *Silent Strategists: Harding, Denby, and the U.S. Navy's Trans-Pacific Offensive, World War II*, rev. ed. (Lanham, MD: Univ. Press of America, 2013), pp. viii, 19.
31. PWSC meeting minutes of 13 September 1918 record that SONJ president Walter Teagle had submitted bills "which extend back to the time the United States entered the War" but that the Navy had rebuffed him. This would make the unpaid bills about seventeen months old. "Minutes of the 31st Meeting of the National Petroleum War Service Committee, Held in the Office of the Chairman, 26 Broadway, Friday, September 13th, 1918, at 11 O'Clock A.M.," Mark L. Requa Papers, box 3, Univ. of Wyoming American Heritage Center, Laramie, WY [hereafter Requa Papers]. PWSC records, and much else pertaining to oil logistics during World War I, reside in this collection. Requa was director of the Oil Division of the U.S. Fuel Administration. His job was to regulate oil production and coordinate transportation to keep both the domestic economy and the Allied war effort supplied. Requa worked closely with oil executives as well as then-Vice Admiral William S. Sims, who, among his other wartime duties, directed the U.S. Shipping Mission in London.
32. Josephus Daniels to Woodrow Wilson, 18 June 1917, in *Papers of Woodrow Wilson*, ed. Arthur S. Link (Princeton, NJ: Princeton Univ. Press, 1966), vol. 42, pp. 534–35.
33. "Daniels to Battle for Navy Supplies," *Los Angeles Herald*, 20 June 1917, p. 2.
34. From section 4 of the Food and Fuel Control Act of 1917, known as the Lever Act. Text of the act is reprinted as an appendix in George Otis Smith, ed., *The Strategy of Mineral: A Study of the Mineral Factor in the World Position of America in War and in Peace*, (New York: D. Appleton, 1919).
35. Cover letter to the submission of a report, "Prices of Petroleum Products Including Fuel Oil for the United States Navy: Report to Mark L. Requa, Esq., General Director, Oil Division, United States Fuel Administration, Washington, D.C. from Sanderson & Porter, Engineers," Requa Papers, box 4 [hereafter S&P report]. Emphasis added.
36. Mark L. Requa to A. C. Bedford, National Petroleum War Service Committee, 8 August 1918, Requa Papers, box 3.
37. Memorandums for Mr. Naramore, 2 August 1918, United States Fuel Administration, Records Relating to U.S. and British Oil Policy, 1918–1920, Great Britain, vols. 1, 2, box 2, RG 67, NARA.
38. *Ibid.*
39. John Mason Hart, *Revolutionary Mexico: The Coming and Process of the Mexican Revolution* (Berkeley: Univ. of California Press, 1989), pp. 162–63.
40. Roger M. Olien and Diana Davids Olien, *Oil and Ideology: The Cultural Creation of the American Petroleum Industry*, Luther Hartwell

- Hodges Series on Business, Society, and the State (Chapel Hill: Univ. of North Carolina Press, 2000), p. 117.
41. For a description of Gregory's suit against Jersey affiliates in Texas, see Evan Anders, "Thomas Watt Gregory and the Survival of His Progressive Faith," *Southwestern Historical Quarterly* 93, no. 1 (July 1989), pp. 1–24; Requa to Bedford, 8 August 1918.
 42. "PWSC Minutes of the 22nd Meeting of the National Petroleum War Service Committee, Held in the Office of the Chairman, 26 Broadway, N.Y. City, Friday, June 21, 1918," Requa Papers, box 3.
 43. S&P report.
 44. Josephus Daniels to Harry A. Garfield, United States Fuel Administrator, 7 October 1918, Josephus Daniels Papers, container 518, reel 36, Library of Congress, Washington, DC [hereafter Daniels Papers].
 45. A. C. Bedford, National Petroleum War Service Committee, to M. L. Requa, 18 September 1918, Requa Papers, box 6.
 46. "Costs of Refining," sec. 13 in S&P report, pp. 60–70.
 47. Daniels to Garfield, 7 October 1918.
 48. S&P report, p. 142.
 49. Volumes of seizures in *ibid.*, p. 243. FY18 production estimated from an average of 1917 and 1918 total calendar year U.S. production, so as to reflect the federal fiscal year, 1 July 1917–30 June 1918. Total U.S. production from E. Russell Lloyd, "Petroleum," in *Mineral Resources of the United States, 1918*, pt. 2, *Nonmetals* (Washington, DC: U.S. Government Printing Office, 1921), pp. 969–1170.
 50. John Mason Hart, *Empire and Revolution: The Americans in Mexico since the Civil War* (Berkeley: Univ. of California Press, 2002), p. 306.
 51. Total U.S. production was estimated as in note 49. Jersey refinery runs for the federal fiscal year were averaged from data for 1917 and 1918 in table 8 in the SONJ company history. George S. Gibb and Evelyn H. Knowlton, *History of Standard Oil Company (New Jersey)*, vol. 2, *The Resurgent Years, 1911–1927* (New York: Harper, 1955), app. 2.
 52. SONJ gross earnings data go back only as far as 1919, when they were \$455 million. The firm's losses for the federal fiscal year 1918 were \$42 million, from a lower total production than 1919. Seized-oil-volume data taken from S&P report, p. 144. SONJ financial data from Gibb and Knowlton, *The Resurgent Years*, app. 2, table 2.
 53. Paul F. Hannah, "Some Aspects of Price Control in Wartime," *Cornell Law Review* 27, no. 1 (1941), p. 21. The Price Fixing Committee originated within the War Industries Board, which was headed by Bernard M. Baruch. To give it more authority, the committee was made independent in May 1918, so it could act "as the personal representative of the President, exercising such prestige or authority as he might have as President of the United States and commander in chief of the Army and Navy." The Price Fixing Committee chairman was Robert S. Brookings. Membership included such luminaries as Baruch; F. W. Taussig; Harry Garfield of the Fuel Administration; W. B. Colver, chairman of the Federal Trade Commission; and one representative each from the Army and Navy. In C. F. Stoddard, "Price Fixing by the Government during the War," *Monthly Labor Review* 10, no. 5 (1920), pp. 1–24.
 54. "Minutes of the 37th Meeting of the National Petroleum War Service Committee Held Friday October 25th, 1918, at 11 O'Clock A.M. at 26 Broadway, N.Y.," Requa Papers, box 3.
 55. "PWSC Minutes of the 40th Meeting of the National Petroleum War Service Committee Held Friday, November 22, 1918, at 26 Broadway, N.Y.," Requa Papers, box 3.
 56. "Coal Association Wants Tariff on Oil," *Oil & Gas Journal* 18, no. 5 (1919), p. 64.
 57. See Peter A. Shulman, "Empire of Energy: Environment, Geopolitics, and American Technology before the Age of Oil" (PhD dissertation, Massachusetts Institute of Technology, 2007), pp. 195–96.
 58. "No Hitch in Fleet Voyage: Ready to Go through First Stage in Panama Canal Journey," *Sacramento Union*, 26 July 1919, p. 1.
 59. "Big Pacific Fleet in Review: Giant Guns Thunder Salute to Navy Chief," *Los Angeles Evening Herald*, 7 August 1919, pp. 1, 13.

60. "Daniels to Seize Fuel for Ships," *Washington Herald*, 1 July 1919, p. 1.
61. "West Concerns to Supply Navy Oil," *Sacramento Union*, 1 July 1919, p. 7.
62. "Oil Operators Are Ready to Meet Their Accusers," *Oil & Gas Journal* 18, no. 12 (22 August 1919), p. 69.
63. "Navy Threatens Seizure of Coast Oil Refineries," *Wall Street Journal*, 20 August 1919, p. 1.
64. Kittredge, *Naval Lessons of the Great War*.
65. "Fuel Seizure Is Threat. Daniels Says Navy Will Commandeer Supply If Necessary," *Morning Oregonian*, 12 March 1920, p. 17.
66. "Senate Committee Will Urge Complete Navy Reorganization," *Los Angeles Evening Herald*, 10 April 1920, p. A1.
67. "Coal Association Wants Tariff on Oil," p. 64.
68. "Navy Has No Intention of Using Force to Secure Oil," *Sacramento Union*, 20 June 1920, p. 2; "Secretary Daniels to Be Present Dem. Convention," *Red Bluff (CA) Daily News*, 19 June 1920, p. 2.
69. "Navy Has No Intention of Using Force," p. 2; "Secretary Daniels to Be Present," p. 1.
70. "Refused Navy Oil in War, Charge in L.A. Court: U.S. Fights Suit of Company against Fleet Commandeering Petroleum," *Los Angeles Herald*, 21 June 1920, p. 1.
71. "Injunction Is Refused in Oil Seizure Matter," *Oil & Gas Journal* 19, no. 5 (1920), p. 89.
72. "Navy Gains Point in Oil Controversy," *San Pedro Daily News*, 22 June 1920, p. 1.
73. "Oil Price Dispute Goes to Daniels," *Sacramento Union*, 8 July 1920, p. 2.
74. "Navy Demands Supply of Oil—Mare Island Orders 14,400 Barrels from Companies at Former Price," *Sacramento Union*, 18 July 1920, p. 9.
75. Alan L. Olmstead and Paul Rhode, "Rationing without Government: The West Coast Gas Famine of 1920," *American Economic Review* 75, no. 5 (1985), pp. 1044–55.
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77. Ibid.
78. "Seize Oil for Navy," *Los Angeles Times*, 27 July 1920, p. I-5.
79. "Destroyers Take 500,000 Gallons Oil at Frisco—Six Destroyers Ordered to Commandeer Big Plant If Necessary," *Columbus (GA) Enquirer Sun*, 27 July 1920, p. 1.
80. Ibid.
81. "Navy to Pay \$2.00 for Oil—Standard Company's Proposal Accepted; Ends Long Contest over Price," *Sacramento Union*, 30 July 1920, p. 1.
82. "Latest News—U.S. Marines in Big Cal. Oil Seizure," *Los Angeles Herald*, 11 September 1920, p. 1.
83. "Inferior Fuel Halts Navy Oil Seizure," *Los Angeles Herald*, 20 September 1920, p. A11.
84. "Armed Marines Put over Cal. Oil Plant," *Los Angeles Herald*, 24 September 1920, p. 1.
85. "Armed Marines Guard Oil Plant—Shell Company Fails to Make Big Delivery for Naval Vessels," *Sacramento Union*, 24 September 1920, p. 8.
86. Thomas A. O'Donnell, "Oil Supply Sufficient If Wildcatter Is Unrestricted," *National Petroleum News* 12, no. 47 (1920), pp. 53–54.
87. Ibid.; "Say Oil Supply Good for Years—Prominent Petrol Men Declare Resources of World Nowhere near Exhaustion," *Miami Herald*, 20 November 1920, p. 5.
88. O'Donnell, "Oil Supply Sufficient If Wildcatter Is Unrestricted"; "Say Oil Supply Good for Years."
89. Josephus Daniels, Secretary of the Navy, to Thomas O'Donnell, 19 November 1920, Daniels Papers, containers 566–67, reel 64.
90. Ibid.
91. Alvin H. Hansen, "The Sequence in War Prosperity and Inflation," *Annals of the American Academy of Political and Social Science* 89 (May 1920), pp. 234–46.
92. "Naval Store Prices in 1918 Unprecedented," *1918 Year Book of the Oil Paint and Drug Reporter* (1919), pp. 231–33.
93. "Naval Stores in 1919," *1919 Year Book of the Oil Paint and Drug Reporter* (1920), pp. 214–15.
94. White, "The Petroleum Resources of the World," p. 115.
95. Daniels to O'Donnell, 19 November 1920.

96. Roger J. Stern, "Oil Scarcity Ideology in US Foreign Policy, 1908–1997," *Security Studies* 25, no. 2 (2016).
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98. Fritz Ermarth and Marshall Brement, "Memorandum for Brzezinski: CIA Assessment of Future Soviet Policy in Southwest Asia," 18 January 1980, NLC 6-82-7-14-3, Jimmy Carter Presidential Library, Atlanta, GA.
99. Nuno Luis Madureira, "The Anxiety of Abundance: William Stanley Jevons and Coal Scarcity in the Nineteenth Century," *Environment and History* 18 (2012), pp. 395–421.
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101. Stern, "Oil Scarcity Ideology in US Foreign Policy."

BOOK REVIEWS

“THE ART OF WAR IS SIMPLE ENOUGH”—U. S. GRANT

The Kremlin Letters: Stalin's Wartime Correspondence with Churchill and Roosevelt, ed. David Reynolds and Vladimir Pechatnov. New Haven, CT: Yale Univ. Press, 2018. 660 pages. \$35.

The distinguished Cambridge University professor of international history and specialist in twentieth-century history David Reynolds has joined with Vladimir Pechatnov of the Moscow State University of International Relations to produce this major contribution to the history of the Second World War. The volume is a carefully edited collection of documents embedded within an archival-based interpretive narrative analysis of Stalin's wartime correspondence with Prime Minister Winston Churchill and President Franklin Delano Roosevelt between 1941 and 1945.

Scholars have known the text of many of the letters for some time. Winston Churchill included some of Stalin's letters to him in his six-volume memoir *The Second World War*. U.S. State Department historians printed the texts of most of those addressed to Franklin Roosevelt in the volumes of the State Department's documentary series, *Foreign Relations of the United States*. In 1957, the Soviets published the Russian-language texts with an English translation, but without further contextual details. Interestingly, Stalin originally initiated the Soviet

project in 1950 as a means to counter what he considered Churchill's highly selective use of their correspondence and to serve as a rebuttal to what he called the Western “falsifiers of history.” In 1951, the project fell into abeyance, but eventually reemerged in 1957 during Khrushchev's regime, with Soviet foreign minister Andrey Gromyko as editor.

In the mid-1970s, many Western archives began to open their collections of documents relating to the Second World War. Benefiting from this, the journalist and Eleanor Roosevelt biographer Joseph P. Lash underscored the importance of the Roosevelt-Churchill relationship with his book *Roosevelt and Churchill, 1939–1941: The Partnership That Saved the West* (1976). This was followed by Professor Warren F. Kimball of Rutgers University, a former instructor at the U.S. Naval Academy and rising academic expert on the Second World War, who published his meticulous, three-volume edition *Churchill & Roosevelt: The Complete Correspondence* (1984). These works relied on archival research that allowed historians to understand the full context in which the Churchill-Roosevelt

correspondence took place, including information on the drafts and staff discussions related to some of the letters and the issues involved.

For many Western historians, the popular emphasis in the English-language literature on Churchill and Roosevelt obscured a full appreciation and understanding of Stalin's role in the Western alliance. Although West German scholars at the German Armed Forces Militärgeschichtliches Forschungsamt had begun their pioneer work in the analysis of the history of Germany's wartime eastern front during the Cold War, their work was not widely appreciated until the English translations appeared. The simultaneous events of the Cold War, during which these initial Western historical interpretations developed, by and large did not provide fertile ground for the growth of sympathetic appreciations of Stalin or of the Soviet role in the war, despite some efforts in that direction.

Between 22 June 1941, when Germany invaded the Soviet Union, and Roosevelt's death on 12 April 1945, Churchill, Roosevelt, and Stalin exchanged 682 messages in the form of secret enciphered telegrams. The messages normally were sent in the originator's language and translated into the recipient's language. The common practice of the time of changing the order of words in a sentence to make enemy decryption difficult led to misunderstandings and misinterpretations even beyond those presented by translation itself.

The project that produced this volume lasted a decade and involved careful research in British, American, and newly opened Russian archives. The editors and their team developed a database of more than five thousand documents that included all the surviving drafts and

records of staff discussion relating to the writing of the messages. The editors have presented in this volume about 75 percent of the total correspondence; they intend eventually to publish the full correspondence in an online edition. The editors have given here the English-language version of the letters that Roosevelt and Churchill received, including errors of translation and transmission, explaining in the accompanying text the issues involved. Reynolds and Pechatnov have selected documents that show the character of these leaders as illustrated in their exchanges with each other, their plans to meet each other in the wartime conferences at Tehran and Yalta, and all the principal issues they discussed.

This volume very successfully merges documentary scholarship with a clearly written and engaging history of the interrelationships between these three "unlikely musketeers." Practitioners and students of international relations, policy, and strategy as well as the general audience of readers interested in the Second World War will find this an invaluable contribution to their understanding of the complex relationships among these three important wartime leaders.

JOHN B. HATTENDORF



The Kill Chain: Defending America in the Future of High-Tech Warfare, by Christian Brose. New York: Hachette, 2020. 320 pages. \$28.

The author, Christian Brose, worked closely as an aide to Senator John McCain, and therefore is well situated to write knowledgeably about the current and future challenges facing the military forces of the United States. The result is a profoundly challenging and important

book that should be required reading for defense scholars and military officers. Brose offers a full-throated critique of the existing structures of American military forces, the acquisition systems that supply those forces, and the established assumptions that have guided U.S. defense policy through a historically abnormal period of American geopolitical dominance. He argues forcefully that those established ways of doing business already are failing, and that they threaten to fail catastrophically amid the foreseeable return of great-power tensions and possible conflict, with Russia to some degree, but more importantly with China.

The United States has relied on large, very expensive, and eminently targetable platforms, such as aircraft carriers, and relatively short-range fighter aircraft, which are dependent on equally targetable refueling platforms. The proliferation of large numbers of defensive missiles and better sensors by China and Russia renders such platforms unsurvivable in any direct military engagement. The American assumption that it will have months to flow forces from the continental United States, unimpeded by potential adversaries, is equally insupportable, he argues. Historically, he maintains, U.S. defense planning has focused on platforms (which are usually extremely expensive, human operator intensive, and irreplaceable in any short time frame). The future of war will be less about platforms and more about sensor fusion and networked situational awareness—software rather than hardware, as he puts it.

No stranger to the ways of Congress, Brose clearly dissects the political and economic reasons why changing a slow, inflexible, excessively bureaucratic, and backward-looking

defense-acquisition process will be difficult; but, he argues, not impossible. It will require, however, that the services be far more politically savvy than they generally have been historically.

Committed to more than diagnosis, Brose offers what he considers “cures.” Future forces must rebuild a healthy relationship with the high technology from which, he argues, the Defense Department has become alienated. Future forces must rely heavily on autonomous systems, linked decentralized networks, and artificial intelligence if we are to create the swarms of systems and decentralized networks that will be able to survive in a battle space in which we vie with a peer competitor or, in the case of China, perhaps even a technologically superior adversary. Advances in additive technologies and on-site manufacturing may make it possible to replace destroyed but expendable, relatively low-cost systems in the field, greatly reducing logistics chains and reducing costs. Absolutely contemporary, Brose offers a balanced critique of the Trump administration’s treatment of allies (agreeing that some are freeloading to a degree, but also noting that the United States rarely accepts serious allied assistance in real combat, and also arguing for the absolute necessities of keeping and reworking our alliance system to face serious peer competitors).

Whether in the end a reader agrees completely with Brose or not, this work is a bracing challenge to American complacency resting on the American experience of unchallenged military dominance since World War II, and offers a wake-up call that defense planners and military officers should take seriously.

MARTIN L. COOK



A New Conception of War: John Boyd, the U.S. Marines, and Maneuver Warfare, by Ian T. Brown. Quantico, VA: Marine Corps Univ. Press, 2018. 311 pages. Available for download at usmcu.edu/. Free.

There is more folklore associated with John Boyd than perhaps any other military thinker of the last fifty years. Maverick fighter pilot, iconoclast, conceiver of the now-ubiquitous “OODA loop,” Boyd never fit neatly in anyone’s mold. Knife fighting his way through the Pentagon bureaucracy, Boyd reshaped a generation of U.S. fighter aircraft, influenced key acquisition programs, and changed the way American military officers thought about combat—amassing along the way a distinguished list of senior enemies. His influence, while profound, usually was indirect and always difficult to characterize.

It is ironic that Boyd had his most sweeping impact outside both aviation and the Air Force that he served for thirty years. Maneuver warfare—the defining characteristic of Marine Corps combat doctrine for three decades—was in no small part a product of Boyd’s thought. While Boyd has been the subject of several books, in *A New Conception of War* Marine major Ian Brown provides the first complete account of Boyd and the Marine Corps. In the process, he crafts a case study in military institutional change that deserves wide attention.

Brown asserts that the road from Boyd’s ideas to maneuver warfare doctrine required four essential and distinct elements: need, idea, internal advocacy, and leadership. First, the Marine Corps of the 1970s and ’80s recognized that it needed a new institutional approach. The end of the Vietnam War left the Corps

struggling to find its way in a world newly refocused on great-power competition with the Soviet Union. Advances in military technology had rendered familiar Marine Corps operational approaches questionable. Not interested in being relegated to constabulary operations outside the main fight, the Corps was looking for a way to leverage what it believed were its distinctive strengths in support of high-end combat.

The second essential element was Boyd and his ideas. Brown, like all writers who have sought to capture the essence of Boyd’s thinking, struggles to capture the shifting intellectual journey that marked Boyd’s life. Boyd’s seminal work was a briefing entitled “Patterns of Conflict.” Delivered over the course of hours, each presentation expressed Boyd’s thinking at that moment. By never putting his ideas fully into print, Boyd could (and routinely did) deflect criticism by remaining the sole arbiter of his meaning. Nonetheless, Brown manages to capture the sweep of Boyd’s ideas. Readers familiar with the common simplistic summary of Boyd’s observation, orientation, decision, and action (OODA) loop model will be intrigued by the full scope of this idea and how Boyd extended its implications to the breadth of human conflict.

However profound, Boyd’s ideas would not have had influence without advocacy within the Marine Corps. Brown excels in describing the small group of influencers who became the key internal advocates for Boyd. Each occupied a sweet spot in the Corps hierarchy: senior enough to be credible, but not so senior that he could not critique the service; experienced enough to see the need for change; knowledgeable and confident in his own thinking; and positioned at an overlap between the Corps and sources of outside

ideas. One key influencer, Colonel Michael Wyly, came to occupy key positions in the Marine Corps educational establishment, where Boyd's ideas crystallized into maneuver warfare doctrine.

The Corps's internal advocates eventually found senior leadership willing to push the service in a new direction, most importantly General Al Gray. In 1989, Commandant Gray issued Fleet Marine Force Manual 1. Entitled simply *Warfighting*, FMFM-1 made maneuver warfare the key defining characteristic of the Corps's operational approach; it has remained so for thirty years. It is significant to note, however, that the senior leaders who adopted maneuver warfare did not become converts as senior officers; rather, they had become interested in these ideas years before, ascended the ranks, then moved to implement their vision—an observation consistent with other studies of institutional reform.

The story of how a rogue Air Force fighter pilot shaped the core ideas of the Marine Corps is a case study in how militaries learn and change. Many similar case studies oversimplify this messy and imperfect process, creating a clean narrative of progressive heroes and resistant villains. Brown avoids this trap—a success all the more impressive given the strong opinions that still surround Boyd. In so doing, Brown has produced a book that will take its place alongside Rosen's *Winning the Next War* and Bergerson's *The Army Gets an Air Force* as a foundational study of military institutional change.

A New Conception of War skillfully brings an extraordinary, historic episode to a new generation of Marine Corps leaders and, in a larger context, to any leader who is contemplating leading change.

DALE C. RIELAGE



The Mayaguez Crisis, Mission Command, and Civil-Military Relations, by Christopher J. Lamb. Washington, DC: Joint History Office, Office of the Chairman of the Joint Chiefs of Staff, 2018. 330 pages. Available for download at jcs.mil/. Free.

Khmer Rouge forces boarded and took control of the U.S.-registered merchant vessel *Mayaguez* on 12 May 1975, then released the crew three days later. Coming just two weeks after the fall of Saigon, the move was considered a brazen challenge to the U.S. commitment in the region. Ultimately the American response resulted in the release of the crew and their ship, at the cost of forty-one American servicemen killed and dozens wounded. Christopher J. Lamb, a distinguished research fellow at National Defense University, has written a thorough and evenhanded history of the crisis, demonstrating a command of existing literature and original sources.

In the immediate wake of the invasion and collapse of South Vietnam, the overwhelming motivation among decision makers was to demonstrate American resolve. President Ford and Henry Kissinger—the latter wearing both the national security advisor (NSA) and Secretary of State hats—were fully in charge, but Secretary of Defense James Schlesinger, Deputy NSA Brent Scowcroft, White House chief of staff Donald Rumsfeld, and other key actors all agreed with Ford and Kissinger that forceful action was necessary to reassure allies, to show Beijing that Washington would remain engaged in the region, and above all to deter Pyongyang. North Korean aggression was a real concern, as was a repeat of the 1968 *Pueblo* incident or the lesser-known EC-121

incident of 1969, in which North Korea shot down a USN surveillance plane, killing all thirty-one servicemen aboard. Kissinger in particular saw the U.S. response to that outrage as weak-kneed.

This desire to demonstrate resolve led to three waves of bombings of the mainland, a Marine assault on an island where it was thought the crew might have been taken, and a blockade in which Cambodian craft were plinked whenever possible. On these courses of action there was general agreement early on; however, as the crisis rolled into its third and then fourth and final day, fissures emerged.

One issue was how long to continue bombing once Phnom Penh signaled an interest in dealing, and then fairly rapidly released the crew. After two successful bombing runs against the mainland, Schlesinger, his military assistant, the Chairman of the Joint Chiefs, and the chairman's military assistant wanted to divert planned third and fourth attacks to Tang Island, where a too-small number of Marines were in a desperate battle to regroup, gather fallen comrades, and evacuate. The military also argued that the bombing's objectives had been attained without loss of life up to that point. Against Kissinger and Ford, Schlesinger lost the argument for diverting the third wave, but then won the argument on the fourth, which was in fact diverted. As Lamb points out, since the president and Secretary of State / NSA were still intent on demonstrating toughness, this probably cost Schlesinger his job. Ford would believe, with Kissinger's encouragement, that Schlesinger had dragged his feet on bombing the mainland, which was not exactly the case; the Secretary of Defense was all in favor of bombing the mainland

until he learned that the crew was on its way to safety. After that, he was more concerned about the undermanned Marine contingent fighting on Tang.

A more serious disagreement occurred on the issue of whether to continue plinking Cambodian ships once *Mayaguez's* crew was safe. Schlesinger agreed with his senior military advice that this would endanger U.S. military personnel unnecessarily and also risk hitting the ship carrying the *Mayaguez* crew. He therefore stonewalled the White House for several hours, then defended orders given by senior officers not to sink the ships. This probably sealed his fate as a soon-to-be-retired Secretary of Defense.

Lamb's approach is to address the chronology first and then deal with theory, an approach that works well. As someone who has written on the subject in the past, he points out where interpretations should be adjusted on the basis of new evidence. He finds that his earlier work, which argued the existence of a belief system that created a focus on demonstrating U.S. resolve, generally holds up, but that there should be increased appreciation for several important issues: insubordination regarding the sinking of Cambodian ships; the willingness of Ford and Kissinger to risk the lives of the crew by pursuing mainland bombing even after they knew the crew was being transported to safety; and Kissinger's dominant role, including such actions as withholding a message from Tehran indicating Phnom Penh's willingness to release the crew. Elsewhere Lamb points out the willingness of senior military officers to accept Pacific Command's optimistic interpretation of the degree of resistance on Koh Tang rather than the Defense Intelligence Agency's more realistic estimate, as

well as the Marines' failure to ask for an additional twenty-four hours and more troops to prepare for the assault.

This is an enjoyable history and analysis of an interesting interlude in America's engagement with East Asia. One could argue that in the end Phnom Penh's rapid move toward releasing the crew ran up against Washington's perceived need to demonstrate resolve. Were that mind-set not so entrenched, it is possible that the attack on Koh Tang could have been either avoided or executed with appropriate force.

The ultimate measures of effectiveness of the U.S. response are whether Pyongyang was deterred from action it would have taken otherwise and whether our allies were meaningfully reassured. On these matters the evidence is mixed.

JOHN GAROFANO



The Modernisation of the Republic of Korea Navy: Seapower, Strategy and Politics, by Ian Bowers. London: Palgrave Macmillan, 2019. 239 pages. \$79.99.

For a state frequently described as a “geostrategic island,” South Korea's maritime security remains a chronically understudied aspect of order in the Asia-Pacific. Ian Bowers's *The Modernisation of the Republic of Korea Navy* goes some way toward filling this gap, with a persuasive account of the forces that have facilitated and shaped the last three decades of expansion of the Republic of Korea (ROK) Navy (ROKN) into an actor of regional significance.

Bowers argues that a combination of material and ideational changes were pursued in the development of the modern

ROKN. In physical terms, the addition of around twenty new classes of naval vessels in the last thirty years—combined with construction of a new base on Jeju Island and changes to hardware, training, and operational structure—has reflected the desire for a comparatively small but potent force that can be wielded effectively in pursuit of the South's growing set of peninsular and regional maritime interests. Ideationally, Bowers sees post-1988 democratization in the South as a crucial underlying factor behind increased emphasis on the ROKN's role. As the South Korean army's political and cultural power waned during this period, the ROKN tapped into the peninsula's maritime history to foster a burgeoning naval identity among South Korean foreign policy elites and the public at large.

Bowers also describes a changing international context for ROKN development, highlighting the shifting role of the United States and China's own emerging status as a dominant naval power in the region. A particularly persuasive chapter of the book is devoted to an assessment of the strategic and financial logic behind Washington's shift from restricting ROKN development in favor of the South's land forces to its new role as a facilitator of an expanding ROKN.

Notably, *The Modernisation of the Republic of Korea Navy* challenges key aspects of a common narrative of ROKN naval development that pits blue-water ambitions against an obligation to defend peninsular waters from the existential North Korea threat. For Bowers, these tasks are not as contradictory as they may appear, given the multifunctionality of naval platforms that can be used in both local and regional contexts. Bowers cites the example of the ROKN's KDX-III destroyers having been fitted with the Aegis

system, enabling these larger platforms to play a key role in the South's management of the North Korean missile threat (p. 6).

The greatest strength of this book is to be found in Bowers's depiction of the overlapping layers of South Korea's strategic maritime environment. Challenges include Pyongyang's attempts to identify and exploit weaknesses in the ROKN's now-dominant capabilities in peninsular waters, increasing regional uncertainty caused by Chinese and Japanese expansion, and Seoul's wariness concerning the vulnerability of its sea lines of communication amid contestation in the South China Sea and beyond.

Bowers also offers an appraisal of each postdemocratization ROK administration's impact on naval development. However, this ends somewhat prematurely, in 2013, with but a single sentence allocated to former president Park Geun-hye and no mention of current president Moon Jae-in. Bowers explores the ROKN's embrace of a distinctively South Korean naval identity, but does not connect it clearly enough to larger shifts in national identity and policy, beyond the observation that the ROKN seeks to be a naval force "commensurate with an independent, responsible middle power" (p. 6).

The Modernisation of the Republic of Korea Navy ultimately succeeds in providing a holistic account of the factors driving that force's transformation. As a Royal Danish Defence College professor, Bowers offers considerable insight on this topic, marshaling an impressive array of evidence amassed over a decade of research (this book was based on his doctoral thesis, which might explain its more cursory treatment of the most recent political developments). It is necessary reading for academics and practitioners seeking to better understand the contemporary complexity—and likely

future trajectory—of maritime security around the Korean Peninsula, and in the broader Northeast Asian region.

ALEXANDER M. HYND



From the Sea to the C-Suite: Lessons Learned from the Bridge to the Corner Office, by Cutler Dawson, with Taylor Baldwin Kiland. Annapolis, MD: Naval Institute Press, 2019. 132 pages. \$21.95.

Retired vice admiral Cutler Dawson brought lessons learned from a thirty-four-year naval career to his fourteen years of business-world success as president and CEO of the Navy Federal Credit Union. *From the Sea to the C-Suite* explores some of those lessons. This short book is as genuine and thoughtful as it is instructive for leaders at all career stages—and, frankly, in any profession. It illustrates why many businesses and nonprofits seek out former military leaders to advise and lead their organizations.

Each of *From the Sea to the C-Suite*'s pithily titled eleven chapters develops a key leadership theme derived from Dawson's naval career. Using examples from his six sea commands, he explains leadership lessons first in their naval context before demonstrating their practical application in a civilian setting. True to his naval roots, Dawson then ends each chapter with a "foot stomper" summary—evoking a military practice signaling a concept that one will need to remember later.

Among the book's foot-stomping lessons are the following:

- *Go to the deckplates.* "As a leader you need to intimately understand your organization—its people, its products, its processes, its customers. To do so, you

have to ‘go to the deckplates’” (p. 12). Good leaders lead and learn from the front lines. For Dawson, learning a new assignment on a ship entailed learning from enlisted sailors. Similarly, when he was chief executive officer of Navy Federal, this entailed visiting branches and asking probing questions.

- *Create a safe harbor.* Good leaders want to hear the unvarnished truth so they can make the best-informed decisions. Sailors and employees both need a culture in which they feel comfortable speaking candidly; they need a safe harbor where they can offer leadership the full story. And good leaders want to know not only the good but also the bad.
- *If you don’t risk, you can’t win.* A willingness to evaluate hazards and then take risks is an American naval tradition harking back to John Paul Jones. Dawson advises risk taking “if it benefits other people” (p. 27). Moreover, leaders who know their crews’ strengths and weaknesses are better able to evaluate risks.
- *Listen like a sonar tech.* Good leaders are curious and carefully attend to their business, so they listen to understand. This is how leaders begin truly to understand the requirements of the ship or the needs of the business.
- *Get in the bosun’s chair.* A leadership concept related to listening like a sonar tech and going to the deckplates, getting in the bosun’s chair entails understanding the perspective of the other person. This can provide the proper frame of reference needed when giving an order or introducing a new product to market. Dawson describes several instances in which researching the impact on customers improved Navy Federal’s service to them.

Finally, *From the Sea to the C-Suite* encourages leaders to follow their North Star—those “immovable principles” and “unwavering values” that guide proper behavior. Dawson’s North Star is “all about the people”: “taking care of them, setting an example for them, and being the type of leader whom you would want to emulate” (p. 126).

Readers familiar with leadership theory will recognize several leadership- and character-development frameworks used in this book. Dawson demonstrates how effective leaders value and empower employees, creating relationships that support both mission success and personal development. Indeed, Dawson states that young “professionals need to go through the process of arriving at the right answers on their own” (p. 93). This is the process of coaching followers to become leaders themselves. “If you have carefully chosen and trained your crew members for the task at hand, you should trust them to do the job well—to do the right thing” (p. 79). The leadership-development process empowers others.

Dawson’s examples are easily understood, and his foot stompers summarize each well. As an extrovert, his examples are heavy on interpersonal relationships. While those are important, Dawson could have devoted more time to the intrapersonal realm, exploring and relating those inner attributes that allowed him to operate so successfully on the relational side. Nonetheless, this little book is recommended for current and prospective leaders, especially military members transitioning to civilian leadership roles.

ED GILLEN



And the Whole Mountain Burned, by Ray McPadden. New York: Center Street, 2018. 288 pages. \$26.

And the Whole Mountain Burned is a well-written novel that chronicles the exploits of Army private Danny Shane on his first combat tour, in the mountains of eastern Afghanistan. It is no wonder that Ray McPadden won the 2019 W. Y. Boyd Literary Award for Excellence in Military Fiction for this work. The book is a patchwork quilt of the highs and lows that American forces in combat face every day, including intense pressure, uncertainty, and even boredom. Although it is fiction, it is a poignant reminder of the traumas and tragedies of war.

The novel starts with a flashback by Sergeant Nick Burch, Shane's squad leader and mentor. Burch remembers a young Afghan boy making *chipas*, or french fries, to sell to American soldiers—in the midst of a horrific firefight with enemy insurgents. Burch sees the young boy, nicknamed Sadboy, years later when he is conducting a raid with Shane and other members of his squad. During the raid, the American soldiers kill Sadboy's father and apprehend his mother. Extremely distraught, Sadboy eventually joins the insurgents because the American soldiers brutalized his family. Sadboy's character haunts Burch throughout the story.

McPadden does a great job showcasing the different relationships and emotions that Shane experiences during his time in Afghanistan. His compassion for a young, disabled Afghan boy who cannot take care of himself is heartwarming, as Shane gives the boy food and tries to

help him when other Afghan children bully him. Eventually, however, Shane is forced to shoot the boy because he participated in an ambush. Shane also befriends the platoon's physically handicapped Afghan interpreter, Billy, and helps him get money for an eye operation. Shane's long-distance relationship with his girlfriend, Candy, is complicated. She is a stripper and Shane gives her access to his bank account and sends her money. She subsequently leaves him, empties the bank account, and destroys their apartment. This is a colorful aspect of the book, but an accurate reminder to readers that those who serve the nation in combat face domestic, as well as combat and deployment, challenges.

Burch's character also is complex, and Shane's relationship with his sergeant is one of the consistent themes throughout the book. Initially, Shane looks up to Burch as a mentor and seeks his approval; however, eventually he sees the impact of prolonged combat in the form of Burch's changed attitude, as well as his impaired judgment as a result of post-traumatic stress disorder. Even while home on leave Burch is not himself; he thinks continuously about the war and his squad in Afghanistan, he cannot relax, and he is haunted by demons and dreams of war. Burch is relieved to return to Afghanistan and finally get back to the fight with his troops.

Shane's relationship with local villagers is also a common theme. The villagers depend on selling timber from the surrounding forests for their livelihood. While searching for insurgents in the forests, Burch's squad gets ambushed; as the battle progresses, Burch calls for white phosphorous artillery rounds to kill the enemy. The trees burn. "The fire followed a ridgeline, and before

long the whole mountain burned” (p. 247). Not surprisingly, the fire upsets the locals, and the insurgents use that unhappiness to garner increased support to attack the American camp.

On the squad’s final mission, when the unit is taking fire from multiple enemy positions, Shane is shocked when Burch calls in an A-10 attack on his own position. Shane tries to save his squad leader but is killed in the process, while Burch survives the firestorm. Although saddened by Shane’s death, it is in this instant that Burch realizes that the insurgents never will quit, and the carnage will continue.

McPadden’s rendition of the plight of American infantrymen in Afghanistan, as well as his description of the terrain and life on patrol, are so realistic that the reader feels he actually is there. The

reader easily sees and feels what Private Shane experiences while humping patrols in mountainous terrain and treacherous weather conditions. Shane and his squad accomplish objectives and hold terrain, only to see it occupied by enemy forces shortly after they depart for their base camp.

More than a story, the book highlights the personal challenges of combat and the range of emotions experienced before and after combat by many who serve their nation. This is a classic war novel and a must-read for those who want to get a firsthand account of combat on the ground in Afghanistan. McPadden’s recent combat experience as an Army Ranger gives his writing instant credibility.

THOMAS J. GIBBONS

OUR REVIEWERS

Martin L. Cook is the Admiral James Bond Stockdale Professor Emeritus of Professional Military Ethics at the Naval War College (the College).

John Garofano is a professor in the Strategy and Policy Department at the College.

Thomas J. Gibbons has been associate provost at the College since 2008.

Ed Gillen is the director of institutional effectiveness at the College.

John B. Hattendorf is the Ernest J. King Professor Emeritus of Maritime History at the College.

Alexander M. Hynd is a senior research analyst at Securitas Korea, president of the Center for International Maritime Security, and book review editor of the *Journal of Territorial and Maritime Studies*.

Dale C. Rielage is a senior civilian with the Naval Intelligence Activity, assigned as director for intelligence and information operations at U.S. Pacific Fleet.

REFLECTIONS ON READING

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

The advent of social media has provided many platforms on which writers can express their ideas, often to very wide audiences. Weblogs (known as blogs) exist to promote ideas on subjects ranging from gardening to romance. Some focus purely on entertainment, but others play a more serious role. I long have been impressed by a blog called *From the Green Notebook* (fromthegreennotebook.com), founded and edited by Naval War College alumnus Joe Byerly, a serving officer in the U.S. military. The focus of the blog is on developing leaders, and the concept of professional reading is at the heart of many of its discussions. A recent post entitled “Why We All Need to Develop a Daily Habit of Reading” is one of the best arguments I have ever read on the value of professional reading, and the paragraphs below are an abridged version of the larger article.

When it comes down to it, the purpose of a military is to fight and win its nation’s wars. And war is complex. When lives or national interests are at stake the outcome is never certain, and events can unfold in a manner that no one foresaw. This level of complexity requires military leaders to possess a certain level of aptitude when stepping onto the battlefield. So, let’s back up a bit and do a quick thought experiment.

Imagine if someone told you that a year from today you would be required to take a test in which every wrong answer would result in the loss of a human life. How would you approach studying for the test? Would you study for twenty to thirty minutes every night, or would you wait until a week before the test and start cramming? You probably think this is a no-brainer, and that you would spend a year studying in small increments so you’d get a perfect score and nobody would die.

While the logic is clear-cut in this scenario, it is lost on many leaders in their professional military careers. Many go their entire careers without dedicating

time to the study of war and warfare. Let's be honest, the military places little extrinsic value on self-study. We don't get rewarded on our officer and NCO evaluation reports for spending time on self-development. Some leaders even go twenty years without reading a single book outside of professional military education—and boast that they were promoted to brigade-level command.

The problem is that, as time marches forward in our military careers, we run the risk of the professor walking through the door and handing us the test when we least expect it. The test is a practical exercise called “war.” The questions are hard and the stakes are high. If we aren't prepared, the results can be devastating. That brigade commander might not take his unit into combat, but he could get promoted to general officer when the next war comes along, and by that point there's not enough time to start reading books on war.

But we don't have to waste lives needlessly by approaching the test cold. Author and habits expert James Clear points out in his book *Atomic Habits* that time can be either an enemy or an ally, magnifying the margin between success and failure. In other words, how we choose to spend—or not spend—our time has consequences. So when it comes to professional reading, we can make time either an ally or an enemy. When we look at it through this lens, three truths regarding time come into focus. First, there is a cumulative effect when we invest small amounts of time in reading. Second, there also is a cumulative effect when we neglect it. And finally, once time is gone, there is no getting it back.

In the documentary *Bookstores: How to Read More Books in the Golden Age of Content*, blogger Tim Urban points out that if the average person spent only thirty minutes a day reading (that could be fifteen minutes before work and fifteen minutes before bed), he or she could read a thousand books in a lifetime. Imagine how many insights we would gain from making those minor daily investments—and how much better prepared for war we would be. In doing so, we make time our ally.

Unfortunately, many in the military, throughout their careers, do not invest time in self-study. Then when the time comes, many of these leaders fail to perform at the required level because they neglected their own development. They may survive as platoon leaders, company commanders, even battalion commanders, but none of these individuals thrive, because they approached each assignment with a limited perspective.

Neglect has a cumulative effect. When we fail to prepare ourselves mentally for combat we increase the risk of failure and, even worse, of losing members of our own teams. We can't wait until the eleventh hour to start cracking the books open.

Out of all the commodities we are given in life, time is the only one we can't get back. This importance of time also was recognized by Napoléon Bonaparte, who wrote in a letter, “Space I can recover, time never.” Once time has passed, it's gone

forever. It doesn't do a colonel with twenty-four years of service in the Army any good to look back on a career and wish he or she had read more when earlier in life. Many start cramming, but by then you cannot make up for lost time.

There is one more insight I've picked up over the years. The outbreak of war typically catches a nation and its armies by surprise. None of us knows if or when we will be called upon to lead formations in battle. That's why time is so critical. We need to make it our ally.

So, start today. Pick up a book and spend ten to twenty minutes reading, highlighting, and taking notes. It's a small investment, with a great return!

Thank you, Joe, for reinforcing the argument that the Reflections on Reading series has sought to make for the past forty-seven articles!

JOHN E. JACKSON