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# NAVAL WAR COLLEGE REVIEW

Winter 2019

Volume 72, Number 1



**Cover**

*Aerial view of an international container cargo ship. In “Ships of State?,” Christopher R. O’Dea describes how China COSCO Shipping Corporation Limited has come to control a rapidly expanding network of ports and terminals, ostensibly for commercial purposes, but has thereby 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.*

*Credit: Getty Images*

# NAVAL WAR COLLEGE REVIEW

**Winter 2019**

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The balance of power in the Indo-Pacific is shifting as China spends its national treasure to build a modern, blue-water navy and exerts its influence around the region, and the world, through economic investment and military power projection. Beijing’s pursuit of the China Dream is pushing America and its allies toward a decade of concern, when the already tenuous situation may experience further destabilization.

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## FROM THE EDITORS

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The Trump administration's evident determination to reorder fundamentally the nation's trade relationships with friends and adversaries alike arguably has served as a salutary warning to the current Chinese leaders in particular that they no longer can expect to carry on business as usual with the United States. On the other hand, it also has had the unintended consequence of obscuring larger issues in the U.S.-Chinese relationship. China is not just a trading partner that long has gotten away with sharp practice; it is increasingly clear that the Chinese aspire to challenge and eventually supplant the United States as the world's leading power. This case is laid out in authoritative detail in two contributions in this issue. James E. Fanell, in "China's Global Naval Strategy and Expanding Force Structure: Pathway to Hegemony," focuses on the PRC's massive naval buildup of recent decades and its implications for China's increasingly bold global engagement and presence. In "Ships of State?," Christopher R. O'Dea provides a complementary analysis of the second prong of China's global maritime strategy, its so-called Belt and Road Initiative. O'Dea demonstrates that Chinese state-owned companies have built a global network of ports and associated logistic facilities and infrastructure, ostensibly for commercial purposes, that seems nonetheless designed to support military power-projection operations over the longer term as well as to acquire economic and political leverage over host countries. A largely unrecognized but alarming harbinger of things to come is China's effective control of the Port of Piraeus in Greece, but this is only one example among a great many that extend throughout the Indian Ocean to Africa and even Latin America. Captain James Fanell, USN (Ret.), served most recently as Director of Intelligence and Information Operations for the U.S. Pacific Fleet; Christopher O'Dea is a Chicago-based international commercial analyst.

As naval combat between major powers becomes less theoretical as a scenario than at any time since the end of the Cold War, the maritime dimension of World War II is more worthy of revisiting than ever. In "Operation RHINE EXERCISE, May 18–27, 1941," Milan Vego provides a detailed, operational-level analysis of one of the major encounters at sea between British and German surface forces in that conflict: the hunt for and eventual destruction of the German battleship

*Bismarck* in the North Atlantic in the spring of 1941. Milan Vego is a professor of joint military operations at the Naval War College.

Be on the lookout: The Naval War College Press is about to publish the second volume in our John A. van Beuren Studies in Leadership and Ethics. Assembled by general editor Timothy J. Demy of the NWC faculty, the book will be an anthology of *Naval War College Review* articles from the last decade on the subject of leadership and ethics, with some additional material. It will be available from the Government Publishing Office at [www.gpo.gov/](http://www.gpo.gov/).

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Our editorial offices are located in Sims Hall, in the Naval War College Coasters Harbor Island complex, on the third floor, west wing (rooms W309, 330, 333, 334, 335). For building-security reasons, it would be necessary to meet you at the main entrance and escort you to our suite—give us a call ahead of time (401-841-2236).

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Robert Ayer, Managing Editor





*Rear Admiral Jeff Harley is the fifty-sixth President of the U.S. Naval War College. The College is responsible for educating future leaders, developing their strategic perspective and critical thinking, and enhancing their capability to advise senior leaders and policy makers.*

*Admiral Harley is a career surface warfare officer whose sea-duty assignments have included command of USS Milius (DDG 69), Destroyer Squadron 9, and Amphibious Force Seventh Fleet / Expeditionary Strike Group 7 / Task Force 76. During his command of Milius, the ship participated in combat operations supporting Operation IRAQI FREEDOM and his crew won the Battle Efficiency Award and the Marjorie Sterrett Battleship Fund Award for overall combat readiness.*

*Admiral Harley attended the University of Minnesota, graduating with a bachelor of arts in political science, and received master of arts degrees from the Naval War College and the Fletcher School of Law and Diplomacy, Tufts University. Additionally, he served as a military fellow at the Council on Foreign Relations in New York City.*

## PRESIDENT'S FORUM

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*International Seapower Symposium:  
Security, Order, Prosperity*

THE NAVAL WAR COLLEGE once again demonstrated its unique capability to enhance global maritime partnerships when naval leaders from more than a hundred nations converged in Newport, Rhode Island, at the Chief of Naval Operations' twenty-third International Seapower Symposium (ISS) in mid-September 2018. They met to discuss cooperative strategies for enhancing global security, order, and prosperity. ISS is the world's premier naval gathering, bringing together delegations from maritime services around the globe to bolster maritime and national security by discussing common challenges and facilitating shared opportunities.

The College was honored to be the location for this extraordinary event sponsored by the U.S. Navy's Chief of Naval Operations, Admiral John Richardson. The symposium participants included ninety-seven Heads of Navies or Coast Guards and the Presidents of nine Naval War Colleges around the world. Keynote speakers included U.S. Secretary of Defense James Mattis; Secretary of the Navy Richard V. Spencer; Admiral Timothy J. Keating, USN (Ret.); and Peter W. Singer, strategist and senior fellow at New America.

Secretary Spencer noted: "We seek a true partnership based upon the concept of shared risks producing shared rewards; a partnership in which no single nation is the expert, and the ability to lead resides within all of us. When we work together this way, we can produce an equation where  $1+1 = 3$ , and everyone benefits."

Panelists and speakers at ISS frequently expressed a shared goal to improve interoperability among the world's navies, acting on the principle that "we are stronger together." Working together in exercises and joint deployments, participating in personnel exchanges and exchange enrollments in schools, and

gathering at events such as ISS enhance mutual security, protect the rules-based order that benefits all nations, and contribute to global prosperity.

In a crisis, the ability to respond quickly and collectively relies on these preexisting bonds among navies and nations. It often is said that you can surge forces to meet a contingency, but you cannot surge trust and confidence among allies. “Every day, our allies and partners join us in defending freedom, deterring war, and maintaining the rules that underwrite a free and open international order,” said Secretary Spencer.

Oceans that once were the physical and psychological barriers that kept nations apart are now the maritime superhighways that bring nations together. Strong maritime forces are uniquely suited to help manage the increasing pace and complexity of change—they make uniquely productive relationships possible. And they have a long history of behaving in accordance with a well-understood and agreed-to set of rules, and of advocating for such behavior.

“ISS-23 is a manifestation of this desire to strengthen the bonds of trust and confidence among partners, and to explore new opportunities on which we can collaborate and from which we can learn,” said Admiral Richardson. “Make no mistake, this desire to sail together in support of our fellow citizens—regardless of the winds, waves, and weather around us—is the current that has drawn us here to Newport.”

Panel discussions, presentations, and one-on-one conversations among the delegates addressed common issues inherent in the maritime domain. These included combined operations, communication at sea, drug trafficking, piracy, smuggling, natural disaster relief, and methods of securing free and open ocean spaces.

The symposium also provided the opportunity to showcase some of the most modern ships in the U.S. fleet. The amphibious transport dock USS *New York* (LPD 21), the guided-missile destroyer USS *Lassen* (DDG 82), the expeditionary fast transport USNS *City of Bismarck* (T-EPF 9), and the U.S. Coast Guard cutter *Lawrence Lawson* (WPC 1120) hosted visits and social events aboard the ships for delegates and over one hundred spouses; the latter also participated in portions of the symposium program.

The first biennial ISS was held here in Newport in 1969. It was designed then, and continues now, to allow naval leaders from around the world to meet and discuss common issues and ways to address shared challenges. Previous years’ symposia have resulted in enhanced cooperation in countering piracy, providing disaster relief and humanitarian assistance, coordinating search and rescue at sea (including submarine rescue), and countering arms/drug/human trafficking and fishery/pollution violations.

Long-range planning already has begun for ISS-24, which will take place here at the Naval War College in 2020. Working seamlessly with our global partners takes a steady hand on the helm and constant vigilance to remain on course. We take this responsibility seriously, and there is no more important task as we contribute to the peace and security of our nation and those of our allies.

JEFFREY A. HARLEY

*Rear Admiral, U.S. Navy*

*President, U.S. Naval War College*

*(Portions derived from Mass Communication Specialist 2nd Class Kristi Nanco, "Global Leaders Assemble at 23rd International Seapower Symposium," America's Navy, September 23, 2018, [www.navy.mil/](http://www.navy.mil/).)*



*Captain James E. Fanell served for twenty-eight years as a naval intelligence officer specializing in Indo-Pacific security affairs, with an emphasis on China's navy and operations. His most recent Navy assignment was as Director of Intelligence and Information Operations for the U.S. Pacific Fleet. Prior to that he served in a series of afloat and ashore assignments focused on China, as the Assistant Chief of Staff for Intelligence for the U.S. Seventh Fleet aboard USS Blue Ridge as well as with the USS Kitty Hawk aircraft carrier strike group, both forward deployed to Japan. Ashore, he was the U.S. Navy's China Senior Intelligence Officer at the Office of Naval Intelligence. He is currently a Government Fellow with the Geneva Centre for Security Policy. He is also the creator and, since 2005, the manager of the Indo-Pacific security forum Red Star Rising.*

*Naval War College Review, Winter 2019, Vol. 72, No. 1*

# CHINA'S GLOBAL NAVAL STRATEGY AND EXPANDING FORCE STRUCTURE

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## Pathway to Hegemony

*James E. Fanell*

*This article is derived from Captain Fanell's testimony at the hearing before the U.S. House of Representatives Permanent Select Committee on Intelligence on May 17, 2018. The full text of his original testimony more forcefully reflects his admonitions to the committee, and it is available online at [https://intelligence.house.gov/uploadedfiles/james\\_e.\\_fanell\\_hpsci\\_testimony\\_-\\_final\\_-\\_17may18.pdf](https://intelligence.house.gov/uploadedfiles/james_e._fanell_hpsci_testimony_-_final_-_17may18.pdf).*

China's unilateral expansion into and through the international waters within the first island chain—or what Beijing now calls China's Blue Territories—over the past six years has altered the strategic balance of power dramatically in the Indo-Pacific region.<sup>1</sup> That strategic balance has shifted in favor of the People's Republic of China (PRC) and against America's security and interests.

In addition to building a modern, blue-water navy, the PRC has taken a wide range of destabilizing actions that pose an increasing threat to global security. Among these actions are the construction of naval air stations in the South China Sea, including on Mischief Reef, which is located within the exclusive economic zone (EEZ) of the Philippines, a U.S. ally; its declaration of an air-defense identification zone (ADIZ) in the East China Sea near Japan; its claims of sovereignty over the Senkaku Islands; and its flat-out repudiation of the authority of the Permanent Court of Arbitration (PCA), the world's oldest standing international-law arbitral body.<sup>2</sup> The threatening actions also include China's unprecedented and increasing naval operations in the western Pacific, South Pacific, and Indian Oceans; the Mediterranean and Baltic Seas; the Arctic and Antarctic; and, finally, the Atlantic Ocean. These actions are clear empirical indicators of China's future malign intentions and actions.

These intentions and actions position China's military forces, particularly its navy, air force, missile forces, and rapidly expanding marine corps, as the arbiters of a new global order—one that stands opposed to U.S. national interests and

values and those of our friends and allies. China has spent billions of dollars on a military that can achieve the dreams of the Chinese Communist Party (CCP).

It is crucial to establish firmly and quickly why the PRC's rapid, global, and very expensive naval expansion matters. The CCP is engaged in a total, protracted struggle for regional and global supremacy. This supremacy is at the heart of the "China Dream."<sup>3</sup> China's arsenal in this campaign for supremacy includes economic, informational, political, and military warfare. The campaign at its heart is opportunistic; we have witnessed already China's expansion into the vacuum of a diminishing U.S. presence in East Asia.

If one has not read Xi Jinping's words and realized the supremacist nature of the China Dream and carefully watched the nature of China's rise, then one innocently might ask the obvious question: Why does it matter that the PRC seeks regional, or even global, hegemony? That is, why does the world not simply abide a "rising China," a seemingly benign term so often employed by Beijing's propaganda organs and PRC supporters worldwide? After all, fewer would be concerned if, for instance, a "rising Brazil" or a "rising India" sought regional hegemony and proclaimed a desire to lead the world into the twenty-first century.

The answer goes to the core of China's leadership and how it behaves. Under the CCP, the PRC is an expansionist, coercive, hypernationalistic, militarily and economically powerful, brutally repressive, totalitarian state. The world has seen what happens when expansionist totalitarian regimes such as this are left unchallenged and unchecked. In a world under this type of hegemon, people are subjects—simply property—of the state, and ideals such as democracy, inalienable rights, limited government, and rule of law have no place.

Clear empirical indicators directly contradict the oft-quoted pledge by China's leaders to pursue a "peaceful rise," one in "harmony" with the rest of Asia and the world. By its expansionist actions and words, China has challenged the post-World War II norms of international behavior and, most importantly, the peace and stability that the Indo-Pacific region has enjoyed over the past seventy years.

For instance, in spite of the country's having a gross domestic product (GDP) per capita on par with that of the Dominican Republic, China's leadership has invested staggering amounts of national treasure in a world-leading complex of ballistic missiles, satellites, and fiber-linked command centers with little utility but to pursue military dominance aggressively.\* Despite China's need to keep its children indoors because of hazardous levels of pollution, a health care system in crisis, toxic rivers, a demographic time bomb caused by government-directed population expansion and then forced contraction, and only one-third the GDP per capita of the United States, Beijing chooses to spend its precious resources on military force buildup.

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\* For instance, the DF-21D anticarrier ballistic missile was designed by the People's Liberation Army specifically to destroy U.S. aircraft carriers in the western Pacific.

Much of that investment has gone into the People's Liberation Army Navy (PLAN). The momentum created by the PLAN's rapid advances in the maritime domain threatens to do for the rest of the world what the Communist Party has done for China Proper and its neighbors (Xinjiang and Tibet, Cambodia and Laos), establishing military, political, and economic domination, to varying degrees—as the PRC pursues what President Xi calls his China Dream.

The PLAN is China's point of the spear in its quest for global hegemony. As of 2018, the PLAN consists of over 330 surface ships and sixty-six submarines—nearly four hundred combatants. As of May 4, 2018, the U.S. Navy consisted of 283 battle-force ships, including 211 surface ships and seventy-two submarines.<sup>4</sup> By 2030, it is estimated the PLAN will consist of some 550 ships: 450 surface ships and ninety-nine submarines.<sup>5</sup> These numbers are a current subject of debate in the halls of the Capitol and the Pentagon, and it remains unclear whether the U.S. Navy of 2030 will reach a total of even 355 ships and submarines.

Numbers matter. In the past, it was fair to say that numbers of hulls, or even tonnage, were not a complete measure of force-on-force capabilities and that American technology would outweigh the PLAN's numbers. Today, that argument is no longer credible. From a technological standpoint, the PRC quickly has achieved parity with USN standards and capacities for warship and submarine production. PLAN ships and submarines do not have to match U.S. naval capabilities precisely; they only have to be good enough to achieve more hits and win any given battle. That said, the quality of PRC warships already presents a credible threat across the Indo-Pacific region today. Consequently, we should be gravely concerned about America's ability to deter or defeat the PRC's naval spear.

We do not have much time left—certainly not until the year 2030, when the PRC's navy will be double the size of the U.S. Navy. For reasons laid out below, the window of vulnerability—the decade of greatest concern—begins in less than twenty-four months. If some currently unintended event does not provoke a military confrontation before then, we have until 2020—the deadline that Xi Jinping has given the People's Liberation Army (PLA) to be ready to invade Taiwan. From that point on, we can expect China to strike.

My detailed assessment of this imminent and ever-increasing maritime threat follows, as well as my recommendations: the actions our country must take to avoid geopolitical defeat and a likely naval disaster, the likes of which we have not experienced since the early, dark days of World War II.

## A CHINESE MARITIME DREAM

In 2013, as President Xi Jinping unveiled his China Dream in a speech to the PRC National People's Congress, China Central Television (CCTV) aired the week-long series *Shaping China's Tomorrow*, which explored what Chinese people think

about the Dream. It is noteworthy that CCTV began the series with the story of a PLAN East Sea Fleet–based executive officer just returned from his third escort mission in the Gulf of Aden. Lieutenant Commander Shi Lei related that when he joined the PLAN a decade prior, he never had envisioned sailing so far from land. But now he believes the PLAN one day will have a blue-water navy whose sailors can take on any mission on the open sea. Significantly, this CCTV series vignette symbolizes China’s shift in maritime strategy over the past decade, from solely a near-seas, active-defense strategy to a national maritime strategy focused on responsibilities and presence across the global maritime domain. Not surpris-

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*The PLAN is China’s point of the spear in its quest for global hegemony. . . . China’s increasingly well-publicized naval presence and operations throughout Southeast Asia have contributed to a tectonic shift in this sensitive region, a shift toward Beijing and authoritarianism and away from the United States and its values of democracy and the rule of law.*

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ingly, it aligned President Xi’s call for China to become “a strong maritime power” with former president Hu Jintao’s direction to “resolutely safeguard China’s maritime rights and interests, and build China into a maritime power.”<sup>6</sup> Since the end of the Ninth Five-Year Plan in 2000, the PRC has

embarked on an ambitious naval-construction program that dramatically has increased the blue-water operations of the PLAN and the China Coast Guard (CCG) within the first and second island chains, while substantially increasing far-seas deployments around much of the globe.<sup>7</sup>

The theme of China’s national rejuvenation only has strengthened during the first five years of President Xi’s rule. For instance, at the Nineteenth National Party Congress of the CCP in October 2017, Xi Jinping 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.”<sup>8</sup>

Most importantly, realization by Xi and the CCP of the China Dream of national rejuvenation and restoration is linked to, and firmly dependent on, a global naval capability. The PRC has both the will and the means to push for rapid increases in the PLAN’s order of battle in support of an expanding set of missions to fulfill the China Dream. Undergirding this thesis are China’s present and future naval-construction capabilities and capacity; successful, ongoing expansion of naval operations; and official advocacy for a modern, global, naval force—one that already is posing a very serious challenge for its neighbors and the U.S. Navy.

This projection of China’s maritime power relies on several assumptions. First, regardless of potential domestic, political, or economic difficulties, China’s

leaders will continue investment “in the Navy, Coast Guard, and maritime industries to more actively and effectively assert its security and economic interests in the coming decades.”<sup>9</sup> Second, China will continue to enjoy a military ship-building cost advantage over rivals.<sup>10</sup> And third, China will master the technical advances required to overcome issues arising from the production and incorporation of advanced naval systems—from phased-array radars to nuclear reactors.

While Beijing prefers to achieve its strategic aims through military intimidation rather than combat, as it did at Scarborough Shoal in 2012, it is also clear that the PRC is prepared to use military force to achieve its strategic goals, as it already has done—with deadly effect—in the Paracel and Spratly Islands.<sup>11</sup> Those goals are, first, to consolidate the country’s perceived territory, largely in the maritime domain of the first island chain—a precondition for compelling the submission of Taiwan—and, second, to exert its influence and power around the globe.

#### **FORCE STRUCTURE EXPANSION AND MILITARY MODERNIZATION**

Over the course of nearly two decades, the PLA has benefited from the CCP’s military modernization effort, the largest by any nation since the end of World War II. This transformation has not been limited to the procurement of combat platforms such as ships, submarines, aircraft, tanks, and rockets, but also has encompassed areas ranging from combat-support services to command and control and civil-military integration.

Throughout these years, the PLA has been charged with the overarching goal of “realizing the Chinese Dream and the dream of building a powerful military.”<sup>12</sup> President Xi has made clear that the CCP has “developed a strategy for the military under new circumstances, and ha[s] made every effort to modernize national defense and the armed forces.”<sup>13</sup>

#### ***Military and Command Reorganization***

Since taking office, President Xi has restructured the PLA in China’s seven military regions into five theater commands. He also reorganized the Central Military Commission (CMC) by establishing and subordinating the army’s service headquarters; raising the stature and role of the strategic missile, air, and naval forces; and establishing a Strategic Support Force (SSF) to integrate space-, cyber-, and electronic-warfare capabilities.<sup>14</sup>

Furthermore, by early 2016, President Xi had reorganized and streamlined the senior echelons of the PLA by discarding “the PLA’s four traditional general departments in favor of 15 new CMC functional departments.”<sup>15</sup> To put a capstone on this transformation, Xi announced that the CMC would now be in charge of the “overall administration of the PLA, People’s Armed Police, militia, and reserves,” with the new theater commands (sometimes referred to as joint

war zones) focusing on combat preparedness. Meanwhile, the various services would be responsible for the development of programs to man, train, and equip the force (in the United States, in relation to the National Guard, these are called the Title 10 authorities).<sup>16</sup>

Also of significant concern, Xi has placed authority over the CCG under the CMC. Thus, the CCG, Asia's largest coast guard, is no longer under the civilian command of the State Oceanic Administration. It now falls under Xi's direct command, through his control of the People's Armed Police.<sup>17</sup>

A closer examination of each of the PLA forces is necessary to understand and appreciate their rapidly expanding capabilities.

### *The People's Liberation Army Navy*

Since 2000, the PRC has embarked on an ambitious naval-construction program that dramatically increased the PLAN's and the CCG's blue-water operations within the first and second island chains, while substantially increasing far-seas deployments around much of the globe.<sup>18</sup>

With the realization of the China Dream firmly linked to a global naval capability, China's leaders are on the cusp of achieving their military and economic goals. They are increasing the PLAN's order of battle rapidly in support of an expanding set of global missions to fulfill their China Dream of national restoration and rejuvenation, which will in turn fuel and secure their global economic expansion through the \$1.6 trillion Belt and Road Initiative (BRI). Previously called the One Belt One Road, and before that the Maritime Silk Road, the scope of the initiative spans eighty countries.<sup>19</sup>

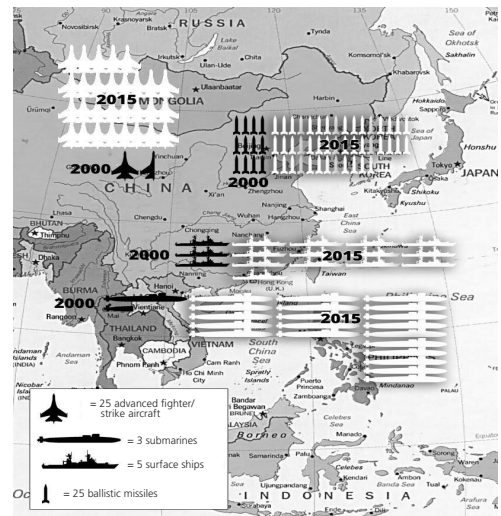
While official Chinese documents describe the BRI as purely commercial and a win-win for participants, studies have shown that internal PRC discussion of the BRI characterizes it as a stealthy conduit of political influence and not only maritime but also naval expansion.<sup>20</sup> Between 2000 and 2014, China committed \$126 billion to the transport and storage sectors.<sup>21</sup> These commitments led to port deals worldwide that provide extensive expansion opportunities. China's goals of present and future naval-construction capabilities and capacity; successful, ongoing expansion of naval operations; and official advocacy for a modern, global, naval force already are posing a challenge for the country's neighbors and the U.S. Navy.<sup>22</sup>

The PLAN's expansion from 2000 to 2018 far exceeds the buildup in any other nation's navy in the post-World War II era, save for the U.S. Navy under President Ronald W. Reagan during the 1980s. For China's leaders to achieve their vision of a rejuvenated and restored China, they need a fleet that can expand China's interior lines out into the maritime domain.<sup>23</sup> In other words, they need naval, air, missile, and expeditionary forces that can take China's regional military

**FIGURE 1  
PLA MILITARY CAPABILITIES 2000**



**FIGURE 2  
EXPANDING MILITARY CAPABILITIES 2015**



Sources: Order of battle based on author’s compilation of open-source data. Build rate derived from Ronald O’Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress*, CRS Report (Washington, DC: Congressional Research Service, 2014), pp. 27–29.

dominance and intimidation to the global realm. Because of atrophy of U.S. naval forces over the last decade, Beijing’s goal is expected to be realized by 2020.

Concurrent with the PLAN modernization has been the changing pattern of its operations. Instead of continuing its role as a coastal naval force operating within fifty nautical miles (nm) of China’s coast, today the PLAN has pushed out into the blue water of the Pacific Ocean and beyond (figures 1 and 2). An examination of PLAN blue-water operations during the past fifteen years reveals that “China’s ambitious naval modernization has produced a more technologically advanced and flexible force.” This evolving naval force will provide Beijing with the capability to conduct a military campaign successfully within the first island chain (for instance, to take Taiwan or the Senkaku Islands).<sup>24</sup>

This transformation has required a new force structure, one that has increased both the number and the type of naval platforms. With respect to far-seas operations, the U.S. Office of Naval Intelligence (ONI) reported that the PLAN’s “diversified missions and far seas operations” during the previous decade had stimulated an operational shift and catalyzed the acquisition of new multimission platforms.<sup>25</sup> These multimission platforms are perfectly suited for naval combat against naval forces tasked to defend Japan’s southwest islands and Taiwan, and U.S. naval forces globally as well.<sup>26</sup> The PLAN’s ability to confront and deny access to U.S. naval forces regionally is now widely recognized, but its ability to confront—and defeat—U.S. naval forces globally merits more attention than it has received.



In their article “Taking Stock of China’s Growing Navy: The Death and Life of Surface Fleets,” James R. Holmes and Toshi Yoshihara correctly assert that the PLAN is “particularly well-suited to seize islands.”<sup>27</sup> They hypothesize that PLAN assault forces will be led by surface combatant strike groups composed of the service’s premier combatant, the Type 052D Luyang III-class guided-missile destroyers, along with the Type 054C Luyang II-class guided-missile destroyers, the Type 054A Jiangkai III-class guided-missile frigates, and the Soviet-built *Sovremenny*-class destroyers.

With their superior arsenal of antiship cruise missiles (ASCMs), these surface action strike groups can provide withering naval gunfire support for an amphibious landing force. They have great range, speed, and survivability. These combatants also would provide a sea-based air defense that would constrain or even preclude U.S. or allied air operations near an amphibious operation.<sup>28</sup> Given China’s superior number of advanced surface combatants, “it is far from clear that the United States retains its accustomed supremacy,” especially in a Taiwan invasion or Senkaku Islands campaign in which naval warfare will determine mission success.<sup>29</sup>

Regarding the Senkakus, PLAN forces have increased their operations in and around the islands since 2012, in addition to activity by China’s Maritime Law Enforcement, the People’s Armed Forces Maritime Militia (PAFMM) ships, and the largest civilian fishing fleets on the planet. Prior to 2012, PLAN warships generally patrolled on the west side of the median line between China and Japan; since 2012, Chinese warships have been operating for sustained periods east of the median line. This trend culminated on June 19, 2016, when the Japanese destroyer *Setogiri* confirmed that a PLAN Jiangkai I-class frigate had entered the contiguous zone of the Senkaku island of Kuba.<sup>30</sup>

Following this pattern, the PRC also has been tightening the noose around Taiwan over the last two years. In April 2018, the PLA engaged in its largest-ever attack exercises in the Taiwan Strait, and in the first live-fire exercises there since 2015. In addition, People’s Liberation Army Air Force (PLAAF) nuclear-capable aircraft circled the island repeatedly during the month in efforts to intimidate the Taiwan government and populace. Other PLAAF aircraft circling Taiwan included multiple fighter jets, H-6K bombers, and early-warning airplanes.<sup>31</sup> PLA forces involved in the assault exercises reportedly included some ten thousand personnel, seventy-six fighter jets, forty-eight naval vessels, a nuclear-powered submarine, and the PLAN’s aircraft carrier *Liaoning* (CV 16), which conducted its first carrier strike group operations in the waters of the Philippine Sea just east of Taiwan.<sup>32</sup>

The challenge for the defending force of allied and U.S. warships operating within the first island chain is compounded by China’s ability to bring the

firepower of all three of its fleets into the sea area around these islands. In addition, China's naval firepower will come from a densely populated submarine force armed with supersonic, sea-skimming, 290 nm-range YJ-18 ASCMs, as well as air-delivered ASCMs from the PLAAF.

With these surface, subsurface, and air forces on hand in the East China Sea, the PLAN has the capability to conduct a short, sharp war to fulfill its pledge of taking Japan's Senkaku Islands. The United States and its allies have insufficient capabilities in the region and easily could lose a conventional war in the Senkakus if China strikes first. Taiwan would pose greater challenges for the PRC, but the PRC now has a significant capability to launch a devastating no-warning attack on the island democracy.

Further, while the PLAN's forays by flotillas into European and African waters have drawn public attention, of greater concern is the PRC's increasing ability to sustain those forces from a widening web of PRC-controlled naval logistic bases from Southeast Asia to the Mediterranean. These ports have been developed for military purposes, and many will control strategic choke points such as the Strait of Malacca and the Suez Canal. Most of China's port deals are for a period of ninety-nine years or more.<sup>33</sup>

The commander of U.S. Pacific Forces warned Congress in early 2017 that China's naval "presence and influence are expanding," thanks in large part to the commercial network created by the BRI. The PRC is using state-owned companies and politically linked private firms to create a network of facilities designed to provide logistic support to deployed PLAN warships, employing a "first civilian, later military" approach to port development across the region. Chinese warships already are taking advantage of the dual-use possibilities of commercial ports, bolstered by laws that oblige Chinese transportation firms working overseas to provide replenishment for navy vessels.<sup>34</sup>

### *PLAN Amphibious Forces*

Perhaps the most important aspect of any successful Chinese maritime sovereignty campaign involves the act of physically occupying islands within the first and second island chains. The key to holding these contested islands is the ability to move forces ashore successfully to seize and hold the ground.

China continues to build and train its naval and amphibious forces in the art of expeditionary warfare, a skill set easily applied to regional island-seizure or global force-projection campaigns. In addition to the Taiwan Strait live-fire exercises alluded to previously, Chinese marines recently conducted amphibious assault exercises in the South China Sea using amphibious dock landing ships, air-cushion landing craft, and shipborne helicopters.<sup>35</sup> This type of training is ubiquitous across the East and South China Seas and is the most tangible evidence of the PLA's preparation to conduct such a mission.

One facet of President Xi's transformation of the PLA includes a dramatic expansion of the People's Liberation Army Marine Corps (PLAMC) to one hundred thousand personnel—an enormous increase for a nation ostensibly devoted to the Five Principles of Peaceful Coexistence and, in reality, threatened by no other nation. According to reports in the *South China Morning Post*, “two special warfare brigades ha[ve] already been incorporated into the PLAMC, raising the forces' complement of soldiers to 20,000.”<sup>36</sup> These new PLAMC forces will be dispatched to far-flung installations such as Gwadar, Pakistan, and the new PLAN base in Djibouti. In these locations, they effectively will threaten America's African and South Asian allies and buttress China's allies operating in these regions, including Russia, Pakistan, and Iran. They also threaten Taiwan and the Senkakus with potential invasion, as well as islands and countries in East Asia and Southeast Asia more generally. Growth in PLAMC personnel is necessary to tip the balance of power in these regions from favoring the United States and its allies to favoring China's growing maritime and territorial ambitions.

To provide the amphibious lift needed for this vastly expanded marine corps, China is producing an increasing number of large, high-end, amphibious warships and is intent on building many more over the near term. According to the ONI, as of 2015 the PLAN has fifty-six amphibious warships, ranging from a few World War II-era landing ships to four of the large, modern Yuzhao-class Type 071 amphibious transport dock ships that provide a substantially greater capacity and more formidable capability than older landing ships.<sup>37</sup> The Yuzhao-class ship is designed for a wide range of island campaigns, including against Taiwan or the Senkakus or in the South China Sea, and force projection into the Indian Ocean and globally. It can hold up to four of the new air-cushion landing craft as well as four or more helicopters, along with armored vehicles and troops.<sup>38</sup>

Not content with the Yuzhao, China has announced it “has started building a new generation of large amphibious assault vessels that will strengthen the navy as it plays a more dominant role in projecting the nation's power overseas.”<sup>39</sup> The PLAN commander, Vice Admiral Shen Jinlong, reportedly visited the Hudong-Zhonghua Shipbuilding Company in Shanghai in March 2017, where the new ship, identified as the Type 075 landing helicopter dock, is under construction.<sup>40</sup>

The Type 075 is much larger than any other amphibious warship previously built for the PLAN and is suited specifically to an opposed island-seizure campaign and global force projection. It can carry a much larger number of attack and transport helicopters (as many as thirty) and has the ability to launch six helicopters simultaneously.<sup>41</sup> For a PRC amphibious assault force, this greatly enhanced heliborne assault capability is critically important. For example, in a regional Senkaku Islands seizure campaign, the closest PLA airfield to the Senkaku Islands from which the PLA could launch attacking helicopters is more than 180

nm away. The Type 075 will provide the critical element for the PLA to be able to project boots on the ground to targeted islands throughout the western Pacific and pose a credible threat to military targets globally.

At the current rate of amphibious assault ship production, the PLAN and the PLAMC will be well resourced and ready to take islands within the first island chain—or objectives as far away from the PRC's shores as needed—by the early 2020s.

While a detailed PRC shipbuilding plan for the next fifteen years has not been made public, analysis of available evidence permits extrapolation of the numbers of ships and submarines China will need by 2030 to achieve its national maritime goals. The following priorities are my assessment of what is most important for China's future naval trajectory and its justification for a 550-ship/submarine fleet: (1) near-seas active-defense operations, (2) far-seas operations, (3) "goodwill" deployments, (4) surge operations, (5) the BRI, (6) carrier strike group operations, (7) amphibious assault group operations, and (8) submarine-launched ballistic-missile patrols.<sup>42</sup>

### *The People's Liberation Army Air Force*

On November 23, 2013, the PRC abruptly declared an ADIZ in the East China Sea.<sup>43</sup> While Beijing portrayed the ADIZ as being about protecting China's mainland, the zone represents the importance the regime places on the air domain in any attempt to take Taiwan or the Senkaku or Spratly Islands.

Since the East China Sea ADIZ declaration, the PLAAF has increased the scope and scale of flights in and around the Senkaku Islands. In December 2012, a Chinese maritime surveillance aircraft entered the Senkaku Islands' territorial airspace for the first time in fifty years.<sup>44</sup> This event, which went unopposed except for public statements, ushered in an era of expanded PLAAF activities in the East China Sea, where fighter, airborne warning and control, and signal- and electronic-intelligence aircraft and unmanned aerial vehicles have expanded their air operations farther southeast toward the Senkaku Islands.<sup>45</sup>

As a result of this strategy shift, Japan Air Self-Defense Force (JASDF) fighters increased their reactions to Chinese aircraft probing Japan's ADIZ, from approximately three hundred events in 2012 to nearly seven hundred in 2016.<sup>46</sup> And while JASDF reactions to the PLAAF were fewer in 2017, owing in large part to the CCP's Nineteenth National Party Congress, the overall increase in PLAAF air activity directed toward Japan's airspace caused the JASDF to double the number of its interceptors from two to four fighter aircraft, a clear indication of Japan's concern about the strategic trend line of the PLAAF.<sup>47</sup>

In addition, the PLAAF has completed an aggressive transition from being an exclusively territorial air-defense force to one that routinely operates over the vast

distances of the high seas within the first and second island chains. For instance, in 2013, the PLAAF began flights into the western Pacific Ocean via the Miyako Strait and since then has averaged between five and six events per year, with multiple aircraft.<sup>48</sup> The aircraft types conducting flights have included bomber, fighter, refueling, electronic-intelligence, and airborne early warning aircraft—attesting to the comprehensive nature of how China would employ airpower to help secure and maintain its control over the Senkaku Islands.

Adding complexity to the air domain, the PLAAF conducted “its first-ever exercise over the western Pacific via the Bashi Channel” in late March 2015.<sup>49</sup> Despite PLAAF public assertions that these drills were routine and not targeted against “any particular country, regions or targets,” there is little doubt that PLA air forces, including the PLAAF and the People’s Liberation Army Naval Air Force (the PLAN’s naval aviation branch, the PLANAF), entering the Philippine Sea via the Bashi Channel or the Miyako Strait provide the PLA with considerable operational and tactical flexibility in any island-seizure attack campaign within the first island chain.<sup>50</sup>

The PLAAF announced in mid-September 2016 that it would conduct regular exercises flying past the first island chain.<sup>51</sup> True to its word, the PLAAF has conducted flights through the Miyako Strait and the Bashi Channel, such as on March 3, 2017, when China sent thirteen aircraft through the Miyako Strait.<sup>52</sup> According to the Japanese Ministry of Defense, this was “the largest number of foreign planes Japan has scrambled jets for since such data first became available in 2003.”<sup>53</sup>

The PLAAF also now routinely sends bombers to threaten Japan, Guam, and other Association of Southeast Asian Nations (ASEAN) allies. In March 2018, the PLAAF sent six H-6K bombers; one Tu-154; and one Y-8 intelligence, surveillance, and reconnaissance (ISR) aircraft through the Miyako Strait into the western Pacific to exercise what the PLAAF stated was “long-range operational capabilities.” In reality, these were attack training profiles for strikes on Guam, while sending Su-35 fighters on their first combat patrol over the South China Sea.<sup>54</sup> And most recently, on May 11, 2018, the PLA’s Eastern and Southern Commands dispatched two groups of H-6K bombers, accompanied by KJ-2000 airborne early warning aircraft and Su-35 and J-11 fighters, in clockwise and counterclockwise patterns from the Chinese mainland through the Miyako Strait and the Bashi Channel, demonstrating the PLAAF’s ability to operate under “high-sea conditions” against Taiwan.<sup>55</sup>

The increasing proximity of Chinese aircraft to the Senkaku Islands is of particular significance. According to Japan’s Ministry of Defense, China has increased the number of PLAAF aircraft that fly south of 27 degrees north latitude, an unspoken demarcation line that Japan considers to be a defensive borderline.<sup>56</sup> JASDF

tactical objectives are designed to keep Chinese planes from flying within a minimum protective air umbrella of approximately 60 nm from the Senkaku Islands.

The combined failure of Japan and the United States to defend this line sends China the message that our resolve to defend the Senkakus themselves may be weak. The same can be said for our ability to defend the airspace around Taiwan and, worse still, in the South China Sea.

China easily could begin a campaign to take Japanese islands, Taiwan, or the islands of the South China Sea by exploiting and surprising local air commanders. Specifically, the PLAAF could launch a large number of fighters and other aircraft toward Okinawa via the Miyako Strait and up through the Bashi Channel, with the goal of diverting, diffusing, and degrading U.S. and allied defensive efforts to establish airspace control. On these islands, an assault by the main invasion force, either airborne from helicopters or seaborne, would be conducted concurrently. And both this combined-arms diversion and the main assault would take place under the cover of one of the most sophisticated missile and rocket forces on the planet.

Finally, if there was any doubt about the PRC's intention to develop the capability for global power projection, specifically nuclear power, one need look no further than PLAAF commander Ma Xiaotian's December 2016 assertion that "China is developing next-generation long-range bombers," expected to be designated the H-20 bomber. This new bomber, according to Rear Admiral Yin Zhuo, director of the PLAN's Expert Consultation Committee, would be on par with the U.S. Air Force B-2 stealth bomber.<sup>57</sup> This was reinforced again in May 2018 when the Xi'an Aircraft Industrial Corporation revealed a mysterious, new-model jet, rumored to be the PRC's new stealth bomber.<sup>58</sup>

### *People's Liberation Army Rocket Forces*

In terms of kinetic fires, and per the Chinese military doctrine of joint-fire strike campaign, Beijing likely would use its extensive ballistic- and cruise-missile arsenal, from the People's Liberation Army Rocket Forces (PLARF), PLAAF, PLANAF, and PLAN, to disrupt U.S. rear-area operations in Japan and throughout the area of operations. Specifically, in a Senkakus or Taiwan attack scenario, Japan and the United States should expect attacks against military bases on the main Japanese island of Honshu, the Ryukyus, and Guam, where the majority of Japanese and U.S. military strength resides. In his article "Has China Been Practicing Preemptive Missile Strikes against U.S. Bases?," Commander Thomas Shugart, USN, convincingly argues that "the greatest military threat to U.S. vital interests in Asia may be one that has received somewhat less attention: the growing capability of China's missile forces to strike U.S. bases."<sup>59</sup>

The purpose of these supporting fires, as articulated in joint-fire strike campaign doctrine, would be to coordinate and synchronize antiship ballistic and cruise missiles, land-attack cruise missiles, air strikes with precision-guided munitions, and counter-C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) strikes with specialized weapons. These fires would facilitate the main objective of seizing Taiwan or the Senkaku Islands and isolating Japanese, Taiwan, and U.S. military forces arrayed across the region.

However, Beijing's strategic designs extend well beyond the first island chain. For instance, in April 2018, the PLARF announced the establishment of a new DF-26 brigade and its deployment to an undetected site. The DF-26, with a range of nearly 2,200 nm, is the PRC's second anticarrier ballistic missile. The first, the DF-21D, with a range of nearly 1,000 nm, when deployed to Hainan Island, places the entirety of the South China Sea within weapons range. Ultimately, both of these "carrier killer" missiles demonstrate the PRC's commitment to power projection against the U.S. Navy. Interestingly, the PLARF also noted that "it has been sparing no effort to foster the capability to conduct nuclear retaliation and intermediate- and long-range precision strikes and has obtained a succession of breakthroughs in new weapons' research and development."<sup>60</sup>

Given the recent deployment of the YJ-12B surface-to-surface and HQ-9 surface-to-air missiles to the PRC's artificial island bases in the Spratlys, it is entirely conceivable that the PRC's rocket forces could be used in a similar fashion to deploy ballistic-missile systems to China's emerging overseas military bases in Djibouti and Pakistan and elsewhere along the course of the BRI.<sup>61</sup>

### *PLA Informatization Department and Strategic Support Force*

PLA strategy addresses informatization in both its offensive combat and counter-intervention operations. *Informatization*—"the ability to transmit, process, and receive information"—is a vital enabler and is at the core of everything the PLA wants to accomplish. These missions include blue-water naval confrontations, amphibious assaults to take islands, high-tech missions in space and cyberspace, long-range precision kinetic and nonkinetic strikes, and naval war-at-sea operations.<sup>62</sup>

Reforms to the PLA informatization department began in 2015 and are expected to be complete by 2020, when lines of responsibility between it and the SSF are further delineated. The SSF's mission reportedly is focused on "strategic-level information support" for "space, cyber, electronic, and psychological warfare."<sup>63</sup> One of its main missions will be strategic denial of the electromagnetic spectrum.<sup>64</sup>

The SSF is a critical factor for joint operations through this mission of strategic-level information support. The SSF also has assumed responsibilities for strategic

information warfare. China's cyber forces would play a critical role in any counterintervention strategy against the United States, Taiwan, and Japan in any island-seizure conflict. These same cyber forces will support PLAN operations against U.S. forces and those of supporting friends and allies globally in other scenarios. The two organizations responsible for this, the Third Department of the PLA General Staff Headquarters (3PLA) and the Fourth Department (4PLA), are both subordinated to the SSF.<sup>65</sup>

China has invested heavily in countersatellite electronic-warfare capabilities to force a “no satellite, no fight” environment on the United States. The SSF has consolidated the management and control over space-based ISR assets. Equally troubling, it also may have nonkinetic antisatellite capabilities, such as directed-energy weapons.

*SSF and the Fight for Public Opinion.* In any conflict within the Indo-Pacific region or globally, the PRC's fight for public opinion will constitute the second battlefield, on which it will wage a wide range of political warfare (PW) operations. Accordingly, the overall PW effort, and the SSF's support for it, requires special attention.

Guided by the doctrinal principle of “uniting with friends and disintegrating enemies,” the PRC continuously employs active PW measures to promote its rise and to combat perceived threats. Its PW operations employ strategic psychological operations (psyops) to propagate the CCP's narrative of events, actions, and policies to lead international discourse and influence policies of friends and foes alike. These PW operations at first may appear to be benign soft-power activities, but under scrutiny they often include coercive persuasion campaigns intended to manipulate international perceptions.<sup>66</sup>

Chinese strategic literature particularly emphasizes the role of psyops, legal warfare, and public opinion warfare—collectively known as the three warfares—to subdue an enemy ahead of conflict or ensure victory if conflict breaks out. According to available literature and experience, it is certain that the PRC will engage in “hybrid warfare” similar to, but likely more sophisticated than, that employed in Russia's 2014 seizure of Crimea. The PRC will augment conventional military operations with nonconventional operations, such as subversion, disinformation and misinformation (now commonly referred to as “fake news”), and cyber attacks. The operationalization of psyops with cyber warfare is key to this strategy.<sup>67</sup> China has empowered its psychological warfare forces fully, most notably at the three warfares base (or 311 base) in Fuzhou. These forces are subordinate to the SSF and integrated with China's cyber forces.

While the CCP's effective use of PW operations goes back to the beginning of the party, its operations—particularly its efforts to build what amounts to fifth columns overseas, through the CCP's United Front Work Department—took on



new impetus with Xi Jinping's ascension to the leadership of party and government in 2012 and 2013, respectively. The United Front is the CCP organization that forges domestic and international political coalitions for influence operations worldwide. In Xi's view, the time had come for a strong and confident China to move beyond former Chinese paramount leader Deng Xiaoping's advice to hide its assets and bide its time. Delegates to the party Central Committee's Eighteenth National Congress were lectured on the importance of United Front work, and the bureaucracy hastened to comply.<sup>68</sup>

Prior to initiating an offensive or other military confrontation, China will use worldwide psyops and public opinion warfare as part of a concerted PW campaign. It will employ Chinese United Front organizations and other sympathizers, along with both Chinese and other nations' mass-information channels such as the Internet, television, and radio.

The focus of these influence operations will be to support China's position and demonize, confuse, and demoralize the United States and its supporting friends and allies. Internally, this campaign will be important in mobilizing mass support for the righteous action, while externally the campaign will attempt to gain support for China's position from those nations undecided about which side (if any) to support. In addition to standard propaganda, disinformation will be employed, such as false reports of surrender of national governments or forces, fabricated atrocities and other violations of international law, and other untrue reports intended to undermine decision-making by the United States and its friends and allies. Also, United Front organizations, working or in parallel with the PAFMM, China's merchant marine, and its massive fishing fleets, may instigate incidents and other actions that disrupt USN and friendly-force maritime operations.

This PW campaign will continue through the military confrontation and after—regardless of the success or failure of the operation.

**SSF Impact.** In a further move that leaves no doubt about the role the CCP envisions for its United Front in the battle for public opinion, on February 17, 2017, Xi issued a directive to cultivate greater support among the members of the estimated sixty-million-strong Chinese diaspora worldwide. He called for "closely uniting" with overseas Chinese in support of the Chinese Dream, as part of the greater efforts and activities of the United Front. Xi stressed that "to realize the great rejuvenation of the Chinese nation, we must work together with our sons and daughters at home and abroad. . . . It is an important task for the party and the state to unite the vast number of overseas Chinese and returned overseas Chinese and their families in the country and play their positive role in the great rejuvenation of the Chinese nation."<sup>69</sup>

Xi and the CCP will exploit these overseas Chinese citizens to weaken military and political adversaries worldwide and advance the CCP's political and military

objectives.<sup>70</sup> Prime among these efforts will be lobbying for the establishment of more PRC military bases.

Ultimately, the purpose of these SSF suborganizations is to ensure the sanctity of national- and theater-level command and control as well as to enhance the war-fighting effectiveness of each of the individual services. Whether in a preferred short, sharp regional war to seize islands or in another confrontation that may take place globally, these invisible forces will provide precise situational awareness, target identification of opposing forces, network-defense capabilities, and real-time command and control that will enable the PLA to take and hold military objectives. They also will work to subvert, discourage, and confuse the national leadership and operational forces of the United States and its supporting friends and allies.

As an example of these efforts, in 2014 the PLA established a permanent joint operations command (JOC) center responsible for integrating the operations of its army, navy, and air forces. It was the first time such a JOC had been established, and the center was seen as boosting “the unified operations of Chinese capabilities on land, sea, air, and in dealing with strategic missile operations.”<sup>71</sup> When these actions are combined with President Xi’s other PLA reforms, it seems clear that China’s ability to command and control all its forces and disrupt opposing forces in a military confrontation is well established and practiced.

## THE PRC’S GLOBAL STRATEGY AND PRESENCE

China’s expanding naval force structure has allowed it to project power on an increasingly global scale. On its path to global maritime hegemony, the PLAN began as a marginally capable, coast-hugging, brown-water force. After American forces departed most of Southeast Asia in the 1970s, China tentatively pushed out into the blue waters of the South China Sea. By the 1980s, China’s naval forces began conducting small-scale, routine operations in both the South and East China Seas. This situation remained static and mostly benign through the 1990s, but by 2000 the PRC’s strategic goals became clear.

Over the past decade, we have seen the PLAN routinely operate and deploy warships as far away as the Indian Ocean and the Mediterranean, Baltic, and Arctic Seas. In fact, by 2015 China was making moves to acquire berthing in the Azores—about a third of the way to the U.S. East Coast from Portugal—as well as operating hydrographic research ships in the South Atlantic—a harbinger of future PLAN submarine operations in the North Atlantic.

In a reversal of old geopolitical truisms, China’s trade is leading the flag, as well as vice versa. China has sealed long-term port deals that span the globe, including in Australia, Cambodia, Indonesia, Malaysia, Brunei, Myanmar, the Strait of Malacca, Bangladesh, Sri Lanka, Pakistan, Djibouti, Tanzania, Mauritius,

Namibia, and Greece. In addition, China currently is negotiating port deals in the Maldives, Scandinavia, and Greenland.

These ports already have started to provide critical berthing and logistics support to China's merchant marine and the PLAN, including refueling, provisions, and maintenance. China's merchant marine ships, meanwhile, are not regular commercial-transport ships. Since 2015, they have been required by Chinese law to be built to military specifications. The year prior, China coordinated many of its merchant marine ships to push back forcibly against Vietnamese vessels protesting Chinese oil exploration in Vietnam's EEZ.<sup>72</sup>

Vital strategic arteries are a focus of PRC control and acquisition planning. Chinese business interests have heavy influence over the Panama Canal, as evidenced by a milestone treaty signed by Panama and China in 2017. The treaty, which came into force in May 2018, is designed to promote maritime and port development by the PRC in Panama.<sup>73</sup> Further, the PLAN has berthing agreements in Malaysia near the Strait of Malacca, it operates a military base in Djibouti, which is at a choke point for the Suez Canal and the Red Sea, and the commander of the U.S. Southern Command recently testified before Congress that it is "worth paying attention to" the prospect of the PRC building a naval facility in the Western Hemisphere.<sup>74</sup> At the current rate, this Western Hemisphere PRC naval facility is not a matter of if, but when.

Of equal concern, influential PRC and Thai political leaders are conducting advanced planning for a PRC-built canal across the Kra Isthmus of Thailand that simultaneously would diminish Singapore's economic and political viability while cutting travel time by three days compared with transit through the Malacca Strait. Since the Malacca Strait currently handles approximately 40 percent of global trade flows, this would increase PRC commercial power vastly.<sup>75</sup> It also would fund, justify, and facilitate PLAN naval operations between the Indian Ocean and the Gulf of Siam. A similar canal has been proposed for Nicaragua.<sup>76</sup>

Since 2008, China has conducted nonstop antipiracy operations in the Gulf of Aden. These operations have been a boon for the PLAN's development as a blue-water naval fighting force and also have provided a portal for Chinese influence into the Middle East balance of power. For instance, 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. The threatening of an emerging U.S. friend and Quad member, India, reveals the actual strategic purpose of China's submarine and naval operations in the Indian Ocean region.<sup>77</sup> In August 2017, China deployed at least fourteen naval ships in the Indian Ocean.<sup>78</sup>

The PLAN also has conducted oceanographic research operations in the Indian Ocean, East and South China Seas, and Atlantic Ocean, as well as commercial

oceanographic expeditions in the Mariana Trench (within Guam's EEZ), other parts of Micronesia, Benham Rise (within the Philippine EEZ), and the western Pacific. China'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.

In 2017, Chinese hydrographic survey vessels were caught mapping the ocean floor in the Philippines' territorial waters of the Luzon and Surigao Straits and in the Caroline Islands of Micronesia. This ocean floor mapping assists the PLAN subsurface fleet in preparing to break out of the first and second island chains and into the western Pacific and Atlantic; doing so would leave global shipping, the continental United States, and all other territories vulnerable to submarine-launched cruise missile and submarine-launched ballistic missile (SLBM) attacks during wartime.<sup>79</sup>

In furtherance of these goals, the PLAN has developed a network of sensors that incorporates ships, submarines, buoys, satellites, and unmanned underwater gliders. The service's hunger to acquire this information knows no bounds, as was demonstrated when a PLAN warship captured a U.S. underwater glider in 2016, in a brazenly open theft of U.S. military technology.<sup>80</sup> The PLAN's development of underwater listening arrays and passive sonar will erode, if not outrun, the current U.S. advantage over the next five to ten years if more U.S. funding is not made available in this high-priority, strategic area of naval warfare.

#### *Russia-PRC JOINT SEA Exercises*

The PLAN also has been conducting joint naval-warfare exercises, named JOINT SEA by the PRC, with the Russian navy since 2012, when the first exercise occurred in the waters of the Yellow Sea. Since then the scope, scale, and complexity of the exercises in this series have expanded. Each year the PLAN has dispatched its warships to the Sea of Japan and the Mediterranean and Baltic Seas.

In the latest iteration, JOINT SEA 2017, three Chinese and ten Russian warships conducted naval-warfare training for several weeks in the Baltic. This was the first time the PLAN had operated in the Baltic Sea, and by all accounts its performance in this joint operation was flawless. This sent a chilling hard-power diplomatic message to Eastern Europe, as China has never denounced Russia's 2014 annexation of Crimea from Ukraine, and Estonia frequently complains of Russian naval and air forces operating too closely to its shores. However, in a disturbing turn of events, European capitals apparently accepted the Chinese naval presence as the price to be paid for benefiting from Beijing's BRI.<sup>81</sup>

### *Tectonic Shifts in Southeast Asia*

China's naval advance in Southeast Asia has been swift in historical terms, but incremental when viewed in the context of America's blinkered four-year political cycle. It unfortunately has been met with almost no resistance and, most notably, by a failure of U.S. resolve to recognize and confront the dangers while the U.S. Navy still held the preponderance of power. China's increasingly well-publicized naval presence and operations throughout Southeast Asia have contributed to a tectonic shift in this sensitive region, a shift toward Beijing and authoritarianism and away from the United States and its values of democracy and the rule of law. Key milestones in the PRC's maritime and political expansion into Southeast Asia are outlined below.

In 1974, the PLA attacked and captured Duncan Island in the Paracels, killing dozens of South Vietnamese soldiers. The United States did nothing to assist its ally against China, despite having a carrier nearby.<sup>82</sup> China subsequently occupied all the Paracels, where it now has twenty naval outposts.<sup>83</sup>

In 1988, China captured Johnson Reef in the Spratly Islands from lightly armed Vietnamese troops who were standing knee-deep on the shoal in an attempt to establish a presence. The PLAN murdered all sixty-four soldiers by opening fire from naval ships with large-caliber deck guns. The Philippines made a diplomatic protest of this occupation in its claimed EEZ, but the United States took no military action, sending a message of U.S. ambiguity to China and our allies.<sup>84</sup>

In 1995, China occupied Mischief Reef, an unoccupied low-tide elevation within the EEZ of the Philippines. Again, the United States did nothing. China now has dredged and added naval outposts to all the Spratly islands that it controls.<sup>85</sup>

In 2012, the presence of PRC commercial ships at Scarborough Shoal, also within the Philippines' EEZ, instigated a standoff that ultimately intimidated the Philippine coast guard and fishermen away from their ancestral fishing grounds. The U.S. State Department arguably abetted the PRC's occupation when Kurt Campbell, then the Assistant Secretary of State for East Asian and Pacific Affairs, negotiated a mutual withdrawal of PLAN and Philippine naval assets from Scarborough. The plan was flawed; the PRC immediately reneged, refusing to remove its vessels from the shoal and thereby establishing itself as the sole naval power at the shoal. This single event has had the negative consequence of providing President Duterte of the Philippines with a justification for siding with the PRC after he came to office. More importantly, this failure to support a treaty ally has damaged U.S. credibility severely, not only with the Philippines, but across the entire Indo-Pacific region.

China's claim of the so-called nine-dash line as its sovereign boundary and its occupations of the Philippines' EEZ were ruled illegal in 2016 by the PCA

in The Hague.<sup>86</sup> But the United States took no action to recover lost Philippine rights, and its ally the Philippines already had given up on the possibility of U.S. protection.<sup>87</sup>

The PCA ruling was too little, too late. China now has announced plans to dredge Scarborough Shoal, just 120 nm from the U.S. Navy's former deepwater base at Subic Bay. China's YJ-12 and YJ-18 ASCMs both have an approximately 290 nm range, suggesting that it would be foolhardy to conduct naval operations from Subic in the future without first establishing control of Scarborough.

Most significantly, China now has deployed YJ-12B ASCMs to Mischief, Subi,

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*While official Chinese documents describe the BRI as purely commercial and a win-win for participants, . . . internal PRC discussion of the BRI characterizes it as a stealthy conduit of political influence and not only maritime but also naval expansion.*

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and Fiery Cross Reefs, despite the PRC's prior assurances that it would not militarize these facilities. And to complicate the situation further, President Duterte stated in a speech that he believed China had installed the missiles to

protect rather than imperil the Philippines.<sup>88</sup>

There is significant concern that President Duterte's pro-China policies could provide a basis for turning Scarborough Shoal into another PRC air and naval base. Standing up to Beijing would require adept and forceful diplomacy from Manila, as well as the placement of U.S. Navy and Coast Guard assets at the shoal to counterbalance similar Chinese assets.

Farther south, China's accelerated dredging and militarization of its artificial islands since 2013 violates its promises in the Declaration on the Conduct of Parties in the South China Sea, which it signed with ASEAN nations in 2002.<sup>89</sup> China's naval outposts in the South China Sea include berthing for aircraft carriers and submarines, runways sufficient for its military planes, anti-aircraft guns, and—starting in 2018—ASCMs.<sup>90</sup>

The militarization of these islands, contradicting promises President Xi made to President Obama, is an increasingly powerful inhibitor of USN operations in the South China Sea. Counterintuitively, over time China's militarization of the South China Sea increasingly has had the impact of forcing U.S. military commanders to get higher and higher levels of approval before being allowed to conduct routine operations in the South China Sea. This timidity has escalated to the point that presidential approval has been required for even simple freedom of navigation (FON) transits—an approval authority protocol that never had been required since the inception of the program in 1979.

Also in Southeast Asia, it is important to understand the dramatic tilt that the Kingdom of Thailand has taken toward the PRC. This tilt, particularly prominent

since the May 22, 2014, military coup in Thailand, is reflected in unprecedented Sino-Thai military-to-military training and cooperation. The first Sino-Thai naval exercises were held in the Andaman Sea in 2004 and in the Gulf of Thailand in 2005. Exercise STRIKE 2007 was the first joint exercise with any nation involving China's special forces. Exercise BLUE STRIKE maritime drills commenced in 2010, while the first Sino-Thai air force exercises, FALCON STRIKE, took place in 2015. Thai officials have announced that the PRC will build a regional weapons and maintenance center in Thailand, and in 2017 Thailand purchased the first of three Chinese submarines.<sup>91</sup>

The submarine sale has serious, far-reaching implications. Not the least of these is that the PLAN likely will control a submarine maintenance and training facility at Sattahip naval base, which could preclude USN use of that important Southeast Asia naval facility.

Regarding China's role in Malaysia, former prime minister Najib Razak visited China in 2014, and by the next year military personnel exchanges and joint exercises occurred between the Malaysian armed forces and the PLAN in the Strait of Malacca. In 2016, the two countries concluded a major military agreement, including Malaysia's purchase of four littoral mission ships (LMSs), accompanied by a statement by the prime minister against the United States. The LMS purchase was Malaysia's first major defense deal with China, and it may include a new Malaysian office of China Shipbuilding and Offshore International Co. Ltd., the LMS maker.<sup>92</sup>

In 2017, Malaysia's defense minister spelled out the goals of the two countries as being an institutionalization of their "unique relationship" through a "high-level defense committee" on military cooperation, intelligence exchange, education, training, and strategic affairs. A "current issues" working group discussed the Malacca Strait, South China Sea, and terrorism. On his visit to Beijing that year, the minister oversaw an agreement between Malaysia's National Defense University and Peking University.<sup>93</sup>

Also in 2017, a PLAN submarine docked at Malaysia's naval base at Kota Kinabalu; this occurred simultaneously with a Russian antisubmarine warfare ship docking in the Philippines. Whether intentional or not, these actions sent a message about the strength of the alliance between China and Russia, along with a lack of any significant resistance to their influence in the region.<sup>94</sup>

After the Chinese and Russian visits in 2017, a fellow at the Chinese Academy of Social Sciences opined, "It is normal for Russia to increase the presence of its force in Southeast Asia as this region cannot be dominated by the U.S. Besides, Southeast Asia has seen a change in the balance of power. The influences of China and Russia in the region have heightened while the influence of the U.S. has declined. What's more, with the U.S. failing to meet the security demands

of Southeast Asian countries, more countries in the region will turn to China and Russia for security.”<sup>95</sup> Later in 2017, a PLAN Song-class submarine and a replenishment ship conducted a port call in Sabah, Malaysia, after conducting counterpiracy operations in Somalia—which sent another signal of the shifting sands in the South China Sea.<sup>96</sup>

### *Ceding Oceania in the Race for the Equator*

As we focus on the PRC’s ability to break the first island chain, we also must be watching its inroads into the second and third island chains.<sup>97</sup> Across the vast expanse of Oceania, China’s deepening economic and political relationships have paved the way for port leases and maritime construction efforts that serve the PRC’s global power-projection vision and threaten U.S. security interests.

China is making a large play for this resource-rich, strategically crucial region, from the continent of Australia to obscure island nations that most Americans might not recognize on a map. These are islands and waters that Americans defended, or liberated island by bloody island, from brutal oppression more than seventy years ago. However, this time the outcome will be determined not only by U.S. naval and air power but also by who wins over the hearts and minds of local island populations. The reality at this moment is that massive Chinese investment to boost island economies is winning the hearts and minds of island leaders and well-off elites, if not necessarily populaces. Simultaneously, U.S. diplomatic and economic investment in the islands is often invisible, and sometimes even in retreat.

As a prime example, Australia, one of America’s closest allies, sold a ninety-nine-year lease of its strategic port in Darwin to a financially distressed Chinese company for \$506 million in Australian dollars (AUD) in 2015. This sale occurred despite Darwin’s long and continuing usage by Australian and U.S. military forces, creating an enhanced security threat for operations and unpredictability of access during a crisis. China’s Foreign Ministry spokesperson stated at the time, “This investment by a Chinese enterprise is a normal business operation that complies with market principles, international rules, and Australian laws.”<sup>98</sup> But the Chinese company, Landbridge Group, was financially distressed and seeking cheap loans from the Chinese government. To obtain those loans, the chief executive officer described the port in terms consistent with China’s state goals, saying that the lease was part of China’s state-coordinated BRI. He also hired Australia’s former trade commissioner as a consultant for AUD 73,000 per month, raising questions of corruption among Australia’s decision makers on the deal.<sup>99</sup>

China’s port in Darwin, Australia, is financially distressed. This is normal for China’s ports abroad, which are highly unprofitable—unless viewed from the



optic of China's national security. Out of fifteen of China's global port projects sampled by Devin Thorne and Ben Spevack, the authors concluded that "only six are arguably or potentially profitable."<sup>100</sup> Unsurprisingly, the authors included Darwin as one of these six ports, as the port could obtain subsidized funding from the Chinese government only after being linked with the PRC's BRI. The BRI is unambiguously a project to promote Chinese global hegemony, both through political influence and, more concretely, through naval power projection.<sup>101</sup>

Recent media reports suggest that Australian defense officials are concerned that China aims to establish a permanent naval base on the Pacific island republic of Vanuatu, a country known for its robustly independent foreign policy. Vanuatu was the first Pacific nation to join the Non-Aligned Movement in the 1980s, and it has a long-standing commitment to decolonization in places such as East Timor, West Papua, New Caledonia, and French Polynesia. Some see Vanuatu as the political capital of Melanesia, since it hosts the secretariat for the Melanesian Spearhead Group (MSG) of nations. Vanuatu may be forging closer ties with China because it is being threatened directly by Indonesia as a result of Vanuatu's support for West Papuan independence, and at the same time is in negotiations with France over the disputed territories of Matthew and Hunter Islands. Although Australia usually is seen as the primary regional security provider, Melanesian nations such as Vanuatu increasingly see their security situation as compromised when it comes to Canberra's policies on Indonesia and climate change.<sup>102</sup>

While the Vanuatu government and the PRC currently deny that any plans to establish such a base are afoot, the PRC initially also denied its plans for the base in Djibouti.<sup>103</sup> China already has built a new wharf on the Vanuatu island of Espiritu Santo, making it one of the largest ports in the South Pacific, and is upgrading the airport and building sports stadia, convention centers, and roads—along with office buildings for Vanuatu's foreign affairs staff and the prime minister's new office. Vanuatu would be a logical location for China to establish a new satellite-tracking station and ground-support facility for its Yuanwang space event support ships.<sup>104</sup> Chinese officials stated that they have more aid projects active in Vanuatu than in any other Pacific country; in return, Vanuatu announced in late 2016 that it would be the first Pacific country to recognize China's claims in the South and East China Seas. Since then, other Pacific nations, including Nauru and Papua New Guinea, have followed suit.

At the same time that Chinese investment and diplomacy are spiking in Vanuatu, so too is investment in New Caledonia, where some French officials are nervous about potential violence and the referenda on independence. Across Oceania, the PRC also is showing deep interest in the Federated States of Micronesia, Tonga, Samoa, and French Polynesia. The interest in French Polynesia stems

from these islands' utility not only for support and monitoring (the Yuanwang ships have made several visits) but also as a refueling and transshipment point between China and the Americas. Additionally, China sees French Polynesia as a significant future stepping-stone to growing operations in Antarctica.<sup>105</sup>

A Chinese company has agreed to invest almost a third of a billion U.S. dollars to set up an aquaculture project at French Polynesia's large and remote Hao atoll. That amount is more than all the foreign direct investment that French Polynesia received between 2013 and 2016 combined. The atoll used to support a French military base for France's nuclear-testing program. While the base has closed, much of its infrastructure is still intact. This includes the airport, which has a runway long enough to have been designated an emergency landing strip for the space shuttle.<sup>106</sup> Fiji and other politically complex countries that are diplomatically close to China also might be in Beijing's sights as possible locations for naval logistics facilities.<sup>107</sup>

Chinese influence operations in Oceania also are reflected closer to U.S. territory in the Commonwealth of the Northern Mariana Islands (CNMI). In CNMI, just north of Guam, Chinese resort developers, serving PRC economic- and political-warfare interests, are stymieing U.S. military efforts to develop further a much-needed training area for amphibious operations, on Pagan Island. This thus-far-successful "blocking operation" is designed to degrade the readiness of frontline U.S. Navy and Marine Corps forces assigned or transiting there.

This now-well-established pattern to support Beijing's global ambitions for the PLAN deserves Washington's close attention. It starts with Chinese financial aid, political donations, and investment, along with commercial inroads, and then an increase in Chinese immigrants, all contributing to influence over local governments. Next, invariably, a PLAN-related military objective emerges. This angle can range from Chinese military access to ports and airfields to blocking efforts, as seen in CNMI and throughout Micronesia.<sup>108</sup>

### *New Threats in South Asia and the Indian Ocean*

In recent years, the PRC has increased its influence and presence in South Asia significantly. Beijing is acquiring a naval facility near Gwadar, Pakistan, and a major maritime port facility in the same location on a forty-year lease. The first containership visited in March 2018, but Gwadar was not built exclusively for profit; rather, it also was envisioned to be China's territorial foothold in Pakistan and to service naval power projection into the Arabian Sea.<sup>109</sup>

In Sri Lanka, Chinese companies gradually built their influence with arms sales amid a civil war and allegations of corruption and bribery at the highest levels. Vanity projects and growing debt predictably followed. From 2005 to 2014, China provided almost seven billion dollars in loans to Sri Lanka. By 2014, Sri Lanka

was having difficulty paying them back, and in September of that year it not only opened four of seven berths at the unprofitable Hambantota port to a Chinese company on a thirty-five-year lease but also hosted the PLAN warship *Changxingdao* and nuclear submarine *Changzheng-2*. After an additional insolvency crisis in 2016, Sri Lanka sold a 70 percent equity stake in Hambantota to Chinese companies in exchange for forgiveness of a fraction of its debt to China. Chinese companies took control of the port, with a ninety-nine-year lease, in January 2018. This port likely will see routine use by PLAN combatants early in the next decade, providing another indicator of the PRC's success in achieving in the Indian Ocean region its goals for acquiring global power-projection capabilities.<sup>110</sup>

The Maldives provides another stark example. The country lurched toward Beijing (and away from New Delhi) with the election of a pro-PRC president in 2013. The fractious aftermath of the hotly contested election led China to deploy warships in parts of the Indian Ocean to preserve its growing interests.<sup>111</sup> Consequently, the PRC has been granted exclusive trade and other access. In light of the Maldives' strategic location south of India, this likely will lead to greatly enhanced PRC maritime surveillance and naval operational support.

The Maldives and Sri Lanka are two of the several Indian Ocean nations where China is obtaining footholds that could prove decisive in its future maritime strategy in the region. Mauritius, the Seychelles, and Myanmar also are being lured into China's BRI. The PRC has a substantial stake in the deepwater Kyaukpyu port in Myanmar, identified by Chinese officials as one of several port locations for military supply and industry. In 2015, China's state media described Kyaukpyu (Myanmar), Chittagong (Bangladesh), Colombo (Sri Lanka), Aden (Yemen), and ports in the Maldives as potential industrial hubs to support PLA military operations.<sup>112</sup>

While the facilities at Hambantota, Gwadar, and Kyaukpyu are not being used yet by the PLA, Beijing's militarization of its man-made South China Sea facilities and the sudden prospect of a base in Vanuatu demonstrate how quickly dual-use infrastructure could be turned to military logistic support. The vulnerability of countries such as Sri Lanka, Myanmar, and Vanuatu to Chinese debt traps associated with these infrastructure projects was highlighted recently by the International Monetary Fund director, who suggested how easily Beijing might tighten the financial screws to obtain strategic access.<sup>113</sup>

Also of great concern, the Maldivian political crisis of 2013 exposed the PRC's willingness to deploy the PLAN to the Indian Ocean in support of China's interests, as described by Vivek Mishra:

Even as the crisis was unfolding, Chinese ships sailed to the East Indian Ocean comprising a fleet of destroyers and at least one frigate, a 30,000-ton amphibious transport dock and three support tankers. The Chinese ships later returned to the South

China Sea on the back of heavy Indian naval scrambling. The incident, however, underscored the future importance of the Sunda Strait and the Lombok Strait, used for entry to and departure from the Indian Ocean, for the Chinese Navy (PLAN) in the event of a future maritime crisis in the Indian Ocean.<sup>114</sup>

### *Expanding Naval Interests in Africa*

China has made naval and commercial shipping advances throughout Africa. These advances accelerated after Xi Jinping's high-profile 2015 announcement of plans to invest sixty billion dollars in the continent. China has built or obtained leases for ports in the Horn of Africa (Djibouti), East Africa (Tanzania), and southern Africa on the Atlantic Ocean (Namibia).

Most widely reported was China's July 2017 establishment of a military logistics base in Djibouti. Here, China began its compromise of U.S. national security by softening up the government of Djibouti by providing a six-hundred-million-dollar port terminal for multipurpose use, a four-billion-dollar terminal for liquefied natural gas exports, a six-hundred-million-dollar deal for two new airports, and a four-billion-dollar railroad. Chinese officials claimed not to be planning a military base for Djibouti—similar to the claims they have made in Vanuatu. But then, in July 2017, China used the influence its commerce had bought to open the Djibouti Logistics Support Base of the People's Liberation Army near Doraleh, Djibouti. Officials then claimed that "the Djibouti base has nothing to do with an arms race or military expansion."<sup>115</sup>

But the same month they opened the base, they were conducting live-fire exercises using armor, including wheeled tank destroyers and fighting vehicles, accompanied by infantry assault teams. These exercises had nothing to do with logistics, antipiracy, or the United Nations; rather, they established a land fighting force in the Horn of Africa. The day after the exercises' conclusion, Premier Li Keqiang met the Djiboutian president "to foster economic cooperation and to build a regional hub of trade and logistics," according to China's state media.<sup>116</sup>

Less than a year after the base opening in Djibouti, by early May 2018, there had been several incidents involving high-power military laser attacks against U.S. Air Force (USAF) pilots, a violation of U.S. federal law.<sup>117</sup> Two pilots suffered minor eye injuries from the lasers that emanated from either the Chinese base at Djibouti or a Chinese naval vessel nearby. This is a tactic resurrected from the Cold War, when the Soviet Union conducted similar attacks against USAF pilots.<sup>118</sup>

In February 2018, the government of Djibouti also alienated the United States and its allies by terminating the port leases of Dubai's DP World for the Doraleh Container Terminal (DCT). China already controlled two of five terminals at Djibouti's seaport. The U.S. Africa Command (AFRICOM) chief since has expressed

concern that the DCT, which supplies U.S., Japanese, Saudi, and French troops in Djibouti, could be turned over to China, putting at risk naval supply chains for the United States and its allies in the region, and possibly threatening USN access and commercial FON in the Red Sea and Suez Canal. Camp Lemonnier in Djibouti is the only USN base in Africa. Half the world's containerized cargo and four million barrels of oil a day pass by Djibouti.<sup>119</sup>

The same year—and in stark contrast to the lasing events—the PLAN's hospital ship, *Anwei (Peace Ark)*, made port calls throughout the entire rim of Africa,

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*Beijing has demonstrated that it has the shipbuilding capacity, capabilities, untapped productivity gains, and global requirements to sustain the transformational growth in Chinese naval construction and combat capability through 2030.*

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which established important local contacts and provided logistic experience and public relations benefits to China. The PLAN mission lasted approximately a hundred days and covered 13,000 nm. The ship made port stops in Djibouti, Sierra Leone, Gabon, the Republic of the Congo, Angola, Mozambique, and Tanzania.<sup>120</sup>

bouti, Sierra Leone, Gabon, the Republic of the Congo, Angola, Mozambique, and Tanzania.<sup>120</sup>

China's naval presence already is progressing southward in East Africa. Tanzania is another illustration of China's incremental insertion of its navy abroad. In 2011, the PLAN and Tanzania showed an increasingly close relationship by conducting joint naval training.<sup>121</sup> China used World Bank funding to deepen and strengthen the port of Dar es Salaam in June 2017, which was a double win for China, as the PLAN's largest warships then would be able to berth there and a Chinese company won a \$154 million contract for the rebuild.<sup>122</sup>

A three-ship PLAN surface action group (a destroyer, a guided-missile frigate, and a supply ship) visited Tanzania in August 2017.<sup>123</sup> In November 2017, China used its growing influence in Tanzania to agree to a new \$10 billion port contract for megaships (those carrying eight thousand twenty-foot equivalent units [TEUs]) in Bagamoyo, about seventy-five miles from Dar es Salaam.<sup>124</sup> The high cost of the port relative to Tanzania's small economy threatens to overwhelm its ability to repay debt to China incurred from port-construction costs. The port alone could add approximately 20 percent to Tanzania's debt-to-GDP ratio, putting it at risk of debilitating concessions in an insolvency crisis, as Sri Lanka experienced.

In the 1960s, nationalist forces from Namibia visited Beijing to ask for guns and money in their fight against apartheid. In 1990, when Namibia claimed independence, China was one of the first to recognize the country diplomatically. With that military, economic, and diplomatic investment flowed a hundred thousand Chinese immigrants into Namibia by 2016. Chinese corruption of local

Namibian politicians has led to international suspicion about plans for a potential PLA base on the Atlantic Ocean.<sup>125</sup>

In 2014, China Harbor Engineering Company began developing a \$344 million shipping terminal in Walvis Bay, Namibia, on the South Atlantic Ocean. Slated for completion in mid-2019, the terminal will have an artificial peninsula the size of forty baseball fields and two six-hundred-meter berths that each can accommodate containerized cargo vessels of eight thousand TEUs, for a total of 750,000 TEUs per year. The plan also includes a \$400 million fuel depot—and rumors of a naval base. At a ceremony for delivery of four ship-to-shore cranes in February 2018, China's ambassador to Namibia stated that with their delivery, "Namibia's port in the coastal town of Walvis Bay will become the most brilliant pearl on the Atlantic Coast of southwest Africa." He added, "It can be said that this is the benchmark project for China-Namibia friendly and pragmatic cooperation, which symbolizes the great attention of our leaders to our relations and the brotherhood between our people."<sup>126</sup>

This port is part of a larger Chinese presence in Namibia. Just forty-three kilometers (km) north of Walvis Bay is Swakopmund, Namibia, which hosts a Chinese telemetry station for tracking satellites and space missions. Chinese construction companies are building a new military academy 324 km northeast of Walvis Bay. China supplies weapons and training to the Namibian military, including from Poly Technologies, which also supplies Iran, Syria, and North Korea.<sup>127</sup>

About a hundred kilometers northeast of Walvis Bay is the Husab Uranium Mine, the world's second largest. China General Nuclear (CGN) owns 90 percent of the mine, into which it has invested \$4.6 billion since construction started in 2013; the Namibian government owns only 10 percent. The mine and a processing plant produce triuranium octoxide ( $U_3O_8$ ), a yellowcake for both production of nuclear energy and weapons manufacture. The mine alone is economically, and therefore politically, important to the country, as it will increase Namibia's GDP by 5 percent, according to its own estimates. Almost all Husab's yellowcake production is planned for export to China out of the Walvis Bay port. CGN also builds nuclear reactors in China for export, and has proposed one for Namibia. CGN is trying to accelerate the manufacture and design of its nuclear reactor components. Notably, one of its American consultants was convicted in 2017 for conspiring to recruit U.S. nuclear engineers.<sup>128</sup>

By all accounts and indications, the PRC has selected Namibia as a strategic location, so U.S. national security policy makers should expect the PLAN to establish a naval base there in support of China's global aspirations in the South Atlantic. The next logical area for expansion after Africa and the South Atlantic is in Europe and the North Atlantic.

In 2017, China and Mauritius announced “a new strategic partnership” that included port access and much more. Mauritius is a small island nation to the east of Madagascar in the Indian Ocean. Judging by its own description, the Mauritian government offered itself as a virtual shell country to China.

Minister Lutchmeenaraidoo emphasized that Chinese companies will be able to use the free port facilities in Mauritius as a basis for adding value to their products and re-export them under favorable conditions to [African] countries and can rely on Mauritius’ membership of organisations such as COMESA [Common Market for Eastern and Southern Africa], SADC [Southern African Development Community], IOC [Indian Ocean Commission], and possibly the Tripartite Trade Zone (COMESA, SADC, East African Community) to reach markets [in the] countries of Southern Africa and East Africa, a huge market of some 650 million consumers.<sup>129</sup>

Mauritius is targeting countries such as Ghana, Senegal, and Madagascar for special economic zones, which they are offering as a sweetener to Chinese investors for government-to-government agreements “as a very attractive possibility to mobilise investments in these new economic poles.” In exchange, China apparently dangled the opportunity to use Mauritius as an all-Africa hub of investment and for clearing Chinese currency.<sup>130</sup> This dangling of “hub status” to countries throughout the world is a common tactic of China’s negotiators.

### *China Approaching American Coasts*

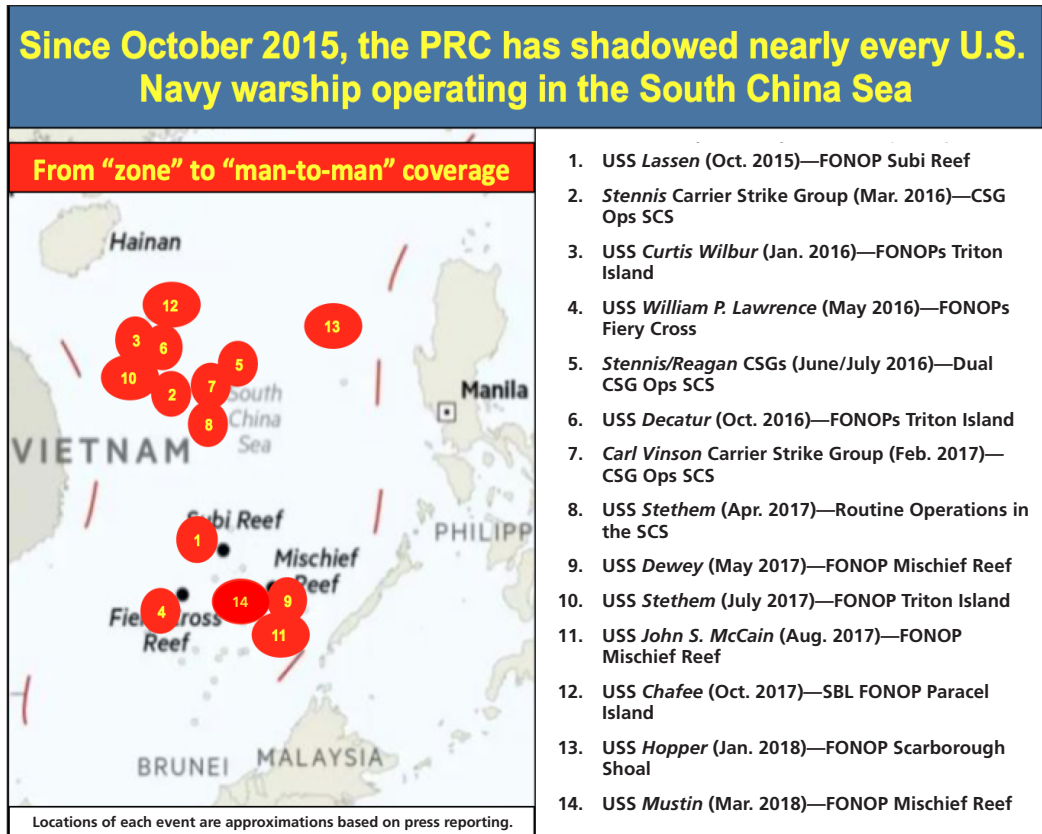
This article has noted China’s naval and maritime expansion in terms of both ports and military basing in Southeast Asia, the Horn of Africa, and the Indian Ocean.<sup>131</sup> The examples illustrate that China’s ports are not really *commercial ports*, as Americans understand the term, because they are unprofitable; their real purpose is geopolitical and naval expansion.

Similarly, China’s merchant marine is not only a merchant marine but also an arm of state power on the seas. China used its merchant marine in coordinated fashion to evacuate Chinese citizens fleeing violence in Libya in 2011 and to threaten Vietnamese boats in their own EEZ in the 2014 China National Offshore Oil Corporation oil rig incident. This state coordination of commercial and military assets is a hallmark of China’s BRI—which is creeping ever closer to American shores.

With the Terminal Link purchase of 2013, Chinese companies purchased 49 percent stakes in Houston Terminal Link, Texas, and South Florida Container Terminal in Miami, Florida. But China’s maritime tendrils are not limited to commercial ports.

China already has dispatched warships as far as Alaska. In 2015, the PLAN made its first trip there, with five ships, apparently seeking to intimidate President Obama when he made the first visit of a sitting president to Arctic Alaska.

**FIGURE 3**  
**PLAN SHIFT FROM “ZONE” TO “MAN-TO-MAN” COVERAGE IN SOUTH CHINA SEA**



Notes: CSG = Carrier Strike Group, FONOP = freedom of navigation operation; SBL = straight baselines; SCS = South China Sea.

Source: Independent research by author, compiled from press reporting.

The PLAN's unexpected rendezvous with him should be seen as strategic messaging, as well as a probable (if spurious) basis for a potential claim on Arctic resources in the future.<sup>132</sup> In 2017, the PLAN again sailed to Alaska, on an apparently uninvited intelligence-gathering mission to monitor U.S. testing of the Terminal High Altitude Area Defense (THAAD) missile-defense system.

In both instances, PLAN warships operated well within the U.S. EEZ and reportedly near or within U.S. territorial waters. Ironically, as Chinese ships have begun to operate routinely inside the U.S. and other nations' EEZs, the PRC vociferously complains whenever U.S. military ships operate within the South China Sea. As outlined in figure 3, since October 2015 the PLAN has shadowed nearly every USN warship that has entered and operated within the South China Sea, shifting from a “zone” coverage to a “man-to-man” strategy. This shift provides more empirical proof of the PRC's intent to use its military forces to achieve its strategic goals through bullying and intimidation, despite assertions of peaceful development.



Regarding the PRC's Arctic interests that portend impacts on U.S. territory and interests, in July 2017 the PRC and Russia agreed to "develop their cooperation on arctic shipping routes, jointly building a silk road on ice." And less than a year later China's State Council issued the country's first Arctic white paper and continues to negotiate the outlines of potential cooperation and collaboration with Russia.<sup>133</sup>

China is pushing its military well into the Pacific, including to Guam and Hawaii, and into the Atlantic islands of the Azores. In 2017, the PLAN used intelligence-gathering ships to shadow joint U.S.-Australia naval exercises off the coast of Guam.<sup>134</sup> China also has employed uninvited intelligence-gathering ships to spy on the U.S.-hosted Rim of the Pacific (RIMPAC) exercises off Hawaii in 2012 and 2014.

In Brazil, China Merchant Port Holdings purchased a 90 percent stake in Brazil's most profitable port, TCP Participações SA, for \$924 million in 2017.<sup>135</sup> In Brazil's state of Maranhão, Chinese companies laid foundation stones at the Port of São Luís in March 2018. A Chinese company holds a 51 percent stake in the \$244 million port. The port will handle ten million tons of cargo, plus 1.8 million cubic meters of oil products. China's ambassador to Brazil and the governor of Maranhão attended the ceremony for the BRI project.<sup>136</sup>

The PLAN is operating hydrographic research ships in the South Atlantic—a harbinger of future PLAN submarine operations in the North Atlantic, which could begin by 2025. While the U.S. air base in the Azores was home to the USAF 65th Air Base Wing and was critical to fighting World War II, the Cold War, and the Iraq war, by 2015 U.S. personnel there had been reduced to only two hundred, causing a cash crunch for locals—and providing a major strategic opportunity for China's military.<sup>137</sup> China made moves to scout berthing in the Azores that year. A Chinese naval and air base in the Azores would be a third of the way to the U.S. East Coast from Portugal, providing PLAN ships and submarines and PLAAF planes a strategic basing location to cover the East Coast of the continental United States.

#### FUTURE PRC NAVAL FORCE ESTIMATE

What, then, does this vast PLAN maritime mission mean for Chinese naval construction over the next fifteen years? It means that in twelve years the PLAN most likely will have twice as many warships and submarines as the U.S. Navy. It means the PRC will be able to conduct successful naval missions on a scale that, until recently, was deemed implausible by the most senior leaders of the Intelligence Community. Beijing has demonstrated that it has the shipbuilding capacity, capabilities, untapped productivity gains, and global requirements to sustain the transformational growth in Chinese naval construction and combat capability through 2030.

### EXHIBIT 1 PLAN 2015—CURRENT PLATFORM INVENTORY

Platform	Inventory
Destroyers	26 (21 modern)
Frigates	52 (35 modern)
Corvettes	20 (all modern)
Missile patrol craft	85 (60 modern)
Amphibious ships	56
Mine-warfare ships	42 (30 modern)
Major auxiliaries	50+
<b>Total surface combatants</b>	<b>331+</b>
SSNs	5
SSBNs	4
SSs	57
<b>Total submarines</b>	<b>66</b>

Notes: SS = attack submarine, conventionally powered; SSBN = ballistic-missile submarine, nuclear-powered; SSN = attack submarine, nuclear-powered.

Source: Office of Naval Intelligence, *The PLA Navy*.

### EXHIBIT 2 PLAN 2030—FORECAST PLATFORM INVENTORY

Platform	Inventory
Destroyers	34
Frigates	68
Corvettes	26
Missile patrol craft	111
Amphibious ships	73
Mine-warfare ships	55
Major auxiliaries	65+
<b>Total surface combatants</b>	<b>432+</b>
SSNs	12
SSBNs	12
SSs	75
<b>Total submarines</b>	<b>99</b>

Notes: SS = attack submarine, conventionally powered; SSBN = ballistic-missile submarine, nuclear-powered; SSN = attack submarine, nuclear-powered.

Source: Author's calculations based on multiple sources.

The ONI's most recent study (exhibit 1) reports that the PLAN consists of over 330 surface vessels and sixty-six submarines.<sup>138</sup> Given the increasing PRC shipbuilding capacity and capabilities outlined above, it is likely that by 2030 the PLAN surface force could approach 450 hulls and ninety-nine total submarines (exhibit 2), a growth rate of 30 percent and 50 percent, respectively, compared with approximately 15 percent for overall 2000–15 PLAN growth.<sup>139</sup> This expected force would satisfy the requirements for fleet expansion to meet Beijing's "goal of rejuvenation of the Chinese Nation."<sup>140</sup>

To achieve the China Dream, the PLAN of 2030 will not resemble the PLAN of 2015. Rather, it will enjoy a global presence characterized by multiple strike groups, a credible SLBM capability, and an ever-present network of ships at sea. Thanks to the strength of its naval shipbuilding capacity and its commitment to national rejuvenation, the PLAN will present an expansive and formidable challenge—one the United States can ill afford to underestimate or ignore.

### THE COMING DECADE OF CONCERN

In his March 2018 speech to the National People's Congress, President Xi Jinping stated as follows:

Since modern times began, to realize the Chinese Dream of national rejuvenation has become the greatest dream of the Chinese nation. . . . With the spirit of fighting the enemy to the last minute, the resolve of recovering the lost on the basis of self-reliance . . . the Chinese people have made continuous efforts for more than 170 years to fulfill the great dreams. Today, we are closer, more confident, and more capable than ever before in making the goal of national rejuvenation a reality.<sup>141</sup>

As it relates to the restoration of China's perceived territory President Xi made this statement:

It is the shared aspiration of all Chinese people and in the fundamental interests of the Chinese nation to safeguard China's sovereignty and territorial integrity and realize China's complete reunification. In front of the great national interests and the tide of history, any actions and tricks to split China are doomed to fail. They are certain to meet with the people's condemnation and the punishment by the history [*sic*]. The Chinese people have the resolve, the confidence, and the ability to defeat secessionist attempts in any form! The Chinese people and the Chinese nation share a common belief that it is never allowed and it is absolutely impossible to separate any inch of territory of our great country from China!<sup>142</sup>

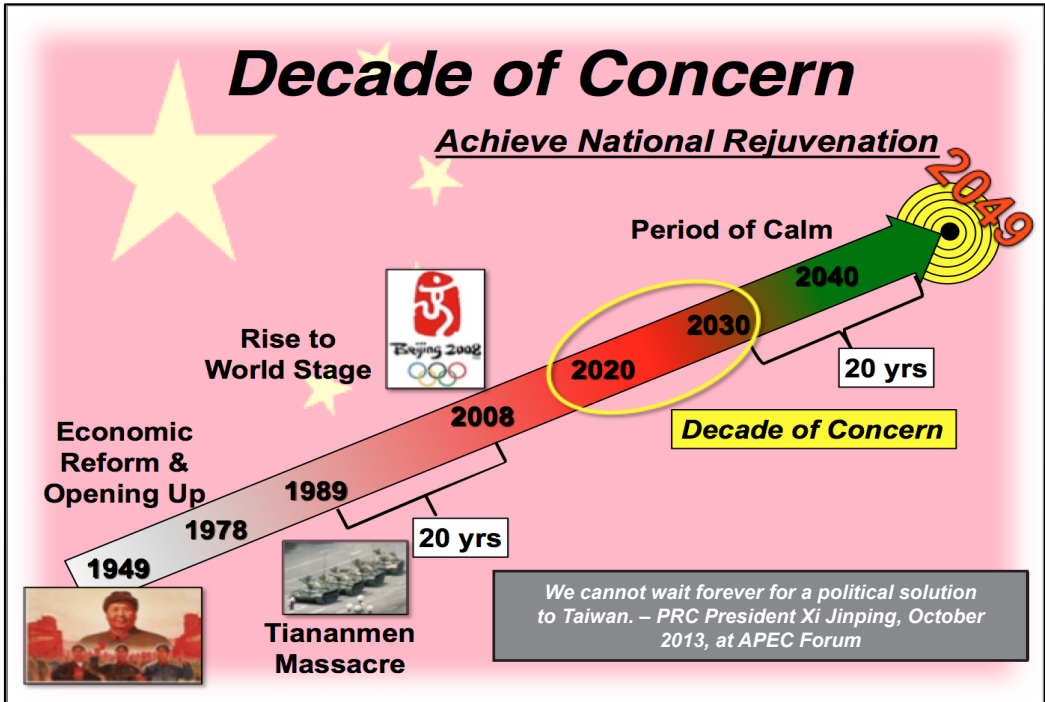
It is clear that President Xi and the CCP firmly believe that the PRC has not yet reached national rejuvenation, and therefore they are on a timeline to achieve this goal. President Xi stated that the CCP "has drawn up a splendid blueprint" to realize "the great rejuvenation of the Chinese nation."<sup>143</sup> And, as with most blueprints, there is an element of time, which President Xi specifically references in the following statement: "[A]lthough we have a long way to go, we are left with limited time and not allowed to be slack. We must not be satisfied with the status quo, indulge ourselves in ease and comfort, or let delight dispel worries."<sup>144</sup>

Given Xi's clearly articulated goal for the PRC's great rejuvenation, which includes the restoration of its perceived territory, the obvious question is: How long will the PRC wait? It is my assertion, on the basis of all available evidence, that China desires to celebrate the complete restoration of the PRC by the hundredth anniversary of its establishment, in 2049.

If so, the next logical question is: What will happen if Beijing is unable to achieve complete restoration via nonviolent means? Or, to put it another way, regarding such regional disputes as those over the Senkakus and the sovereignty of Taiwan, what if Japan or Taiwan resists? How long will it be before the PRC's rulers believe they have to use military force to achieve their ultimate goal of national restoration?

The answers to these questions also will help drive the PRC's timelines for establishing its global hegemony. The CCP will seek to ensure its uncontested ability to dominate political, diplomatic, and military discourse globally, not only

**FIGURE 4**  
**THE DECADE OF CONCERN, 2020–30**



Source: Captain James E. Fanell, USN (Ret.).

in support of its BRI, but also prior to using military force to settle the Senkakus and Taiwan issues on its terms.

In my estimation, the answer is as early as 2020, but likely no later than 2030—a period that I have labeled “the decade of concern” (see figure 4).

China very likely has calculated a timeline for when it could use military force at the latest possible moment and still be able to conduct a grand ceremony celebrating its national restoration in 2049. A likely template for calculating that date would be the period from Tiananmen Square to the 2008 Olympics. China’s leaders remember well that in 1989 the international community largely condemned Beijing’s brutal slaughtering of its own citizens at Tiananmen Square, yet just nineteen years later the world’s leaders—including the president of the United States—eagerly flocked to Beijing to attend the opening ceremony of the 2008 Olympic Games. That president later described the event as being “spectacular and successful.”<sup>145</sup>

What was the strategic message from this event? It reinforced a belief among China’s leadership that the United States has a short attention span regarding the use of force. In short, Beijing believes the West can be counted on to forget even

the most barbarous actions after a roughly twenty-year time span. Given that logic, the latest Beijing could use military force to restore China's perceived territory physically would be around 2030. This would then allow for twenty years of "peace" before Beijing would conduct a grand ceremony to memorialize the "second 100"—the hundredth anniversary of the PRC. This again leads to the question: When is the earliest China could use military power?

Given the current environment and readiness of the PLA, such use could start at any time. However, as referenced earlier, intelligence analysis strongly indicates that during the past decade the PLA has been given the strategic task of taking Taiwan by force by 2020. If it is able to do that, it stands to reason that the lesser task of seizing the Senkaku Islands also would be achievable.

With the decade of concern beginning in 2020, it is my estimation that there will be mounting pressure within China to use military force to achieve the China Dream of national restoration by 2049. There will be a loud chorus for the use of force, which will grow each year and will crescendo in the late 2020s, ending in a violent clash to seize Taiwan, the Senkakus, and any other area Beijing deems to be a core interest.

In this decade of concern, an increasingly capable PLAN, as directed by a CCP greatly emboldened by its power and the lack of resistance to its expansionist global aspirations, will engage in operations in all the oceans of the world. It is entirely foreseeable that these PLAN operations will include activities designed to coerce, intimidate, and ultimately even defeat at sea the United States, our allies, and our friends.

## RECOMMENDATIONS

First and foremost, I believe there must be, as James Holmes recently wrote, a fundamental transformation in the "culture" of how we deal with China, to one that recognizes that country as the main threat to U.S. national security, principally because of the strategic trend line that will grant the PLAN the ability to control the oceans of the world.<sup>146</sup>

Achieving this cultural change is a national issue, and the effort to do so is being driven from the top. The new National Security Strategy (NSS) and the National Defense Strategy call out the PRC for being a "revisionist power." Standing up to Beijing is not irresponsible or irrational, especially given that China's actions are targeting the United States (and our fleet) despite President Xi's pledge that the PRC is devoted to a "community with a shared future for mankind" and "mutual respect, fairness, justice, and win-win cooperation."<sup>147</sup>

Second, the administration should declare unambiguously that U.S.-China relations have entered a new period of competition, as stated in the NSS, and then take the steps needed to compete. We must, of course, walk our talk. To this end,

our strategic communications need to be strengthened greatly and organizations need to be given specific authority and direction to fight and win on the information battlefield.

America must deal with the PRC now from a position of strength, one from which we can assert our core interests and principles just as firmly as, if not more firmly than, the PRC asserts its core interests and principles. This means no more acquiescing to PRC demands; no more being quiet when the Chinese ignore the rule of law, as they have done with regard to the July 12, 2016, PCA ruling; and no more subordinating U.S. national interests to worries about whether we are provoking China.

Beijing is using incremental strategies and political warfare very effectively to gain maritime territory, and in the process to destroy the trust of our allies. Washington must be willing to confront Beijing's bullying even at the risk of military conflict, especially since Beijing purposefully fosters fear among the Western academic China-watching community as a tool to manipulate us in our military, economic, and diplomatic strategies. For instance, as part of our messaging, we regularly—whenever we wish—should conduct carrier operations anywhere within the first island chain. In fact, we should increase our presence, with the adoption of a permanent 2.0 presence in the western Pacific.

Third, this new relationship also means recalibrating our *one-China* policy, and very publicly highlighting the U.S. interpretation of the term—what it means and what it does not mean. To this end, we have to refute, visibly and verbally, the PRC's constraints on our relationship with Taiwan. This means discarding years of constraints our own bureaucrats have imposed. For example, the notion that U.S. warships cannot make the occasional port call in Taiwan needs to be scrapped; nowhere is this self-defeating prohibition enshrined in any treaty, agreement, or law. Therefore—after discussion with our friends in Taiwan—we should make a port call, and we should do it without fanfare or advance notification.

To disrupt Beijing's strategic schedule, the United States must keep China on its back foot, and that requires strategic unpredictability on our part. The message to China is that freedom of navigation and free access to ports is a core interest of the United States of America, and we are not going to be constrained by Beijing's threats.

Also to this end, we must end the practice of “unconstrained engagement” by the Department of Defense. Encouragingly, the fiscal year 2019 National Defense Authorization Act, signed on August 13, 2018, includes a specific policy barring the PLAN from participating in any future RIMPAC exercises unless the Secretary of Defense grants a waiver. This constitutes a direct response to China's decades of aggressive and expansionistic behavior in the South China Sea. The

United States is making a clear statement that China's bad behavior no longer will be rewarded with such privileges; to do otherwise simply makes a mockery of our foreign policy positions in Asia, if not around the globe.

Fourth, and closely aligned with the preceding, the administration must proclaim its commitment to a forward-deployed presence, especially for our naval forces. Not only is this necessary for bolstering the flagging confidence of our allies; it also sends a clear and unambiguous statement to China. Options can range from homeporting a second carrier in the western Pacific (i.e., Guam) to homeporting ships in South Korea.

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*America must deal with the PRC now from a position of strength, one from which we can assert our core interests and principles just as firmly as, if not more firmly than, the PRC asserts its core interests and principles.*

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This visible commitment to forward presence also means halting any further reduction of U.S. Marine Corps forces in Asia. Every time we vacillate in defense of our forward presence we succumb to

the PRC's PW strategy; in essence, we hand China a victory and perpetuate its myth that China is in ascension and America in decline.

Fifth, the United States must commit to conducting more-robust and more-public maritime intelligence operations. While much progress has been made in improving our intelligence, surveillance, and reconnaissance capabilities in the Indo-Pacific region, as reflected by the introduction of the P-8 aircraft, we concurrently have displayed a lack of will to expose the PRC's aggressive actions in the maritime domain. This requires the United States to get serious about its strategic communications, in terms of mission, organization, policy, and doctrine.

Why, for instance, during the inaugural deployment of China's aircraft carrier *Liaoning*, did the U.S. Indo-Pacific Command, which conducted intelligence reconnaissance flights, fail to provide unclassified pictures of China's inaugural carrier flight operations in the deep blue sea? This same reluctance characterized our approach to China's building of the seven new artificial islands. Why?

The sharing of facts about Chinese activities at sea is not only good for transparency in a democracy but is also smart military strategy, as it imposes reputational costs on the PRC for its military adventurism. Moreover, making such information widely available would help to counter spurious Chinese narratives of American actions as being the root cause of instability in the western Pacific. Both outcomes are in our national interest.

However, we have no unified national policy to develop and execute strategic communications in this era of competition, and there is no unity of effort. For example, the funding allotted to the State Department for counter-PW operations has been diverted almost exclusively to countering Russian propaganda,

with the seemingly conscious exclusion of countering PRC influence operations. Further, as a rule, neither Department of Defense nor Department of State public affairs practitioners study PRC influence operations and political warfare at the Defense Information School or the Foreign Service Institute, as the leadership in those organizations does not seem to understand the urgency of including such training in the curriculum.

Sixth, we must return to naval nuclear-deterrence operations. The harsh reality is that China's nuclear ballistic-missile submarines (SSBNs, also known as boomers) now can range all of the United States, including the capital. Given the presumption that the PRC already has begun SSBN patrols and to mitigate the risk of a sea-launched nuclear ballistic-missile attack against the United States, the U.S. Navy must be able to hold at risk all adversarial nations' patrolling SSBNs, at all times. To *hold at risk* means that every time PLAN SSBNs depart on strategic nuclear patrols, the U.S. Navy must follow them closely enough to be ready to sink them if they ever attempt to launch nuclear-tipped intercontinental ballistic missiles toward our shores. Chinese boomers are not so loud that if a crisis began we would, with high certainty, be able to find them.

This leads to the seventh recommendation—and the proverbial elephant in the room. All the above recommendations make it obvious that the U.S. Navy must increase in size. Roger Wicker and Jerry Hendrix's recent article entitled "How to Make the U.S. Navy Great Again" states as follows:

From a naval perspective, the Chinese People's Liberation Army Navy (PLAN) is pursuing a mix of high-end and low-end ships and submarines. This strategy would allow the PLAN to spread out across the vast Pacific Ocean in sufficient numbers to locate and interdict U.S. ships. At the high end, China is investing in aircraft carriers, nuclear-powered fast-attack submarines and large surface combatants equipped with advanced radars, surface-to-air missiles (SAMs) and surface-to-surface missiles. . . . Backed by a growing arsenal of longer-range and more sophisticated air and missile weapons, the Chinese navy will have a highly capable and numerically larger maritime force by the middle of the next decade. If this situation comes to fruition, it could make the projection of U.S. naval power cost prohibitive in the western Pacific, undermining the credibility of our alliance commitments.<sup>148</sup>

Given my estimate that the future size of the PLAN will be about 550 warships and submarines by 2030—twice the size of today's U.S. Navy—it is clear the U.S. Navy is at great risk of not being adequately sized or outfitted to meet American national security commitments in the Indo-Pacific, let alone around the globe. Therefore, to accomplish all the above missions, to provide a credible deterrent against PRC hegemony, and to be able to fight and win wars at sea, the U.S. Navy must get bigger. The evidence that a strategic gap between the U.S. Navy and the PLAN is on the verge of exploding over the next decade and a half is



overwhelming. Because of this gap, it seems clear to me that to keep even a modicum of parity with the Chinese the U.S. Navy will require more than 355 ships.

The bottom line is that America needs to get back to being a maritime power supported militarily by strong allies—something that has been sorely neglected since the fall of the Soviet Union. Without that accomplishment, expect China to push us ever farther from Asia. Expect to lose more allies and influence across the Indo-Pacific. And, ultimately, expect to be seen as globally irrelevant, with all the negative consequences for our national security interests and the defense of our values.

We already have slipped. If we fall any further, we may not recover.

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#### NOTES

1. The “first island chain” is a chain of archipelagoes near the coast of the East Asian continental mainland. It includes the Kuril Islands, the Japanese archipelago, the Ryukyu Islands, Taiwan, the northern Philippines, and Borneo.
2. South China Sea Arbitration (Phil. v. China), Case No. 2013-19, Award (Perm. Ct. Arb. 2016), [pca-cpa.org/](http://pca-cpa.org/).
3. The concept of the “China Dream” was first articulated by PRC president Xi Jinping in 2012 and refers to the PRC’s goal for the great rejuvenation and restoration of China to its “rightful” place as the most dominant nation on the earth. The China Dream is designed to provide common Chinese citizens with the assurance that their lives will continue to improve because of the wise guidance of the Chinese Communist Party.
4. “Status of the Navy,” [Navy.mil](http://Navy.mil), May 4, 2018.
5. James E. Fanell and Scott Cheney Peters, “Maximal Scenario: Expansive Naval Trajectory to ‘China’s Naval Dream,’” in *Chinese Naval Shipbuilding: An Ambitious and Uncertain Course*, ed. Andrew S. Erickson (Annapolis, MD: Naval Institute Press, 2017).
6. Xinhua, “Full Text of Hu Jintao’s Report at the 18th Party Congress,” *China Embassy*, November 17, 2012, [www.china-embassy.org/](http://www.china-embassy.org/).
7. The “second island chain” is formed by the Ogasawara Islands and Volcano Islands of Japan, in addition to the U.S. territory of the Mariana Islands.
8. Xi Jinping, “Full Text of Xi Jinping’s Report at 19th CPC National Congress,” *China Daily*, November 4, 2017, [www.chinadaily.com.cn/](http://www.chinadaily.com.cn/).
9. Office of Naval Intelligence, *The PLA Navy: New Capabilities and Missions for the 21st Century* (Washington, DC: 2015), p. 5, available at [www.oni.navy.mil/](http://www.oni.navy.mil/).
10. Gabe Collins and Andrew S. Erickson, “U.S. Navy Take Notice: China Is Becoming a World-Class Military Shipbuilder,” *The Diplomat*, November 1, 2012, [thediplomat.com/](http://thediplomat.com/).
11. The “Scarborough Shoal incident” refers to the events from April to June 2012, when the PRC gained de facto sovereign control over Scarborough Shoal, which lies well within the Republic of the Philippines EEZ, just 140 nm from Manila. In April 2012, the PRC dispatched a large number of maritime law-enforcement ships to the shoal to threaten the Philippines’ presence, and then deftly exploited the third-party arbitration crafted by Assistant Secretary of State for East Asian and Pacific Affairs Kurt Campbell.
12. Xi Jinping, “Full Text of Xi Jinping’s Report at 19th CPC National Congress.”
13. *Ibid.*
14. Michael S. Chase and Jeffrey Engstrom, “China’s Military Reforms: An Optimistic Take,” *Joint Force Quarterly*, no. 83 (October 2016), pp. 49–52.
15. *Ibid.*
16. *Ibid.*

17. David Tweed, "China's Military Handed Control of the Country's Coast Guard," *Bloomberg*, March 26, 2018, [www.bloomberg.com/](http://www.bloomberg.com/).
18. Fanell and Peters, "Maximal Scenario."
19. Devin Thorne and Ben Spevack, "Harbored Ambitions: How China's Port Investments Are Strategically Reshaping the Indo-Pacific," *C4ADS*, [c4ads.org/](http://c4ads.org/); Brook Larmer, "Is China the World's New Colonial Power?," *New York Times Magazine*, May 2, 2017, [www.nytimes.com/](http://www.nytimes.com/).
20. Thorne and Spevack, "Harbored Ambitions"; Larmer, "Is China the World's New Colonial Power?"
21. "By the Numbers: China's Global Development Footprint," *AidData*, [aiddata.org/china](http://aiddata.org/china).
22. Fanell and Peters, "Maximal Scenario."
23. *Interior lines* occur when the lines of movement and communication within an enclosed area are shorter than those of the opponent outside the area.
24. Office of Naval Intelligence, *The PLA Navy*, p. 13.
25. *Ibid.*, pp. 10–11.
26. *Ibid.*
27. James R. Holmes and Toshi Yoshihara, "Taking Stock of China's Growing Navy: The Death and Life of Surface Fleets," *Orbis* 61, no. 2 (Spring 2017), pp. 269–85, available at [doi.org/10.1016/j.orbis.2017.02.010](https://doi.org/10.1016/j.orbis.2017.02.010).
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29. *Ibid.*, p. 280.
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32. "China's Aircraft Carrier Drills near Taiwan," *Maritime Executive*, April 23, 2018, [www.maritime-executive.com/](http://www.maritime-executive.com/).
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## SHIPS OF STATE?

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*Christopher R. O'Dea*

*Our Ship of State, which recent storms have threatened to destroy, has come safely to harbor at last.*

CREON, IN SOPHOCLES'S *ANTIGONE*

**B**acked by substantial financing and political support, China COSCO Shipping Corporation Limited (COSCO) emerged from the container shipping industry's recent turmoil with one of the largest fleets of commercial vessels in the world and control of a rapidly expanding network of ports and terminals. This article argues that this expansion is a new and distinctly Chinese approach to maritime development and asks whether the state-owned shipping company has become the flagship of China's ambition to become a global maritime power.

Chinese maritime and logistics firms, supported by state-subsidized capital deployed overseas, quickly are becoming a leading edge of China's global

influence. In recent years, Chinese state-owned companies have built a global network of shipping and port assets that suggests the country is using maritime commercial investments to advance its geostrategic priorities by establishing economic influence over countries in which Chinese-controlled port facilities are located.

These Chinese state-owned enterprises (SOEs) are creating one of the most extensive maritime networks in the world by acquiring strategically located port assets in the European Union (EU), Latin America, the Middle East, and the Indian Ocean. They provide the capital to build or upgrade commercial terminals; then they direct container traffic to those ports through shipping lines

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that are controlled directly by the port's parent company or indirectly through companies associated with China's strategic port owners through formal shipping alliances.

This commercial drive complements a well-documented naval expansion by the People's Liberation Army Navy (PLAN) since at least the 1980s.<sup>1</sup> The framework for Chinese naval policy in what China calls the "far seas"—the waters beyond the "first island chain"—has been examined comprehensively.<sup>2</sup> Models of China's potential basing requirements to support overseas naval operations also have been assessed, as have the use and organization of Chinese maritime law-enforcement resources.<sup>3</sup>

This article argues that the port and shipping transactions of the People's Republic of China are a major vector of a government policy to achieve global maritime power and commensurate political influence without resorting to, or at least while mitigating the risk of, a direct confrontation with the United States or other nations with global maritime interests. The commercial-strategic linkages and state support for Chinese port and shipping ventures resemble a twenty-first-century version of the Vereenigde Oost-Indische Compagnie (VOC) (Dutch East India Company). Chinese SOEs are today, as the VOC was in its time, notionally commercial enterprises that operate globally with the full financial and military backing of their home state. In this view, the vessels that connect these ports into an integrated network of commercial power are "ships of state," functioning as instruments of Chinese national strategy while they sail as commercial carriers of manufactured goods and commodities.

China's unique and assertive approach to maritime development has been described as the construction of military-relevant facilities rather than overtly military bases. As implemented in the "near seas," the rapid construction of airfields and harbors on reefs in the South China Sea has enabled China to assert effective control over contested areas, in accordance with its idiosyncratic maritime-rights doctrine. As Chinese strategists turn their attention to the far seas, Chinese state-owned companies are developing ports around the world that can accommodate the very large containerships designed to create economies of scale in seaborne transportation. These facilities offer China a larger, more reliable logistics network with potential military applications related to the protection of overseas Chinese citizens and economic interests.<sup>4</sup>

The first part of this article examines the recent rapid increase in Chinese port and shipping investments, focusing on transactions that COSCO has undertaken, in particular its acquisition of a controlling stake in a privatized port entity in Piraeus, Greece. Achieved through a series of investments and privatization transactions carried out over nearly a decade, this has resulted in a Chinese state-owned company—one that is viewed as the primary logistical supporter of



the Chinese navy—having the ability to exercise maritime-development powers granted by the national government of an EU member state. This section also includes a review of how China exercises state control or influence through the agency of state-owned companies carrying out transactions and forming commercial alliances, as well as an assessment of the strategic implications of China's approach to building a maritime commercial network that appears to be aligned with Chinese national security aims.

The second section of the article discusses key trends in the global shipping and logistics business and how stresses in those sectors have given rise to conditions conducive to China's acquisition campaign. The primary focus is on the consolidation of global container shipping lines into the COSCO-dominated Ocean Alliance and two competing container shipping alliances; this encompasses an examination of how Chinese regulators used the country's antitrust law to block a proposed alliance of Western shipping lines that could have challenged China's efforts to acquire and consolidate maritime power. This section continues with a look at how Chinese state financial entities fund the development of China's maritime network through strategic investments in non-Chinese companies and how Chinese state regulatory support of key transactions helps expand the network and formalize links between Chinese state companies engaged in the expansion campaign. A detailed analysis of the port, terminal, and shipping activities of CMA CGM, a French shipping and terminal company based in Marseille, illustrates how Chinese state regulatory action and state financial support played a role in CMA CGM becoming a member of the Ocean Alliance.

The global logistics industry is moving toward an integrated system in which land-based terminals hold increased importance as exchange points between ships and rail and road networks. In the emerging commercial shipping regime, marked by excess capacity in container shipping and increasing competition among ports for business from ever-larger containerships, it is essential for survival that companies control both shipping lines and well-equipped land terminals at suitably located port sites. This shift toward an integrated system favors concentration of maritime commerce at certain large hub ports; automation at every stage of the global supply chain; and, most importantly, control of the port territory and port authorities that decide how to develop ports. Ports themselves are potentially valuable, but the sector has become increasingly competitive since the financial crisis, largely owing to the high cost of modernizing facilities or building new terminals, and both institutional investors that own port assets and port operators have sold numerous assets to Chinese entities, with a notable acceleration of Chinese purchases around the world during 2017.

The third section raises several considerations arising from China's progress so far and offers a perspective on the emerging risks to the open maritime

domain posed by China's state-backed investments in ports and shipping assets. While there are clear signs of unease about Chinese expansion—magnified by recent overt military action near one port—most resistance so far has been expressed through civil administrative channels; examples include allegations of tax law violations and the raising of diplomatic concerns about the transparency of Chinese purchases. The limited nature of these protests—focused as they are on narrow, if important, topics—has left China able to pursue its maritime expansion without sustained opposition on a global basis.

## CHINESE PORT AND SHIPPING INVESTMENTS

### *COSCO Spearheads Chinese Port-Investment Activity*

While several Chinese SOEs are involved with overseas port and shipping development, COSCO has developed the most extensive involvement across the industrial sectors that make up the modern supply chain, and thus it commands all the building blocks of commercial maritime power. COSCO's economic and technological capabilities are commercial, but as an SOE it acts under the supervision and, to some degree, the direction of the Communist Party of China (CPC). COSCO has been at the forefront of state-led efforts to expand the geographic range of China's outbound investments in overseas ports and related infrastructure, first under the Go Out policy, beginning early in the twenty-first century, then continuing as China adopted economic policies that have become more strategic and assertive in terms of implementation and more expansive in terms of geographic scope. The One Belt One Road (OBOR) initiative was announced in a series of speeches in September and October 2013 in which Chinese president Xi Jinping described the initiative's Silk Road Economic Belt across Central Asia and the Maritime Silk Road across the Indian Ocean. The Belt and Road Initiative (BRI) superseded OBOR during 2016 as China steered away from using the word "one" to describe an international economic policy that it claimed was intended to generate benefits not only for China but also for the countries that received funding from Chinese state entities or the lending institutions and investment funds that were established to finance BRI projects.<sup>5</sup> There is no agreed-upon definition of what qualifies as a BRI project.<sup>6</sup> While this article will use the BRI moniker to refer to China's approach to international economic, regulatory, and financial matters, its primary focus is to describe the pattern of Chinese investment in commercial seaports and related logistics, transportation, and electric-power assets, and to assess the practical diplomatic and security implications of China's development of a global port network.

While COSCO has received increasing Western media coverage since it gained formal control of the Greek port of Piraeus in 2016, one of the predecessor companies that was merged to form COSCO began to operate a terminal in Piraeus in

2009, far predating China's adoption of the BRI. The company enjoys significant direct financial support from Chinese state financial institutions, including the China Development Bank.

COSCO's current competitive strength in the global shipping and port business stems in part from Chinese antitrust regulators' actions that prevented competing shipping lines from forming an alliance during the depths of the container shipping crisis of the past several years, a prohibition that underscored the unique nature of merger review in China and the importance of national industrial policy in decisions pertaining to the competitive position of Chinese SOEs.<sup>7</sup> That intervention into the structure of the global container-shipping industry—ostensibly justified by the desire to maintain competition on the ocean trade routes between Southeast Asia and Europe—contributed significantly to creating the conditions in which COSCO has been able to emerge as the leading company in a commercial shipping alliance that now controls the majority of those routes.

Excess capacity and long-term declining revenue in the container-shipping and terminal industries have created market conditions in which Chinese firms or Chinese-backed entities, supported by centrally allocated credit from China's state financial institutions, can acquire assets from owners unwilling or unable to make the substantial capital investments required to modernize port facilities. During the last ten years, capacity growth in container shipping has outstripped demand growth except for 2010–11 and 2016, when low net-capacity growth resulted from the scrapping of older ships and delayed deliveries; in addition, the proportion of the global container fleet that was idle was high, at 7 percent at the end of 2016. The resulting shift toward larger vessels to gain economies of scale has created financial pressure on ports to upgrade facilities to accommodate megaships so as to remain viable as stops on primary shipping routes. While container transport volume is forecast to grow in line with global gross domestic product (GDP) growth rates in the short to medium term, container volume grew at twice the rate of GDP from 2007 to 2016, so excess capacity is likely to remain a negative factor for port and shipping revenue.<sup>8</sup> This has presented Chinese SOEs with an opportunity to create one of the most extensive maritime networks in the world, by acquiring strategically located port assets, providing the capital to build or upgrade commercial terminals, and then directing container traffic to those ports through shipping lines that are controlled directly by the port's parent company or indirectly through companies associated with Chinese port owners through formal shipping alliances.

During the past three years, Chinese firms and Chinese-financed entities have increased dramatically the amount of capital deployed to acquire or invest in port assets. One investment bank that tracks Chinese state investments found that during the year that ended in June 2017 Chinese companies announced plans to

expend \$20.1 billion buying or investing in nine overseas ports, representing a steep increase from the estimated \$9.97 billion that Chinese entities invested in foreign port projects during the year that ended in June 2016. These assets have included port-operating concessions, actual seaports, and container and other cargo terminals. The importance of the maritime route from China across the Indian Ocean and on to the Mediterranean shows clearly in the newly announced investments.<sup>9</sup> Among several Chinese SOEs involved in this activity, the primary actor is COSCO, which has undertaken some of the most strategically important acquisitions of port authorities, shipping lines, and related assets along the Asia–EU route, including transactions that have transformed the port of Piraeus in Greece from a struggling cruise port into a major containerport now serving as the western terminus of China’s Maritime Silk Road.

The purpose of each of these transactions is couched in the optimistic nomenclature of win-win economic development and bilateral friendship typically employed to describe projects under the BRI. However, the speed and scope of the acquisition campaign, combined with the centralization of control in a handful of SOEs and allied non-Chinese companies, raise fundamental questions about the nature and purpose of the network China is building.

It is important to note at the outset that the commercial maritime campaign that COSCO and other Chinese SOEs are undertaking is distinguishable from the BRI. While announcements of Chinese overseas investments now routinely recite how any given project will advance the aims of the BRI, the funding of SOEs involved in the establishment of the global port and shipping network increasingly is coming from China’s main long-term development banks rather than the institutions that have been set up to evaluate and finance infrastructure projects under the BRI. While pricing information about most transactions is opaque, in some cases shipping consultants have questioned the high valuations at which COSCO has acquired certain assets, suggesting that obtaining those assets is a matter of achieving strategic national security goals rather than a financial investment that will be required to deliver market-based returns. The sustained nature of the port-buying campaign, coupled with extensive cooperation agreements between COSCO and other Chinese SOEs in port and rail construction, auto manufacturing, and port operation, suggests that the initial objective of building a global port network under Chinese control is to secure commercial sites that will afford China a reliable system for transporting Chinese imports and exports. However, the simultaneous investment in power-generation and -transmission assets, inland transportation routes, and telecommunications infrastructure in port host countries—the financing of which creates economic influence for China—suggests that the expanding Chinese commercial maritime network is the foundation for future deployment of the country’s naval forces.

Since the National Development and Reform Commission formalized the BRI in an action plan in March 2015, the policy has evolved. It has been stretched to accommodate new geographic regions beyond the original Indo-Pacific and Central Asian areas, as well as projects that were initiated under other development programs.<sup>10</sup> Most importantly, the Nineteenth National Congress of the CPC in October 2017 amended the party's constitution to make the BRI a national objective, a move that constitutes a "Chinese state strategy" in the making, in which top-down directives of the CPC would exert more pressure on Chinese banks, state-owned companies, private companies, and business operators to make investments abroad in a manner that reflects Beijing's strategic objectives.<sup>11</sup> Official Chinese policy documents and analyses of China's maritime infrastructure investments in the Indo-Pacific region from state- and CPC-affiliated publications indicate that Chinese analysts routinely prioritize China's national security interests over the objective of mutually beneficial economic development—contradicting ostensible Chinese policy. Chinese analysts argue that the BRI's Maritime Silk Road component can help ensure Beijing's access to vital sea lines of communication (SLOCs), and they view port investments as vehicles by which China can cultivate political influence to constrain recipient countries and build dual-use infrastructure to facilitate Beijing's long-range naval operations. Similarly, the behavior of Chinese companies involved in port projects indicates that these investments are not driven principally by the concept of win-win development—as Beijing claims—but rather that the investments appear to be calibrated to generate political influence, stealthily expand China's capability to project and sustain military presence, and create advantageous strategic environments for China in the various regions where port and logistics investments are undertaken.<sup>12</sup>

This article does not attempt to evaluate whether any given project meets the elastic criteria of the BRI, but instead will look at the actual pattern of transactions globally that Chinese SOEs have undertaken to acquire assets in the port, shipping, terminal, and related businesses and the current available evidence of how those assets are being managed, then pose the following practical strategic question: What kind of network do these assets constitute?

### *Strategic Considerations with Respect to Chinese Shipping and Port Investments*

Available evidence suggests that the network China is building could form the basis for a pattern of commercial maritime influence—and potentially a global trading system—very different from the one that has prevailed since the end of World War II, and from which China benefited as it industrialized over that time. These transactions, collectively, reflect a distinct Chinese model of acquiring power

through maritime commercial investment centered on ports—a model that seeks to mitigate China's historic strategic transportation vulnerabilities, project Chinese influence into economic and maritime realms now almost exclusively under U.S. control, and influence host countries to support Chinese interests. Already, one port host country has blocked EU criticism of China's human rights record at a United Nations body, suggesting that China can influence the position of a nation in which COSCO, China's primary state-owned shipping company, has made major investments.<sup>13</sup> COSCO also has taken steps to move to China some board meetings and decision-making for recently acquired assets domiciled in the EU.

These developments illustrate the strategic nature of China's campaign of investment in ports and shipping. As detailed below, this has included gaining meaningful quasi-governmental power over port development in other nations. This campaign seems designed not only to help Chinese state-owned companies survive the ongoing stress in the global shipping and construction industries by managing excess shipping capacity but also to disadvantage competitors. In critical cases, China has increased pressure on companies that compete with its state-owned shipping and port entities by using Chinese regulatory power to prevent competitors from taking actions to rationalize their cargo-carrying capacity. Chinese government lenders also have provided capital to certain competitors to finance major purchases from Chinese shipyards. In effect, China is extending commercial influence from its factory regions, where products are made, outward through the global supply chain that delivers those products. In terms of building influence in a world highly dependent on global trade, having control or significant influence over the facilities required for the distribution of goods produced in China affords Chinese companies more leverage than they would obtain if they controlled only ocean transport and shipping costs.

The use of alliances as a method of achieving influence in the shipping industry is notable. Since being formed from two predecessor state-owned shipping companies, COSCO has become the dominant line in one of the three container-shipping alliances that have formed to cope with the decline in container volume since the financial crisis of 2008. Alliances are a hallmark of a maritime approach to grand strategy, typically being one part of a multilateral approach in which trade is conducted among voluntary members under a uniform set of rules that apply to relations among all members.<sup>14</sup> While most of China's agreements to acquire or develop ports are concluded on a bilateral basis rather than under general rule sets, China has adopted an alliance approach in the port sector—for example, with the organization in 2016 of the China-Malaysia Port Alliance, an effort to consolidate Malaysian logistics capabilities into a regional hub. The alliance, which encompasses twenty-one ports, includes Malacca, where China is

investing ten billion dollars to build a deep-sea port that is expected to surpass Singapore and become the largest in the region when it is completed in 2025.<sup>15</sup>

For China, the SOE-led port-expansion campaign provides strategic capabilities that help mitigate the dependence of the country's economy on global shipping that transports manufactured export goods and raw-material and energy imports through a few narrow maritime passages such as the Strait of Malacca, the Strait of Hormuz, the Bab el Mandeb, and the Suez Canal. Given that most sea-lanes ultimately remain largely under U.S. control, the sea has become an important realm of global competition between the United States and China, yet China lacks the capacity to ensure the security of its essential interests, such as oil-shipping routes across the Indian Ocean. This means that China's overseas supply chain long has been exposed to security threats, in particular strategic threats from Western countries, a situation that poses a threat to the Chinese national economy and constitutes a strategic weakness that cannot be ignored.<sup>16</sup> China's navy is expected to defend major SLOCs against disruption at critical choke points, but SLOC protection requires the ability to sustain maritime presence in strategic locations in hostile conditions for extended periods. China's concern about SLOC protection has expanded in step with the expansion of the country's economic connections, generating increased discussion of the potential for overseas naval bases.<sup>17</sup> The need for a port network under Chinese control to mitigate these risks has been recognized. It recently was linked to the concept of a Maritime Silk Road by Liu Cigui, former director of the State Oceanic Administration. Liu has written that port facilities are the foundation of sea-lane security, requiring China to establish sea posts to support and resupply ships traveling and securing ocean routes, by either building or leasing facilities.<sup>18</sup>

### *An Emerging Chinese Model of Twenty-First-Century Port Development and Control*

The pattern of investments constitutes a new and distinctly Chinese approach to maritime development. The emerging Chinese model encompasses developing dock and terminal facilities, securing control of port-investment and -development decisions, integrating terminals with shipping assets under direct or allied Chinese control, enhancing or constructing land-based transportation routes, and achieving economic and political influence within host countries. The decision to pursue this model never was declared or announced; instead, awareness of it emerged after a series of transactions occurred. While each transaction attracted routine coverage by shipping and financial media, the progression of COSCO's involvement with Piraeus Port—from terminal operator to controlling shareholder of the publicly traded port-operating company—only recently has engendered detailed academic and policy analysis. A recent analysis of COSCO's

situation in Piraeus concludes that it constitutes a new “Greek prototype” of port governance that “implies the losing of any public sector power to intervene in what is the institution responsible for the oversight of strategy and the development of modern ports”—that is, a port authority.<sup>19</sup>

COSCO itself was formed by the \$8.7 billion merger of two state-owned Chinese shipping conglomerates, China Ocean Shipping (Group) Company (COSCO), and China Shipping (Group) Company. Chinese regulators approved the merger in December 2015 and it became effective in February 2016. The deal spanned almost every aspect of the shipping and maritime industries, including containerships, dry-bulk ships, tankers, liquefied natural gas (LNG) ships, and other specialized vessels; shipyards and ports; and leasing, finance, insurance, and other shipping services. Requiring seventy-four transactions to combine subsidiaries of the two companies, the merger was one of the most complex in the recent history of China’s capital markets.<sup>20</sup> Postmerger, the overall group is known as China COSCO Shipping Corporation Ltd. It is headed by Xu Lirong, chairman of the board and party secretary of China COSCO Shipping, who previously was chairman of the board and party secretary of China Shipping (Group) Company. Wan Min, previously managing director of COSCO Container Lines Ltd. and president of COSCO Americas Inc., led the merger transaction and then served as a director of the board, president, and deputy party secretary of the combined company, referred to herein as COSCO.<sup>21</sup>

In summary, the principal direct transactions of COSCO or its predecessor companies since 2008 include the following:

- Establishment of the Piraeus container terminal at Piraeus Port in 2009
- Acquisition of a controlling stake in Piraeus Port Authority SA in 2016
- Acquisition of a 40 percent stake in a joint venture with AMT Terminals to build and manage a new terminal at Vado Port in Vado, Italy, in 2016
- Acquisition of a 35 percent stake in the Port of Rotterdam’s Euromax terminal, an automated container terminal that began operating in 2010, for \$143 million
- Acquisition of a 15 percent stake in Shanghai International Port Group (SIPG), which is controlled by its majority owner, the State-Owned Assets Supervision and Administration Commission of the State Council (SASAC), in 2017
- Acquisition of a 51 percent stake in Noatum Port Holdings SLU (NPH) in Valencia, Spain, from a fund managed by JP Morgan Asset Management in 2017



- Acquisition of the entire equity capital stock of Orient Overseas International Ltd. (OOIL) of Hong Kong, in a joint purchase undertaken with SIPG in 2017
- Acquisition in September 2017, for \$42 million, of the 76 percent it did not own already of the APM Terminals Zeebrugge container terminal, with a capacity of one million twenty-foot-equivalent units (TEUs), in Belgium's second-busiest port; it previously was owned by a unit of Maersk Group, a COSCO competitor

While these are not the only transactions COSCO has undertaken recently, they are the investments that, taken together, embody COSCO's expansion strategy in the Mediterranean region, which is the most advanced in terms of the scope of assets acquired and the control of decision-making achieved. Chinese SOEs or allied entities have made similar investments elsewhere, including the following: in Brazil, a hydroelectric plant, and elsewhere in Latin America, a key terminal and a shipping line; in Singapore, a major shipping line and container terminal operator; in Sri Lanka, a major port; and in the United Arab Emirates, terminal facilities.

This type of expansion has progressed furthest in Greece. In 2014, Chinese premier Li Keqiang visited Piraeus, home of the country's largest port. He stated that China would be a "long term" investor to build the port into "a gateway of China to Europe." By June 2016, COSCO had gained control of the Piraeus Port Authority SA (PPA), the publicly listed company that the Greek state created to oversee the Port of Piraeus. Although Greece is an Organisation for Economic Co-operation and Development country, COSCO achieved this objective through the use of techniques typically employed in port transactions in developing countries. The success of this approach reflects the weak state of the Greek economy and the disarray and lack of clarity in the governance of Greek port assets, despite the Greek government's twenty-year effort to improve the efficiency of the country's ports.<sup>22</sup>

In 2016, COSCO was the only one of six parties to submit a bid in the final stage to acquire 67 percent of the shares of PPA; the Greek parliament approved the purchase in July 2016. This gave COSCO control of a public company listed on the Athens stock exchange in 2003 as part of Greece's decades-long effort to revitalize its seaports. (The Greek state retained 74.14 percent of the shares of PPA at the time of the stock exchange listing.) The most valuable asset from PPA is a contract from the Greek state to operate Piraeus Port for forty years in exchange for an annual concession fee of 2 percent of the port's gross revenue. Greece granted the contract to PPA in 2001 when it created corporatized, state-owned port companies to develop Piraeus and Thessaloníki.<sup>23</sup>

The 2016 sale constituted a “master concession” form of privatization of the state-owned port company; it enabled the private investor, COSCO, to act as owner, regulator, manager, and operator of the entire port. Although in this model ownership of the land is not transferred and the state retains the right to terminate the concession (under certain conditions), the private concessionaire’s discretion effectively supplants public control over the port. Master-concession privatizations usually are found only in developing countries, and thus are rare for European ports.<sup>24</sup> Greece opted to grant a master concession because of the severity of the economic problems facing the country in the aftermath of the 2008 financial crisis. COSCO offered €368.5 million, with €280.5 million payable immediately for a controlling 51 percent stake in PPA, and another €88 million for the remaining 16 percent of the shares, to be deposited in an escrow account. The additional shares are to be transferred when COSCO completes the €350 million in investments it has committed to make within a decade, with the majority to be spent on improving infrastructure for cruise ships and passengers and €55 million on upgrading ship-repair facilities at the port.<sup>25</sup> On completion of the transaction, the Greek state will retain approximately 8 percent of the equity in PPA, with private investors composing the remaining shareholders.<sup>26</sup>

The acquisition of the stake in PPA consolidated COSCO’s control over a port in which it had been investing since 2009. In 2009, Piraeus Container Terminal SA (PCT), a subsidiary of a COSCO predecessor company, won a contract to operate PCT Pier II and to build and operate a new section of the port, Pier III. Volume at the Piraeus container terminals under COSCO’s management has increased significantly. Even as Greek GDP fell by 25 percent from 2010 to 2015, Piraeus Port overall became the eighth-largest containerport in the EU, whereas previously it had not been among the EU’s fifteen largest. The increase stemmed almost entirely from COSCO’s PCT operations. In 2010, PCT held a market share of 45.3 percent of Greek container volume; PPA, the remaining publicly operated terminal pier at Piraeus, held a 34 percent share; and Thessaloníki Port held an 18.1 percent share. Five years later, in 2015, the PCT market share had nearly doubled, to 81.5 percent, while the PPA and Thessaloníki shares decreased to single digits (7.9 and 9.4 percent, respectively). The increase was attributable mainly to transshipment traffic—that is, movement of goods through the port terminals on the way to destinations in the EU via state-owned rail systems that were completed subsequent to COSCO’s assumption of operating the PCT assets. This transshipment traffic represented business from multinationals such as Hewlett-Packard that signed contracts with PCT to transfer containerized intermediate products to distribution and assembly centers in the EU.<sup>27</sup>

Subsequent to the approval of its acquisition of the PPA stake, COSCO has continued to assert control over Piraeus Port, leading in one instance to a conflict

between COSCO and the Greek state over governance of the port company. At the annual meeting of PPA in July 2017, the Greek state fund holding a 23.14 percent stake in the company opposed COSCO's proposal to amend an article of the company's charter so as to include continental China and Hong Kong among permitted locations for PPA board meetings. According to Greek business media reports, the Greek state requested the meeting be extended to allow Greek state legal counsel to examine concerns that holding board meetings in China might constitute a de facto change of the company's domicile. The Greek state ultimately voted against the amendment, but the change was made; COSCO controls a majority of the company, and major Greek and foreign institutional investors with stakes in PPA voted in favor of the change. A total of 82.8 percent of shares were represented at the meeting, and of those represented, 62 percent—including those held by shareholders such as Lansdowne Partners and Black-Rock, and Greek fund-management companies Delos and Alpha Trust—voted to include China and Hong Kong among possible board meeting locations. Greek media reports indicate that the state is continuing to study the matter to clarify which country's legal system would prevail over decisions made in China or Hong Kong.<sup>28</sup>

The conflict over governance of Piraeus Port came shortly after other actions suggesting that COSCO plans to exert strong control over key assets in its expanding maritime network. Shortly after acquiring a shareholding stake in SIPG, COSCO in June 2017 announced two agreements involving COSCO, PPA, and the Port of Shanghai, intended to increase the volume of container traffic from China to the EU. COSCO chairman Xu and SIPG chairman Chen Xuyuan traveled to Piraeus to execute the agreements. The shipping and port executives were accompanied by a CPC delegation led by Han Zheng, a member of the Political Bureau of the CPC Central Committee and secretary of the CPC Shanghai Municipal Committee. Politically, the framework agreement and memorandum of understanding (MOU) between COSCO and SIPG underscore the significance of Piraeus in China's strategic maritime network and the willingness of China's top leadership to develop the Greek location. In COSCO's announcement of the new arrangements, Han said the pact was responsive to the instructions of President Xi Jinping to make Piraeus a key component of the BRI by building the port into the largest site in the Mediterranean for the integrated shipping of containers through land and sea transport routes. The announcement pledged that the CPC Shanghai Municipal Committee and the Shanghai municipal government would support the development of COSCO "so that this SOE can make full use of its advantages and better serve and implement national strategies."<sup>29</sup> Illustrating the importance of the commercial maritime network to China's national strategy, Han was named one of the seven members of the Politburo Standing Committee

of the CPC at the Nineteenth National Congress of the CPC in October 2017, and in March 2018 was appointed executive vice-premier of the State Council, a role that is likely to include oversight of the National Development and Reform Commission, the agency responsible for China's long-term economic-development strategy and industrial policy.<sup>30</sup> The economic aspects of the agreement between PPA and SIPG concentrate on cooperation on funding, port building, training, and technical assistance; this agreement also contemplates consolidation of joint planning for promotion campaigns aimed at increasing the use of the two ports to raise use of their cargo-handling facilities, including by jointly negotiating with shipping companies to increase traffic on regular routes between Piraeus and Shanghai.<sup>31</sup> Also in June, COSCO signed separate agreements with the Shanghai municipal government aimed at increasing COSCO's involvement in building out Shanghai's shipping and logistics capabilities, expanding construction of ports and logistics terminals in foreign countries targeted for connection to the Yangtze River Economic Belt, and continuing the reform of SOEs and assets by encouraging linkages among port and shipping companies. Demonstrating one aspect of the connectivity for which the BRI calls, the PLAN's Naval Task Group 150, consisting of the missile destroyer *Changchun*, missile frigate *Jingzhou*, and supply vessel *Chaohu*, made a four-day visit to Piraeus in July, just weeks before the deployment of PLAN sailors to China's port in Djibouti removed any doubt about whether China intended to use the African facility as a military base.<sup>32</sup>

## TRENDS IN GLOBAL SHIPPING

### *Foundations of Global Container-Shipping Alliances*

COSCO's announcements have made increasingly clear the company's intent to exercise control over its investments in port properties by using the economic leverage that the company's alliances provide. In announcing its controlling investment in the Spanish port company NPH, COSCO cited the now-standard claim that the acquisition was partly a measure to implement the BRI, but added that the transaction marked significant progress toward the group's further improving its overseas port network; strengthening the control and management of its ports and terminals; and, more importantly, bringing into full play the synergies between the group's port assets and the container fleet of China COSCO Shipping Corporation, which it identified as "the ultimate controlling" entity of COSCO Shipping Ports Limited, and the Ocean Alliance.<sup>33</sup> As COSCO Shipping Ports became the controlling shareholder of NPH, the company announced that it would "further optimize its presence in Europe and rest of the world," and after completion of the transaction, COSCO stated, Noatum's ports in Valencia and Bilbao would "enjoy business support from the Ocean Alliance, including COSCO Shipping Lines."<sup>34</sup>

The Ocean Alliance is one of three consortia that major shipping lines formed in 2016 in response to the decline in container traffic and shipping rates following the 2008 financial crisis. The alliances became operational in April 2017.<sup>35</sup> The Ocean Alliance is made up of COSCO; CMA CGM SA of France; Evergreen Line of Taiwan; and Orient Overseas Container Line, based in Hong Kong. The other two alliances are the 2M Alliance, made up of the Danish Maersk Line and Switzerland-based MSC Mediterranean Shipping Co. SA; and THE Alliance, made up of the German line Hapag-Lloyd, the Taiwanese line Yang Ming, and three Japanese companies—Mitsui O.S.K. Lines, Nippon Yusen Kaisha Line, and the K Line. THE Alliance was to have included Hanjin Shipping before the bankruptcy and demise of that South Korean carrier.

An analysis of the new alliances by shipping industry consultancy Drewry shows that the Ocean Alliance emerged as the winner of the industry reshuffling, with its members having a total of forty loops spread across seven east–west trade routes; THE Alliance has thirty-two services and 2M has twenty-five. Each alliance also has a standing lineup of port calls, voyage frequency, and speed. The primary basis of the Ocean Alliance’s commanding position is its seven services offered from Asia to the Middle East and the Red Sea; THE Alliance offers only one and 2M offers none on that route. A similar situation holds for service from Asia to the west coast of North America: the Ocean Alliance offers thirteen, THE Alliance eleven, and 2M just five. In the eastern Mediterranean, the three alliances make forty-two port calls across nineteen ports, with most receiving just one or two; Piraeus is the busiest, with seven calls. Valencia, in Spain, where COSCO recently acquired control of the port authority, is served most frequently of the thirteen ports receiving alliance ships in the western Mediterranean, receiving ten weekly calls from alliance ships. In total, the Ocean Alliance plans to deploy about 350 container vessels, with an estimated total capacity of 3.5 million TEUs.<sup>36</sup>

The business and maritime media portray the process that gave rise to these three configurations of the world’s largest shipping companies as an organic one, but this elides the significant part that Chinese antitrust regulators played in determining which shipping lines could cooperate with each other, and thereby the memberships of the shipping alliances that went into effect in 2017. The Chinese Ministry of Commerce (MOFCOM) in 2014 applied the Anti-Monopoly Law (AML) adopted in 2008 to block the proposed formation of an alliance (known as P3) of Maersk Line, MSC Mediterranean Shipping, and CMA CGM, on the grounds that by going beyond the scope of vessel-sharing arrangements common in the industry the proposed alliance would enhance significantly the market power of the members and have an anticompetitive effect on shipping routes from Asia to Europe.<sup>37</sup> The MOFCOM action spawned intensive analysis

of Chinese competition law and the allocation of powers among MOFCOM, the National Development and Reform Commission (NDRC), and the State Administration for Industry and Commerce. The Chinese AML requires MOFCOM to take industrial policy concerns into account when exercising supervision of mergers and business combinations, and, although industrial policy alone was not the motivation for MOFCOM's decision, legal experts view MOFCOM's prohibition as a striking example of China's application of the law, meriting a place on the top-ten list of major events in the global shipping industry; it was one of only two proposed transactions that the agency had blocked as of September 2016, underscoring that national economic concerns played an important role in the decision.<sup>38</sup> China's attention to the potential competitive impact of the proposed shipping alliance on Chinese entities reflects the country's policy of "industrial capacity cooperation." The NDRC has held press briefings to promote the export of Chinese industrial capacity, equipment, technology, and standards as an element of BRI agreements, extending a diplomatic concept that Premier Li introduced in 2015 as an element of SOE reforms.<sup>39</sup>

#### *A French Connection Bolsters COSCO's Shipping Alliance*

China's prohibition of the P3 alliance surprised the participants and the shipping industry.<sup>40</sup> But the decision only delayed the consolidation of the container-shipping industry; the latest major step in that process came with the formation late in 2016 of three shipping alliances aimed at better managing excess container capacity, a problem exacerbated by the bankruptcy of the South Korean line Hanjin. China COSCO Shipping became the dominant company in the Ocean Alliance, which notably includes France's CMA CGM, previously a proposed member of the scuttled P3 group.

The current CMA CGM was formed from Compagnie Maritime d'Affrètement (CMA), founded in 1978 by French shipping entrepreneur Jacques Saadé, and Compagnie Générale Maritime (CGM), a French state-owned company that the French state privatized in 1996 by awarding operation of CGM to CMA. The two companies formally merged in 1999.

CMA CGM has operated in China since it opened an office in Shanghai in 1992.<sup>41</sup> The company's ties to China have broadened and deepened over the past several years. In 2013, as part of an effort to restructure its debt, CMA CGM sold 49 percent of its container terminal subsidiary Terminal Link to China Merchants Holdings International for €400 million.<sup>42</sup> Competitive pressures on global shippers increased, as reflected in the unsuccessful attempt to form the P3 alliance in 2014. The linkage between China and CMA CGM deepened in 2015 when the Export-Import Bank of China (CEXIM) agreed to provide CMA CGM with up to a billion dollars in loans or export credit insurance to finance the company's

future purchases of vessels and containers from Chinese suppliers. Historically, CMA CGM had ordered most of its containers from the Chinese group CIMC, and in 2015 it began to take delivery from Chinese shipyards of some of the world's largest containerships, starting with three 18,000-TEU vessels, which at the time were the largest ever built by Chinese shipyards. Simultaneously with receiving the CEXIM financing, CMA CGM entered into a strategic partnership agreement with China Merchants Holdings to evaluate infrastructure and port-related logistics projects jointly. A public event to mark the agreements, held at CMA CGM's headquarters in the French port city of Marseille, included the attendance of Chinese premier Li Keqiang in an official capacity to meet with France's then-foreign minister Laurent Fabius. At the time, CMA CGM claimed to be the first company to sign an agreement with a Chinese company to pursue investments under the BRI.<sup>43</sup>

The collaboration between CMA CGM and Chinese companies has increased and broadened since 2015, in shipbuilding, terminal operations, and port investment. In the third quarter of 2017, CMA CGM signed a letter of intent with two Chinese shipyards (Hudong-Zhonghua Shipyard and Shanghai Waigaoqiao Shipbuilding) to build nine 22,000-TEU containerships, the largest vessels to date. South Korea's three large shipbuilders—Hyundai Heavy Industries, Samsung Heavy Industries, and Daewoo Shipbuilding & Marine Engineering—also bid for the \$1.44 billion contract. The decision evoked considerable surprise in the shipbuilding industry because South Korean companies previously had built most large containerships, and CMA CGM's awarding of the order indicated that China was making substantial progress at building ultralarge container vessels with the latest navigation, communication, and environmental- and energy-management capabilities. Shipbuilders are suffering a prolonged decline in new orders, leading to the closure of many yards. Shipping analysts consider the new ships that CMA CGM has ordered to be high value-added vessels. They will have dual-propulsion systems that can operate on either LNG or fuel oil and will meet stricter international regulations on emissions, indicating to sources in the shipbuilding industry that Chinese shipyards' technology and price competitiveness have caught up to or surpassed those of South Korean shipyards.<sup>44</sup>

In January 2017, CMA CGM's terminal unit, CMA Terminals Holdings, signed an MOU with COSCO Shipping Ports in which each company committed to increase businesses and services at ports and terminals where Ocean Alliance vessels make port calls. The French company issued a statement that both entities wished to create more opportunities in global port investment and operations, but did not provide further details on the agreement. Nonetheless, the agreement builds on CMA CGM's international expansion of its terminal operations, an effort that is supportive of COSCO's strategy. In 2016, CMA CGM paid \$2.4

billion to acquire Neptune Orient Lines (NOL), a Singapore-based shipping and terminal operator that was the largest shipping company listed on the Singapore Exchange. Acquiring NOL gave CMA CGM market leadership on transpacific routes to the west coast of North America, a competitive advantage now enjoyed by the Ocean Alliance, in which it is a member.<sup>45</sup> With the NOL transaction, CMA CGM relocated its Asian headquarters from Hong Kong to Singapore, where the PSA Singapore Terminal is the world's second-largest containerport (after Shanghai), handling nearly thirty-one million TEUs in 2016. PSA Singapore is the largest terminal operation of PSA International Pte. Ltd., a subsidiary of Temasek Holdings, the Singapore state sovereign wealth fund. The relocation highlighted the increasing strategic importance of Singapore as the commercial shipping industry consolidates into a few large groups seeking to maximize efficiency by running ever-larger vessels between a declining number of ports with automated terminals and logistics connections. In early 2017, five major shipping lines relocated their operations to Singapore from Port Kelang in Malaysia; with large container vessels already berthed in Singapore, customers could eliminate the added time and cost of shipping goods for ocean transit the additional six hundred kilometers to Port Kelang.<sup>46</sup> Subsequently, CMA CGM declared its intent to make Singapore its primary Asian hub, and it initiated a joint venture with PSA that uses container yard automation technology to serve the megavessels of CMA CGM with some of the fastest container-moving rates in the industry.<sup>47</sup>

COSCO is closely involved in the development and deployment of port- and terminal-automation technologies. Qingdao New Qianwan Container Terminal at Qingdao International Port (QIP) in northern China became Asia's first fully automated container terminal—using automation for both crane-ship operations and the movement of containers from dock to yard—with its servicing of the 13,386-TEU *COSCO France* on May 11, 2017. COSCO in January had increased its shareholding in QIP to 18.4 percent by acquiring a 16.8 percent stake as part of a strategic accord to develop the port into a major hub in northeastern China. According to shipping publications, QIP officials have claimed in broadcasts for the China Global Television Network that the automated terminal reduces labor costs by 70 percent and increases efficiency by 30 percent, because automated cranes and driverless trucks operate day and night.<sup>48</sup> Shanghai International Port in December 2017 began operation of what would be the world's largest automated terminal, the Yangshan Deep-Water Port, designed ultimately to handle 6.5 million standard containers per year.<sup>49</sup>

Perhaps the most significant role of CMA CGM in China's maritime expansion is the company's position as a member of the consortium that won the bid to acquire a 67 percent controlling stake in the publicly listed port company that holds the concession from the Greek state to operate the port of Thessaloniki. The



CMA CGM subsidiary Terminal Link has a 33 percent stake in the consortium, with 47 percent being held by German investment firms Deutsche Invest Equity Partners GmbH and the remaining 20 percent by Belterra Investments Ltd.<sup>50</sup> Although Greek media reported concerns over Belterra's possible Russian ties, the consortium completed the purchase in March 2018 and has garnered local support, with the Foundation for Economic & Industrial Research, a nonprofit research organization established in 1975, reporting that business from Piraeus and Thessaloníki could increase Greek GDP by up to €5.6 billion annually.<sup>51</sup>

## CHINA'S PROGRESS—SO FAR

### *China's Maritime Expansion: Unprecedented Aggressiveness*

Chinese expansion in the shipping and port sectors not only is accelerating in pace; it also is occurring with an unprecedented aggressiveness. The primary entities engaging in the expansion operate under a radically different set of assumptions from their non-Chinese competitors, and are able to act more decisively and take on greater financial risks than can firms operating without the full credit and political support of their home state. In the view of Neil Davidson, the senior analyst for ports and terminals at Drewry, "Chinese players are more comfortable with risk than the established international operators right now, and have a geopolitical strategy rather than a purely financial one. They are snapping up assets and opportunities and have the appetite and financial clout to take many more in the coming years." COSCO, which already has enhanced its competitive position significantly, is projected to add more port terminal-operating capacity than any other global terminal operator over the next five years, in large part because of its acquisitions of Noatum and the container terminals owned by recently acquired Orient Overseas.<sup>52</sup>

While its activities are the most extensive—covering shipping, ports, terminals, and transport network development—COSCO is not the only Chinese state-owned company actively acquiring ports and related assets. Chinese entities made more than half of all acquisitions by global/international terminal operators in the year ending in mid-2017.<sup>53</sup> While COSCO was the primary actor, other transactions were undertaken by China Overseas Port Holdings and China Merchants Port Holdings (CMPH); the latter added "Port" to its name in 2016 to reflect the company's reorientation toward acquiring and developing ports around the world.<sup>54</sup> CMPH is the largest publicly listed port operator in China in terms of container throughput, with a market share of roughly 33 percent in 2016; like COSCO, CMPH owns part of Shanghai International Port Group, with a 25.15 percent stake as of June 2017.<sup>55</sup> Last September, CMPH agreed to buy 90 percent of TCP Participações SA, which operates the container terminal concession in Paranaguá, Brazil's second-largest containerport, for approximately \$924

million. Financial news media reported that the purchase price valued TCP at 14.3 times the company's annual earnings before accounting for interest, tax, depreciation, and amortization (EBITDA), higher than the estimated value of thirteen times EBITDA that had been expected.<sup>56</sup>

In instances such as the TCP case, Chinese port and shipping SOEs have acquired assets from Western institutional investors that typically do not own shipping lines that can be rerouted to improve the economic prospects of the port assets. For example, as noted previously, COSCO Shipping Ports acquired 51 percent of Noatum Port Holdings, a Spanish-incorporated company, from Truria Port Investment Holdings, a Spanish-incorporated holding company for assets principally engaged in terminal operations and owned by institutional investors; a 67 percent share is advised by JP Morgan Global Alternatives, and 33 percent by APG Asset Management NV. COSCO Shipping appears to have made a direct investment of equity capital in Noatum and to have provided the company with additional funding to strengthen its balance sheet, leaving the pension fund investors with an undisclosed share of the company's equity.<sup>57</sup> APG is an asset-management entity headquartered in the Netherlands that primarily advises one of the largest pension funds in the world, Stichting Pensioenfond ABP, which invests the pension assets of Dutch public-sector employees. The two investors acquired the Spanish port assets in 2010 as part of their infrastructure-investment programs, but financial results were constrained by labor and cost issues with Spanish stevedores. The assets of NPH include container terminals in Valencia and Bilbao, Spain, and two associated rail lines that required substantial investment to change the gauge of their tracks to correspond to EU standards so they could connect the port terminals to the EU distribution network. One of the top three containerports in the Mediterranean region, the Port of Valencia serves a hinterland with a 350-kilometer radius that accounts for nearly 50 percent of Spanish GDP and acts as the main gateway for the Iberian Peninsula; owing to that location, COSCO Shipping Ports believes Valencia is well situated to serve as a transshipment hub for western Mediterranean markets, and in April 2017 Ocean Alliance ships began to switch from other terminals in the area to Noatum's Valencia terminal.<sup>58</sup>

### *Financial Considerations of Chinese State-Backed Acquisitions*

Some analysts have questioned whether Chinese port and shipping players paid so much for some of the assets they acquired that those ports or terminals will not generate market-rate returns. But traditional investment concerns may not carry as much weight with Chinese state-backed companies when they acquire assets with capital supplied by China as they do for non-Chinese, non-state-owned companies, which must deliver competitive financial returns on assets if they are to obtain capital from private investors.

Drewry has suggested that COSCO Shipping Ports, COSCO's port entity, may have to write down the value of NPH, the Spanish port operator acquired in June 2017. The consultancy's concern stems from the difference between the cost of equity capital and the cost of debt. While the acquisition of the 51 percent stake in Noatum appears to have taken place at a favorable valuation in comparison with COSCO Shipping's terminal acquisitions over the past two years, Drewry notes, the value of Noatum includes a significant amount of goodwill—the difference between the value the buyer assigns to the acquired assets and the price paid to acquire those assets. As a result of COSCO Shipping's purchase, the amount of equity in Noatum's capital structure will increase, resulting in a lower value for the goodwill portion of Noatum's total value. In effect, the modest valuation of the port would appear to provide a cushion against adverse business conditions, but that cushion could be eaten up if the total value of the port must be written down. According to Drewry, COSCO Shipping Ports targeted a return of 10 percent for its investment in Noatum, assuming the concession for the key terminal that NPH owns in Valencia is renewed beyond 2031.<sup>59</sup>

China's allocations of capital to its port and shipping SOEs illustrate a material difference in scale between funding for an SOE engaged in a country's geostrategic expansion and the investment capital for purely financial purposes that is available to shipping lines and port operators with a purely commercial foundation. In January 2017, the Chinese state provided major financial support to COSCO to aid the development of its shipping and port network when the China Development Bank, the country's main provider of long-term loans, pledged to extend twenty-six billion dollars in funding through various unspecified financial products for OBOR projects that COSCO has undertaken through 2021, the period of China's Thirteenth Five-Year Plan.<sup>60</sup> COSCO previously received other funding from Chinese state financial institutions, including an eighteen-billion-dollar strategic-cooperation agreement announced in 2016 with CEXIM to support Chinese shipbuilding yards and accelerate optimization of the fleet structure to international standards. The agreement encompassed a commitment to finance construction of fifty ships, as well as to provide financing for mergers, acquisitions, and equity investments in other companies.<sup>61</sup>

To put the China Development Bank funding commitment in perspective, twenty-six billion dollars is nearly two-thirds the amount of money China allotted from its national foreign exchange reserves to fund the Silk Road Fund, and more than one-quarter of the entire capital of the Asian Infrastructure Investment Bank. For additional perspective on the difference between geostrategic national funding and the funding available to financial investors in ports or shipping assets, consider that the largest infrastructure funds available to institutional investors such as pension funds raise between eighteen and forty billion dollars,

which must be deployed across many different sectors to comply with the diversification requirements of such investors—and therefore cannot be concentrated in one or two sectors that constitute a strategic national priority.

The 2016 merger of two Chinese shipping companies to create COSCO amounted to the commissioning of an SOE to carry out China's ambition to become a maritime power. The announcement of the equity transfers required among the several entities to form COSCO affirmed that the sole owner and controlling entity of the new China COSCO Shipping Corporation Limited was SASAC, an entity created in 2003 to supervise directly China's largest industrial concerns. CMPH, which holds the concession to operate Chinese port facilities in Djibouti, is 62 percent controlled by China Merchants Group, which, like COSCO, is wholly owned by SASAC.<sup>62</sup> State control was reinforced further during 2017, with the chairman of SASAC emphasizing the importance of SOEs as a mechanism for the government to direct the economy and achieve political objectives.<sup>63</sup>

#### *Implications of China's Emerging Maritime Network*

There is little doubt from the observable transaction record that a top priority for Chinese SOEs operating in the port, terminal, and shipping sectors is to acquire these assets aggressively and consolidate them into an integrated network that not only benefits Chinese commercial interests but advances Chinese maritime influence, in accordance with CPC priorities. The presentation of the 2016 results of CMPH confirmed three primary goals: to consolidate Asia, consummate Africa, break through Europe, and acquire new exposure in America; to capitalize on state-directed credit and political cover provided under OBOR to expand the ports network further; and, finally, to develop the Djibouti free-trade zone and enhance the company's "Port-Zone-City" integrated development model.<sup>64</sup> The aggressive expansion since 2016 reflects the objective stated in the official announcement of the creation of China COSCO Shipping, which declared that the merger was a "measure to materialize the Belt and Road Initiative and China's commitment to building a maritime power."<sup>65</sup>

Chinese investment in Greece's Port of Piraeus since 2009 has transformed the port into one of the most active in the Mediterranean, and has served as the leading edge of a sustained campaign to acquire port assets in southern EU countries. Shipping industry analysts warn that, given the importance of ports to host-country economies, the transactions are not only transport investments but sources of political leverage and influence that mark the emergence of China as a global maritime power, and that from this vantage point Chinese port investments must be viewed in the context of geopolitics.<sup>66</sup> COSCO's operations in the Mediterranean, for example, create the possibility of serving the U.S. East Coast via the Indian Ocean and Suez Canal instead of the Panama Canal or West Coast ports that must ship goods east by rail or road.<sup>67</sup>

China is supporting its overseas port network with additional investments in critical infrastructure, as well as communications efforts targeted at promoting favorable opinions of Chinese involvement. In Brazil, China is contributing fifteen billion dollars of a twenty-billion-dollar fund for infrastructure investment in the country, which is expected to help finance construction of railroads linking soy- and corn-producing areas in Brazil's interior to its ports; although Brazil has noted that companies receiving financing from the fund will not be required to buy materials from China, China will maintain a 3 : 1 share of the fund's capital.<sup>68</sup> In Greece, the China Development Bank agreed to an MOU with the Greek Public Power Corporation, the largest power producer and electricity-supply company in Greece, which is seeking to modernize the sector and build geothermal power plants; the agreement was reached shortly after State Grid Corporation, China's largest utility, acquired 24 percent of Greece's power grid operator for \$356 million, bringing total Chinese investment in Greek port, telecommunications, and photovoltaic assets to \$1.3 billion, according to MOFCOM.<sup>69</sup> In summer 2017, Athens News Agency, the Greek state's media arm, organized a New Silk Road Forum that characterized Chinese investment in Europe as an opportunity instead of a threat; the event was attended by twenty-five state news agencies from countries mostly in southern and central Europe, including Spain, Italy, Bulgaria, and Greece, where Chinese entities have invested in maritime assets and supporting infrastructure.<sup>70</sup>

This article has attempted to document that China has made significant progress in establishing and supporting the development of a maritime network consisting of ports, terminals, and commercial-shipping capabilities under the control of a handful of Chinese SOEs. At a time of stress in the container shipping industry, COSCO and CMA CGM—key companies in China's maritime network—display some of the best financial metrics in the sector, with both having reported positive earnings in the first half of 2017 and unit costs below average freight rates, and COSCO having the most cash on its balance sheet and the lowest share of debt among its competitors.<sup>71</sup> Perhaps the article's most significant contribution is to propose that the collective transactions of Chinese port and shipping SOEs now constitute an integrated network for Chinese maritime power expansion through commercial channels. In addition to fulfilling its explicit commercial purposes, certain key nodes of this network offer capabilities that could support noncommercial maritime operations, such as ship repair, specialized terminals to handle vehicles, deepwater berths, and terminals designed for distribution and refrigeration. COSCO in January 2017 announced a \$620 million development plan for Piraeus that prioritizes the creation of the largest ship-repair yard in the eastern Mediterranean and construction of hotels and cruise ship berths to cater to Chinese tourists.<sup>72</sup> Such Chinese-controlled facilities

increasingly are being reinforced by electrical, rail, and road infrastructure that is being built with Chinese funding, in both developing and developed countries.

This combination of ambitious investment in maritime logistics, generous financial support from state development banks, and powerful political cover from Beijing has secured China extraordinary public support from port host countries. Of particular importance is that Chinese entities have shown the ability to gain control of port assets that include quasi-governmental grants of power by Western countries over investment decisions in and around strategic port facilities in those countries. Using techniques more often employed with developing countries, China has taken advantage of lingering economic stress in developed countries and overcapacity in container shipping to gain control of privatized state agencies originally set up to bolster local economic development. The capabilities of the assets China has acquired, and their relationships to one another and other Chinese initiatives, afford decision makers in Beijing an unusual amount of control over a fundamental sector of the global economy and raise questions about the implications for all countries and firms that rely on the maritime domain. This conclusion suggests that further research into how China might use this power would be productive.

Any doubt about China's intent to use the military capabilities of its maritime network dissolved with the report that the United States had lodged a formal protest with China after an incident in which the Pentagon said Chinese personnel at the country's new military base in Djibouti had directed a military-grade laser beam at U.S. military aircraft flying near the American base in Djibouti.<sup>73</sup> Earlier in 2018, reports emerged that China plans to convert the port it is building in Gwadar, Pakistan, into a second naval base.<sup>74</sup>

The military aspect of Chinese maritime expansion now overshadows the development of Djibouti's commercial port. Concerns about continued access to the U.S. base increased in early 2018 after Djibouti's president terminated the contract of DP World to manage a container terminal that the United Arab Emirates-based company had built at Djibouti Port in 2006. The abrupt move sparked reports that Djibouti intended to grant a contract for a new terminal to CMA CGM, while buying DP World's 33 percent share of the terminal and turning operation of the older facility over to a struggling midsize Singaporean shipping line that entered a capacity-management alliance with COSCO late in 2017; DP World claimed it had not received an offer from Djibouti.<sup>75</sup>

### *New Headwinds*

The tensions in Djibouti demonstrate that China's commercial maritime ambitions are starting to encounter headwinds as the expansion drive encroaches on the commercial—and military—interests of other nations. China faces several

potential challenges, not least whether it will be able to continue to finance the enormous cost of acquiring, building, and operating a global port network. While ports in Europe and Latin America have viable commercial operations that help fund development being undertaken by Chinese companies, few of China's new-build ports in the Indian Ocean appear economically viable in light of low port traffic at sites that are not on existing sea-trade routes, and even in cases such as the port of Hambantota in Sri Lanka, where a Chinese SOE took a ninety-nine-year port lease in exchange for canceling loans Sri Lanka had taken from China, China faces the prospect of funding a major maritime installation for decades to come.<sup>76</sup>

Other signs of resistance to China's port expansion are emerging. In January 2018, a Swedish town rejected a Chinese SOE's proposal to build a deepwater harbor owing to concerns about the environmental and security implications. In April, the EU and Italy alleged that Chinese criminal gangs are committing tax fraud by not reporting imports through Piraeus. Also in April, a German business newspaper reported that EU diplomats in Beijing had prepared a briefing for an EU-China summit that sharply criticized China's investments in ports and other strategic assets as a program intended to further Chinese interests, aid Chinese companies, and divide political consensus in the EU by investing in politically unstable countries. The EU had first raised such concerns at the BRI summit China staged in Beijing in May 2017; China rejected proposed EU amendments to a draft Sino-EU agreement on Silk Road cooperation, which reportedly was presented to EU delegates without advance consultation.<sup>77</sup>

Perhaps the single largest hurdle to China's port expansion is the linked questions of whether host countries—most of which are emerging market economies—will be able to repay Chinese loans and whether Chinese firms, which are mainly SOEs, can handle the high levels of debt they incurred to acquire port assets.<sup>78</sup> Pakistan—the single largest recipient of BRI funding, with \$62 billion invested in projects, including a deepwater port at Gwadar—said in September 2018 that its new government, which faced a balance-of-payments crisis on taking office in July, plans to review or renegotiate agreements with China. Governments in other countries, including Malaysia, Sri Lanka, and Myanmar, also have expressed reservations about the terms of Chinese financing for ports and other projects that China is undertaking in their countries.<sup>79</sup> These challenges to Chinese infrastructure investment, while high profile, mainly have occurred in countries where elections have resulted in a change of government. While analysts expect such challenges to continue, China's role in infrastructure such as ports, roads, and power plants is unlikely to diminish in countries such as Pakistan, which has close diplomatic ties with China. Chinese state-backed lenders are likely to remain a primary source of funding for other emerging-market nations that may be unable to attract enough private-sector capital to undertake

such projects or to meet the stipulations for transparency and project viability that the World Bank and International Monetary Fund require.<sup>80</sup>

Despite concerns about debt burdens, the leaders of most African countries attended the Forum on China-Africa Cooperation in early September in Beijing, where President Xi pledged an additional \$60 billion in financing for African countries and promoted China's efforts to build ports and related infrastructure in Africa to enhance "common prosperity."<sup>81</sup> The meeting with these leaders produced numerous new investment agreements, but—perhaps more importantly—a Chinese state media campaign in the run-up to the event featured Chinese Africa experts extolling the benefit of economic ties with Africa, helping Xi counter blunt criticism of BRI spending by Chinese scholars who last summer questioned the cost of the global program.<sup>82</sup>

Even as some emerging-market countries are raising concerns about how they will shoulder their share of the cost of Chinese projects, developed countries are building investment ties with China. The EU's concerns about transparency appear to have been more formal than substantive, and despite the absence of an MOU meeting its stated conditions, the EU has deepened the cooperation of its official financial agencies with Chinese counterparts since the 2017 BRI Summit. At the twentieth EU-China Summit in Beijing, in July 2018, the European Investment Fund (EIF), part of the European Investment Bank Group, signed an MOU with China's Silk Road Fund—one of the financing vehicles established to advance the BRI—to facilitate joint investments through a program called the China-EU Co-investment Fund. According to the EIF, the coinvestment fund aims to develop "synergies between the Belt and Road Initiative and the Investment Plan for Europe," an EU economic-growth program commonly known as the Juncker Plan.<sup>83</sup> The EIF announced the first coinvestment in August: an undisclosed stake in a new fund managed by Cathay Capital, a private equity investment firm that counts as "cornerstone investors" the China Development Bank, which is directed by China's State Council, and Bpifrance, the French public investment bank.<sup>84</sup> Cathay invests in a wide range of health-care and technology companies, including JD Logistics, which provides logistics and e-commerce services to its parent company, JD.com Inc.—China's largest retailer.

There also are signs that the United States is beginning to recognize that China's commercial maritime expansion carries strategic implications that warrant a serious response. In late April, the Committee on Foreign Investment in the United States (CFIUS) raised national security concerns about COSCO's planned acquisition of shipping line Orient Overseas International. In addition to making COSCO the world's third-largest shipping company and increasing its influence within the Ocean Alliance—OOIL is also a member of the group—the acquisition would result in COSCO taking control of a highly automated



container terminal that OOIL operates under a forty-year lease from Long Beach, California—the largest port in the United States, in combination with the nearby port of Los Angeles.<sup>85</sup> I argued in 2018 that the transaction presents CFIUS with an opportunity to slow COSCO's expansion by requiring COSCO to sell the Long Beach terminal to a company that neither is financed by Chinese sources nor is allied with any Chinese shipping or port SOEs, nor to any entity, such as CMA CGM, that is allied with COSCO through the opaque network of holding-company structures and strategic alliances that China is using to build its commercial maritime network.<sup>86</sup> In July 2018 it was reported that COSCO had signed a national security agreement with the U.S. Departments of Homeland Security and Justice that calls for ownership of the terminal to be placed in a trust whose principal trustee must be a U.S. citizen and not a shareholder of OOIL, and must be independent of COSCO.<sup>87</sup> The ultimate resolution of the situation could turn on how the United States determines whether a prospective buyer of the terminal is "independent" of COSCO.

Presuming that the terminal is sold to an entity independent from Chinese influence, COSCO's agreement to sell the Long Beach terminal prevents—for now—the Chinese SOE that is leading the development of China's commercial maritime network from establishing a beachhead on the U.S. mainland. But the situation illustrates that China's commercial maritime expansion poses new security challenges. In both developed and emerging nations, China has established a physical presence in strategically meaningful locations—ports—that provide a platform for establishing influence over host countries in the economic and political domains, as well as the capability to support Chinese far-seas operations in the security domain. Chinese companies, mainly SOEs, have moved inland from these coastal nodes, gaining control of ground-transportation networks, power-generation assets, and information-technology systems. In their capacity of serving commercial as well as military purposes, SOEs play a distinctive role in ensuring the security of China's expanding economic and strategic interests, developing port and basing infrastructure, and providing logistics and maintenance support to military forces deployed abroad; and, potentially, in carrying out peacetime naval missions, such as intelligence gathering and the replenishment of PLAN warships. In terms of logistics support abroad, COSCO has been the PLAN's leading supplier, providing Beijing with built-in shore-based support for the PLAN through a commercial enterprise structured to align with Chinese naval strategy, to an extent that leads some naval analysts to refer to COSCO as the fifth arm of the PLAN.<sup>88</sup>

China's commercial maritime expansion already is posing practical risks to the naval operations of the United States and its allies. At a recent conference in Haifa, Israel, on the future of maritime warfare in the Mediterranean, former

USN Chief of Naval Operations Admiral Gary Roughead said that U.S. naval vessels might not be able to call regularly at ports under Chinese management because of the risk that commercial port information-technology (IT) systems could be used to monitor or interfere with military systems and jeopardize U.S. information and cybersecurity.<sup>89</sup>

Such concerns have substantial foundation: the Piraeus Port Authority, which COSCO controls, in early 2018 assigned Huawei Technologies SA to redesign and replace the port's IT network and communications infrastructure.<sup>90</sup> A new port at Haifa is expected to open in 2021 under the management of Shanghai International Port Group, which has a strategic alliance with COSCO and PPA.<sup>91</sup> Under a 2017 agreement, Huawei is providing SIPG with hardware and software services, including storage, network hardware and integration servers, and cloud operating systems, for a global IT platform designed by Accenture.<sup>92</sup> Huawei, along with ZTE, was singled out as a U.S. national security threat in a congressional report in 2012, and the 2018 Defense Authorization Act bars U.S. government agencies and contractors to the U.S. government from using certain Huawei components and systems, and provided funding to U.S. agencies that need to replace IT equipment as a result of the restrictions.<sup>93</sup>

Concerns that port-management technology poses a cybersecurity threat illustrate how the maritime commercial realm—where the world's two largest economies and their naval forces increasingly are coming into close contact—is becoming a theater for protracted economic conflict. Both the United States and China are taking steps to organize their state regulatory, financial, and cyber resources to pursue their respective interests. In one of the most significant changes to the Chinese regulatory structure in the past decade, China elevated the power of its antitrust and market-competition regulators in March 2018 when it consolidated review and enforcement responsibilities that had been dispersed across three agencies and consigned them to a single new entity, the State Administration for Market Regulation (SAMR). Under the new structure, SAMR will be supervised directly by the State Council, placing the power to direct market structure and competition through antitrust matters at the same level as the MOFCOM and the NDRC. With its newly consolidated powers and a reported track record of intervening on China's behalf to “tip the scales in an economic dogfight,” according to one major Western law firm, SAMR could prove a formidable asset for protecting China's national economic development going forward.<sup>94</sup>

The elevation of antitrust enforcement power to the ministerial level reflects China's view that counting on free markets to provide sufficient access to required resources is not a reliable strategy for ensuring the country's economic or national security.<sup>95</sup> To reduce exposure to market forces, Chinese leaders are

aligning military and commercial resources—along the lines that led to creation of the Dutch East India Company, when sixteenth- and seventeenth-century European monarchies began to pursue overseas trade and territorial conquest as a more rapid path to building the economic strength required to ensure national security than relying on domestic economic growth alone.<sup>96</sup>

The latest expansionary move by China's version of the VOC, COSCO, triggered a national security response from U.S. competition regulators. Whether China's commercial maritime expansion triggers other responses by U.S. civil or security agencies remains to be seen. But in the long term, most of China's port and shipping acquisitions will continue to occur outside the United States, and thus will not be subject to CFIUS review. 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. Domestic economic challenges and resistance from disgruntled host countries could slow China's port-buying spree and diminish the political influence that comes with economic power. But, for the moment, China's maritime expansion is continuing despite headwinds. With China's ships of state, both commercial and military, calling at Chinese-controlled ports around the world, the United States no longer can assume that its maritime supremacy will remain unquestioned forever.

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#### NOTES

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## OPERATION RHINE EXERCISE, MAY 18–27, 1941

*Milan Vego*

**T**he pursuit and sinking of the German battleship *Bismarck* in May 1941 constituted one of the largest fleet-versus-fleet operations in European waters during World War II. Between May 24 and 27, 1941, the British used five battleships, two battle cruisers, two aircraft carriers, four heavy and seven light cruisers, twenty-one destroyers, eight submarines, and fifty aircraft to hunt the *Bismarck* combat group.<sup>1</sup>

The *Bismarck* combat group's ultimately unsuccessful attempt to attack British convoys in the northern Atlantic—Unternehmen RHEINÜBUNG (Operation RHINE EXERCISE)—was, for the Germans, an *operation*; in U.S. terms, a *major operation*. Although the main German forces consisted of only one battleship and one heavy cruiser, planning for the operation was conducted from the operational-strategic to the tactical level of command.

### STRATEGIC SETTING

For most of the interwar years, the Germans considered France and Poland, and possibly Soviet Russia, to be their most likely opponents in a future war; they did not consider war with Britain a serious possibility. In April 1933, the new chancellor, Nazi leader Adolf Hitler, stated that Britain's Royal Navy never again would be considered a potential adversary of the German navy. In line with this, Admiral Erich Raeder (1876–1960),

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commander in chief (CINC) of the Kriegsmarine (German navy) from 1928 to 1943, built a fleet that was not intended to challenge Britain again unilaterally, but instead to complement Germany's policies on the continent.<sup>2</sup>

By 1937, however, German naval strategy had shifted toward the offensive. Raeder envisaged energetic employment of German naval forces to exert strategic pressure on the enemy's superior forces; a more favorable balance of forces was to result. This became the basis for the Kriegsmarine's operational thinking.<sup>3</sup> On February 3, 1937, in his meeting with Hitler and Field Marshal Werner von Blomberg (1878–1946), the then minister of war and CINC of the armed forces, Raeder explained the Kriegsmarine's strategy in the case of a war. He stated that what he called *Atlantikkriegführung* (Atlantic warfare) and war in distant ocean areas would be part of the larger war effort. The objective would be to secure control of sea communications by hitting the enemy decisively, thereby contributing to the overall strategic objective.<sup>4</sup>

A major change in German foreign and military policy came on May 24, 1938, when Hitler reversed his earlier, more benign views on Great Britain.<sup>5</sup> He issued instructions to consider the country a possible enemy, in addition to France and Soviet Russia.<sup>6</sup> In June 1938, Raeder directed his staff to explore the implications of a war with Britain.<sup>7</sup> This staff study on German naval warfare then served as the basis for combat instructions issued later in 1938.<sup>8</sup> In the summer of 1938, the Seekriegsleitung (Naval Warfare Directorate) (SKL) produced a memorandum that concluded that, in a future war with Britain, owing to Germany's unfavorable geographic position and the likelihood of British naval superiority, Germany should focus only on commerce warfare on the high seas. Such a war would be conducted with *Panzerschiffe* (armored ships popularly referred to as "pocket" battleships), cruisers, and U-boats. The Germans harbored some doubts that a successful outcome was even possible.<sup>9</sup> High naval officials also studied the employment of battleships, with contradictory results: all participants agreed that battleships were necessary, but reached no consensus regarding their employment.<sup>10</sup>

Admiral Raeder believed that if a major war broke out, Germany should concentrate all its forces against Britain. The construction of U-boats and the production of aircraft must receive unconditional priority. In his concept, the Luftwaffe would mine the approaches to British ports and destroy transportation facilities, so the Kriegsmarine could conduct trade warfare using U-boats and surface ships, supported by naval aircraft. Raeder also believed that trade warfare could not be limited to belligerents but must include attacks on neutral shipping.<sup>11</sup>

The Germans were aware that, as things stood, in the case of a war at sea with Britain their position would be inferior. But Hitler wanted Germany to have

a much larger navy, one that could be used as a global instrument of power. So early in 1938, Hitler directed that a formidable force of battleships be built. Raeder therefore revised the existing naval construction program. The result was the so-called Plan Z, which envisaged a Kriegsmarine that was numerically and qualitatively much larger. Hitler formally approved Plan Z in January 1939. The projection was that by 1946 the Kriegsmarine would have in service six new-class fifty-thousand-ton battleships (with diesel engines and 406 mm guns), three new-class ten-thousand-ton pocket battleships, four twenty-thousand-ton aircraft carriers, five ten-thousand-ton heavy cruisers, sixteen eight-thousand-ton light cruisers, twenty-two five-thousand-ton scouting cruisers, sixty-eight destroyers, and ninety torpedo boats. Initially, Plan Z envisaged construction of around 250 U-boats (twenty-seven of two thousand tons, sixty-two 750-ton Type IXs, one hundred five-hundred-ton Type VIIs, and sixty 250-ton Type IIs).<sup>12</sup> In the summer of 1939, the number of U-boats planned was increased to three hundred.<sup>13</sup>

On August 4, 1939, the SKL directed that in the case of a war the Kriegsmarine was to cut off enemy sea communications by using all available forces. Enemy naval forces were to be attacked only if that would contribute to the war on enemy commerce.<sup>14</sup> The day before Germany's September 1 invasion of Poland, Hitler's Directive Number 1 ordered that if Britain and France declared war the Kriegsmarine was to concentrate on commerce destruction, especially against Britain.<sup>15</sup> The Luftwaffe was directed to prepare to conduct air attacks against shipping carrying imports to Britain.<sup>16</sup>

Yet when war began with Britain and France on September 3, 1939, the construction for which Plan Z called barely had started, and the Kriegsmarine was unprepared to carry out a protracted war at sea, especially on the open ocean. Britain's naval power was overwhelming compared with that of Germany. At that time the Kriegsmarine had in service six heavy surface combatants: two battleships (which sometimes were referred to as battle cruisers), three pocket battleships, and one heavy cruiser. These were the only units capable of conducting sustained operations on the open ocean. The remainder of the fleet consisted of six light cruisers, twenty-two destroyers, and twenty torpedo boats. Under construction were four battleships, two aircraft carriers, four heavy cruisers, sixteen destroyers, and ten (destroyer-size) torpedo boats. Out of fifty-seven U-boats, only twenty-two were suitable for employment in the Atlantic.<sup>17</sup> Raeder later wrote that the Kriegsmarine was, from the beginning of war, numerically inferior to the naval services of its enemies. The Kriegsmarine lacked aircraft carriers and sufficient escorts for its large surface combatants. It did not have an adequate number of long-range reconnaissance aircraft. Germany also lacked advanced naval bases overseas. In Raeder's view, only unity in planning operations and decisiveness in their execution could neutralize the enemy's advantages.<sup>18</sup>

## OPERATIONAL SITUATION

Initially, Germany conducted its war on Britain's maritime commerce almost entirely with U-boats. June 1940 brought great improvement to the U-boat situation owing to new bases obtained in Norway and France. Use of the French bases reduced the U-boats' transit distance to their operating areas by some 450 nautical miles. At the same time, British antisubmarine (A/S) defenses were weak. But the Germans could not exploit these advantages, because the number of U-boats at sea was small. Between June 1, 1940, and March 1, 1941, seventy-two U-boats entered into service, while only thirteen were lost. Yet between November 1940 and February 1941 only some twenty-four boats were operational, and only about ten were in the operating area at any time.<sup>19</sup> At the end of February 1941 the number of frontline U-boats was only twenty-two; many of the remaining U-boats were undergoing training.<sup>20</sup> However, despite their numerical weakness, the U-boats were highly successful in destroying enemy shipping. From June 1940 to March 1941, U-boats sank 381 ships of over two million *Bruttoregistertonnen* (gross registered tons) (BRT).<sup>21</sup>

In March 1940, the Germans started to employ auxiliary cruisers in distant ocean areas.<sup>22</sup> By the end of March 1941, the seven auxiliary cruisers then in service had sunk or captured some eighty ships, of 494,291 BRT. Yet in contrast to the U-boats, the tonnage of enemy ships the auxiliary cruisers destroyed was of secondary importance; their principal purpose was to tie down enemy forces in distant areas, thereby relieving enemy pressure in home waters.<sup>23</sup>

Admiral Raeder's views on employing heavy surface ships were influenced greatly by his personal experiences during World War I. The leaders of the former Imperial German Navy had been criticized heavily for their failure to employ the battle line actively during the war, and Raeder was determined that under no circumstance would an analogous situation develop in the employment of heavy surface ships during any new war. The German principal objective in employing heavy surface ships against enemy maritime traffic was to destroy enemy merchant ships. This required that German heavy surface ships remain undamaged for as long as possible. Hence, they had to avoid encounters with equally strong or superior enemy forces.<sup>24</sup>

The Kriegsmarine was unable to begin using its heavy surface ships against British shipping during the spring and summer of 1940 because it was focusing all its attention on supporting the campaign in Norway and preparing to carry out Plan SEELÖWE (SEA LION), the invasion of England. In September 1940, the Germans attempted for the first time to employ one of their heavy surface ships, the heavy cruiser *Admiral Hipper*, to attack British traffic in the Atlantic. However, that attempt failed when the ship developed engine problems.<sup>25</sup> Engine

malfunctions also delayed the next attempt, a sortie by the pocket battleship *Admiral Scheer*. Finally, on October 29, 1940, *Admiral Scheer* left Gotenhafen (Gdynia today) in the Baltic Sea for the Atlantic. It operated in the Caribbean Sea and the Indian Ocean.<sup>26</sup> When it returned to Kiel on April 1 after around 160 days, it had cruised 46,000 nautical miles and sunk seventeen ships of 113,233 BRT.<sup>27</sup> *Admiral Scheer* also forced the enemy to assign large forces to protect his convoys. In the meantime, *Admiral Hipper* made a foray into the Atlantic from November 30 to December 27, 1940. It returned to Brest, France, because of repeated engine problems.<sup>28</sup> In its second foray, *Admiral Hipper* left Brest on February 1 and returned to Kiel on March 28. During this cruise it sank seven ships of 32,896 BRT and heavily damaged two other ships of 9,899 BRT.<sup>29</sup>

While *Admiral Scheer* and *Admiral Hipper* were at sea on January 22, 1941, the SKL sent battleships *Scharnhorst* and *Gneisenau* out into the Atlantic to attack enemy shipping (Operation BERLIN). Their two-month cruise was highly successful. Some twenty-two ships of 115,622 BRT were either sunk or captured.<sup>30</sup> This number included sixteen enemy ships, of eighty thousand BRT, that had been sailing independently. Both battleships returned to Brest on March 22.<sup>31</sup>

From July 1940 to March 1941, German heavy surface ships sank or captured forty-seven ships of over 250,000 BRT.<sup>32</sup> During that same period, Luftwaffe bombers sank almost the same tonnage.<sup>33</sup> Yet this put the performance of both categories far behind that of the auxiliary cruisers. However, by the spring of 1941 Germany had battleships, heavy cruisers, and auxiliary cruisers operating in the Atlantic, Pacific, and Indian Oceans.<sup>34</sup> Admiral Raeder believed that good opportunities existed in 1941 to destroy enemy shipping in the Atlantic by using surface ships in coordination with U-boats.<sup>35</sup> And indeed, British shipping losses from enemy action rose steadily as 1941 unfolded: during February some 403,600 tons of shipping were lost, 529,000 during March, and 687,000 during April. Most of these losses occurred in the Atlantic.<sup>36</sup>

To Admiral Raeder and the SKL, the results from employing heavy surface ships during the fall of 1940 and the winter and spring of 1941 confirmed that their concept was valid. They had high hopes for even greater future successes after the entry into service within a few months of *Bismarck* and *Tirpitz*, the strongest battleships in the world. At the same time, Raeder and the SKL had no illusions; a day would come when operations with heavy surface ships in the Atlantic would become prohibitively risky. For instance, they considered it only a matter of time before the United States entered the war.<sup>37</sup> Hence, their intent was to intensify the employment of their heavy surface forces while it was still possible to do so.<sup>38</sup>

### *Operating Area*

The area in which the opposing forces operated encompassed rather a large part of the eastern North Atlantic. Prior to combat, the *Bismarck* group moved from Gotenhafen across the southeastern part of the Baltic, through the Danish straits, and along the Norwegian coast up to Trondheim. Almost all the combat actions took place in the area between latitudes 45 and 67 degrees N and between longitudes 10 and 40 degrees W. This area is bounded by Iceland and Greenland to the north, Ireland and Scotland to the east, and the Faeroe and Shetland Islands to the northeast.

The climate in the northeastern Atlantic, the British Isles, and Iceland is influenced greatly by the remnants of the Gulf Stream, the Icelandic Low in winter months, and the North Atlantic Subtropical High. These factors result in mild, rainy winters and relatively dry summers.<sup>39</sup> The North Atlantic is well known for its bad weather; fair weather is rare.<sup>40</sup> In general, clouds cover the area up to 70 percent of the year, mostly with low-altitude formations.<sup>41</sup>

In the eastern Atlantic, winds generally blow from the west. While they decrease in the summer, winds higher than force 4 prevail at least 65 percent of the year.<sup>42</sup>

In the northeastern Atlantic, storms are fairly frequent, especially north of the British Isles. The most dangerous are large storms that stall over the central North Atlantic. They sweep the area with strong southwesterly winds, creating heavy seas for long periods. These extratropical cyclones (large-scale low-pressure weather systems that occur in midlatitudes) are most prevalent during the winter months. Off the west coasts of England, Scotland, and Ireland, winds are strongest from October through March, with December and January the roughest months.<sup>43</sup>

In the northern part of the North Atlantic, field ice appears in January and lasts until April.<sup>44</sup> Harbor ice may occur from December to May; during the period in question, it generally prevented the use of ports in Greenland, Labrador, Newfoundland, and Nova Scotia.<sup>45</sup> Pack ice and icebergs are carried down the east coast of Greenland through the Denmark Strait. Between mid-August and November or December there is little ice in the Denmark Strait; navigation is more restricted during the rest of the year, especially from March to June, when ice covers most of the strait. However, ice seldom is found within the hundred-fathom line, owing to a warm, northward-flowing current.<sup>46</sup>

The North Atlantic itself is too deep for laying mines; however, mines could be laid in the Denmark Strait, off the coasts of Iceland and Britain, and in the Iceland–Faeroes–Shetlands passages.<sup>47</sup> Iceland's entire coast is fronted by an extensive 110-fathom shelf that extends forty to sixty miles offshore. In January 1941, the British laid some two thousand mines between Iceland and the Faeroe

Islands, more mines in February, and 6,100 more in March. On April 26, mines were laid off the northwest tip of Iceland, with the minefield extending some fifty miles in a northwesterly direction.<sup>48</sup> Reportedly, the Germans were aware of this minefield.<sup>49</sup>

The duration of the day in the operating area greatly affected the employment of guns, torpedoes, and aircraft. Among other things, long, bright nights in the summer made it difficult to conceal the movement of ships. For example, on May 24, 1941, sunrise at latitude 67 degrees N and longitude 27 degrees W was at 0710, sunset at 0419. Thus, the duration of daylight was twenty-one hours, nine minutes. On the same day, sunrise at latitude 48 degrees N and longitude 42 degrees W occurred at 0258, sunset at 1830; the duration of the day was fifteen hours, thirty-two minutes. Conversely, long nights encompass a large part of the area from late fall to early spring. This heavily constrained the effectiveness of air reconnaissance. Long nights also limited the duration of aircraft contacts and the employment of torpedo aircraft and bombers from carriers and land bases. This greatly increased the likelihood of U-boats attacking successfully. At higher latitudes, long daylight during the summer months made it easy to observe and destroy supply ships. For the Germans, the most favorable time for breaking out into the northern Atlantic was from November through February; the most unfavorable, from May through September.<sup>50</sup>

The area of operations for the German naval forces and the Luftwaffe stretched from the Polish and German coasts in the Baltic Sea to Denmark and Norway's occupied southwestern and western coasts. The most important bases were at Gotenhafen and Danzig (Gdańsk today) and the Bergen area and Trondheim in Norway. The British Royal Navy used a relatively large number of naval/air bases in northern Scotland and the Orkneys. On Scotland's eastern coast, the most important naval bases were at Cromarty, Invergordon, and Inverness. The Firth of Clyde (near Glasgow), Loch Ewe, Liverpool (in northwest England), and Pembroke (in southwest Wales) were the largest bases on Britain's western coast.<sup>51</sup>

Scapa Flow was the main base for the Royal Navy's Home Fleet. It is the best anchorage in the Orkneys, offering ships an almost landlocked shelter. Depths range up to 118 feet, while tidal currents within the harbor are almost negligible.<sup>52</sup> The distance from Scapa Flow to Trondheim is 795 miles.

The British ships and aircraft based in northern Scotland operated from a central position in relation to any hostile force trying to break out through the Denmark Strait and the Iceland–Faeroes–Shetlands passages. Hence, they benefited from divergent and relatively short lines of operation. The distance between the Pentland Firth (a strait separating the Orkneys from Caithness, in northern Scotland) and Reykjavík is about 790 miles. Similarly, the British forces that patrolled the Denmark Strait or were based in Iceland were located in a central position

and hence also had short and diverging lines of operation. In contrast, the German surface ships approaching the British blocking positions had to traverse long and converging lines of operation.

### ***Operational Command and Control***

One of the most critical elements in the planning and successful execution of any military action is command and control (C2). Sound command organization or structure is one of the prerequisites for successful C2. Optimally, command organization should be centralized but at the same time allow for sufficient freedom of action by subordinate commanders. This combination can be accomplished by having intermediate levels of command and by applying faithfully, at all levels of command, the German-style mission command. Command organization should delineate clearly the authority and responsibilities among commanders at all levels.

Germany's Kriegsmarine was a highly centralized organization. Raeder argued (correctly) that high headquarters has all the information, the necessary communications facilities, knowledge of enemy radio traffic, and full control of the supply organization.<sup>53</sup>

Raeder was CINC of the navy, head of the Oberkommando der Marine (Naval High Command), and chief of the SKL. The SKL was responsible for planning and conducting naval warfare beyond home waters. It consisted of several departments, with the 1st, or Operations, Department (1./SKL) being the most important.<sup>54</sup>

The *Flottenkommandant* (fleet commander) was a four-star admiral. As in the Imperial German Navy, the fleet commander was the highest operational commander for surface forces. He was embarked aboard a flagship.<sup>55</sup> Subordinate to the fleet commander were various type-force commanders. The fleet commander's position was weakened greatly when *Marinegruppenkommandos* (naval group commands) were established, the first being Naval Group Command East, established in Kiel, Germany, in November 1938. It was disbanded in August 1940 and merged into Naval Group Command North on August 8, with headquarters in Wilhelmshaven-Sengwarden.<sup>56</sup> Naval Group Command North was responsible for all Kriegsmarine activity in the Baltic Sea, the German Bight, Denmark, and Norway.<sup>57</sup> Naval Group Command West was established at Wilhelmshaven-Sengwarden in August 1939. Initially it was responsible for operations in the German Bight, North Sea, and Atlantic Ocean. Its headquarters was moved to Paris in August 1940. The responsibilities of Naval Group Command West for operations in the German Bight and the North Sea were transferred to Naval Group Command North. Naval Group Command West retained operational control in the Atlantic and became responsible for operations in the English Channel, Bay

of Biscay, and Southwest Approaches (to the British Isles).<sup>58</sup> The establishment of naval group commands transferred ashore the operational control of seagoing forces, in essence reducing the fleet commander to a tactical commander in combat.<sup>59</sup> During the *Bismarck* operation, the commander of Naval Group Command North was Admiral Rolf Carls (1885–1945), while Naval Group Command West was commanded by Admiral Alfred Saalwächter (1883–1945).<sup>60</sup>

The German U-boat arm was established officially on September 27, 1935. After January 1936, U-boats were led by the Führer der Unterseeboote (leader of U-boats), with a rank of navy captain; on October 17, 1939, the position was elevated to Befehlshaber der Unterseeboote (commander of U-boats) (B.d.U.), with a rank of rear admiral.<sup>61</sup> At the time of the *Bismarck* foray, the B.d.U. was Admiral Karl Dönitz (1891–1980). He was directly subordinate to the SKL.

The highest British naval authority was the Admiralty, led by First Lord of the Admiralty Albert V. Alexander (1885–1965). (His position was the equivalent of today's Secretary of the Navy in the United States.) The Admiralty itself consisted of five sea lords plus four other high officials. The First Sea Lord and Chief of Naval Staff was Admiral Dudley Pound (1877–1943). He was the highest naval official responsible for naval operations. In contrast to the Air Ministry, the Admiralty's responsibilities included operational planning and execution. The most important Admiralty divisions were Plans, Operations, Trade, and Intelligence. The work of the Plans and Operations Divisions was coordinated closely with the Intelligence Division.<sup>62</sup>

The Naval Staff was created in 1917. The Plans Division was responsible for making strategic and operational decisions. The Operations Division controlled deployed naval forces in home waters and overseas. It was also responsible for worldwide naval dispositions and day-to-day, even hour-to-hour, movements. Naval area commands and overseas commands enjoyed almost total independence. Yet the Admiralty remained a focal point for the direction of fleet operations. The principal maritime theater for the British was the northern Atlantic.<sup>63</sup>

The Home Fleet, created in 1902, represented the largest operational level of command in the Royal Navy. Its operating area was the waters around the British Isles. The Home Fleet was organized into a number of type-force commands, with a flag officer leading each one. In September 1939, the main components of the Home Fleet were the 2nd Battle Squadron; the 1st Battle Cruiser Squadron (BCS 1); the 18th Cruiser Squadron (CS 18); Rear Admiral, Submarines (2nd Submarine Flotilla, 6th Submarine Flotilla); Vice Admiral, Carriers; 6th and 8th Destroyer Flotillas; and the Orkneys/Shetlands force. Another element that played a significant role in the operation in question was Force H, established in June 1940. It was based at Gibraltar and operated mainly in the western



Mediterranean. It consisted of one carrier (*Ark Royal*), one battle cruiser (*Renown*), one light cruiser, and six destroyers.<sup>64</sup>

Another major element was Western Approaches Command, which was led by a CINC, a four-star admiral. It was established in Liverpool, England, on September 9, 1939. The Combined Operations Headquarters was moved from Plymouth, England, to Liverpool on February 17, 1941. The main responsibility of Western Approaches Command was the defense and protection of the transatlantic convoys and coastal shipping in the Western Approaches.

The Royal Air Force (RAF) Coastal Command was established in 1936. It became the RAF's only maritime arm after the Fleet Air Arm was transferred to the Royal Navy in 1937. The main responsibility of the Coastal Command was to defend the British (and later Allied) convoys from U-boat and Luftwaffe attacks. In 1941, the principal subordinate commands of the Coastal Command deployed on the British Isles were Number 15 Group, with headquarters in Liverpool; Number 16 Group, at Chatham, in Kent, southeast England; and Number 18 Group, at Pitreavie Castle, near Rosyth, Scotland.<sup>65</sup>

### *The Opposing Commanders*

The two highest commanders of the opposing seagoing forces in the operation were the German fleet commander, Admiral Günther Lütjens (1889–1941), and the British CINC of the Home Fleet, Admiral John Tovey (1885–1971).

Lütjens was considered to be one of the ablest German admirals: highly intelligent, deliberate, and levelheaded in his assessment of situations and people.<sup>66</sup> He was dedicated, single-minded, stoical, and austere. There was no doubt that he was a man of great personal courage and integrity.<sup>67</sup> He was not a Nazi believer.<sup>68</sup>

Lütjens entered the Imperial Navy in April 1907 and graduated from its naval academy. During World War I, he spent most of his time in torpedo boats, took part in a series of raids against Dunkirk, and by 1917–18 was a torpedo flotilla leader. During the 1920s, Lütjens commanded a battleship and a torpedo boat flotilla.<sup>69</sup> He was promoted to captain in July 1933 and served in the Naval Personnel Office. Through the rest of the 1930s, Lütjens commanded a light training cruiser, served as chief of the Naval Personnel Office, and was Commander of Torpedo Boats (which included destroyers).<sup>70</sup> He was promoted to rear admiral in October 1937 and vice admiral in January 1940. He was Commander, Scouting Forces and deputy to the fleet commander, Admiral Wilhelm Marschall (1886–1976). In March 1940, Lütjens commanded the battleships *Scharnhorst* and *Gneisenau* during the invasion of Norway in April–June 1940.<sup>71</sup> He also was briefly acting fleet commander during the campaign in Norway, when Marschall fell sick.<sup>72</sup> In July 1940, Lütjens became fleet commander. On September 1, 1940, he was promoted to four-star admiral.<sup>73</sup> Lütjens led a highly successful foray with two battleships (*Scharnhorst* and *Gneisenau*) in January–March 1941 (Operation

BERLIN). Admiral Raeder had high confidence and trust in Lütjens, greatly valuing his broad and diverse professional experience.<sup>74</sup>

Admiral John Tovey entered the Royal Navy at the age of fifteen. He was commanding officer of the destroyer *Onslow* in the battle of Jutland in 1916, during which *Onslow* “single-handedly” attacked the German cruiser *Wiesbaden*; Tovey successfully brought his badly damaged ship back to port.<sup>75</sup> He spent most of his subsequent career in destroyers. Tovey served as Rear Admiral, Destroyers, Mediterranean Fleet in 1938, and then as Vice Admiral, Light Forces in 1940. He was considered a natural leader.<sup>76</sup> He was aggressive and acted with a great deal of initiative. Admiral Andrew Cunningham (1883–1963), CINC of the Mediterranean Fleet—known as a strict disciplinarian—had a high opinion of Tovey’s professional abilities; however, Admiral Dudley Pound, the First Sea Lord, had a more ambiguous, if not a negative, view. Pound considered Tovey “difficult at times and not overburdened with brains.”<sup>77</sup> Tovey did what he thought was right; he refused to kowtow to superiors; and he hated yes-men.<sup>78</sup> Tovey had an awkward initial interview with Prime Minister Winston S. Churchill (1874–1965) that almost cost him the job, but in the end he became CINC of the Home Fleet largely because of the support of First Lord Alexander and Admiral Pound.<sup>79</sup> Later Churchill found Tovey stubborn and wanted to get rid of him.<sup>80</sup>

Tovey took command of the Home Fleet on December 20, 1940. His appointment broke with tradition because he was a junior vice admiral; normally, the CINC of the Home Fleet was a senior four-star admiral or admiral of the fleet.<sup>81</sup> Tovey immediately began intensive training in night fighting, both in conducting air attacks and in defending against enemy air attacks.<sup>82</sup>

Vice Admiral Sir James F. Somerville (1882–1949) was in command of Force H. His naval career as a commissioned officer began with service in the armored cruiser *Sutlej*. He became a specialist in wireless telegraphy. During World War I, Somerville served in the battleship *Marlborough*, battleship *Queen Elizabeth*, battle cruiser *Inflexible*, and cruiser *Chatham*. He was promoted to captain in 1921. Throughout the 1920s, he served as Deputy Director of Signals at the Admiralty, next commanded the 4th Battle Squadron and the battleship *Benbow*, and then returned as Director of Signals. In 1931, Somerville commanded the cruiser *Norfolk* in the Home Fleet. Somerville was promoted to commodore in 1932 and a year later to rear admiral. He served as Flag Officer, Destroyers in 1936. After being promoted to vice admiral in September 1937, he became CINC, East Indies in July 1938. Because of illness Somerville retired in early 1939, but was recalled to active duty late in the year. He was deputy to Admiral Bertram Ramsay (1883–1945) during the Dunkirk evacuation. Somerville was appointed commander of the newly established Force H on June 22, 1940.

### *Operational Intelligence*

In 1941, British signal intelligence (SIGINT) was not yet fully developed, and the penetration of German codes was still in its infancy; in 1940, priority had been given to cracking the Luftwaffe's codes because they were readily accessible. Also, the Battle of Britain, not war in the North Atlantic, was the most immediate threat. The Kriegsmarine was very careful in coding its radio messages, and used a very sophisticated, almost impenetrable version of the Enigma machine. The British did not achieve even isolated breakthroughs in Kriegsmarine radio traffic until 1940, and the most important breakthrough was achieved in June 1941—after the sinking of *Bismarck*. Until then, British SIGINT contributed only direction finding (DF) of German naval radio transmissions and some traffic analysis.<sup>83</sup>

This SIGINT was supplemented with air reconnaissance of German naval bases and shipyards. The Royal Navy did not have land-based reconnaissance aircraft to reconnoiter German naval bases in the Baltic such as Gotenhafen, so it depended on the RAF to perform that function. However, the RAF generally was reluctant to divert any resources from its strategic bombing efforts; it did not want to risk its aircraft on naval targets. Therefore photoreconnaissance contributed little to the operational intelligence available.<sup>84</sup>

The British Special Intelligence Service (SIS) had an extensive network of agents, mostly resistance fighters and Western sympathizers in German-occupied countries. SIS agent reports provided critically valuable information on enemy naval movements.<sup>85</sup> The British apparently had many agents in Norway who reported on German military activities. They used shortwave transmitters to communicate with their contacts in London.<sup>86</sup>

The Germans' principal sources of information on British forces and their movements were the Kriegsmarine's naval intelligence radio-intercept service, known as B-Dienst, and the Luftwaffe's reconnaissance aircraft. B-Dienst teams also were deployed aboard major surface combatants, including those of the *Bismarck* group. By September 3, 1939, B-Dienst had broken the major British merchant and naval operational codes, and thus was able to track British naval movements. However, changes to the British codes in August 1940 reduced B-Dienst's effectiveness in this area. Still, by October 1940 B-Dienst could read some 30 percent of British signals, and by January 1941 it again had mastered the British code system.<sup>87</sup>

Photo and visual air reconnaissance was the responsibility of the Luftwaffe; however, it generally was not very receptive to Kriegsmarine requirements. Its aircraft lacked the endurance to conduct long-range missions—few Luftwaffe aircraft could fly over British bases. Luftwaffe personnel also lacked the training necessary to conduct visual recognition of naval targets.<sup>88</sup>

## THE GERMAN OPERATIONAL CONCEPT

The SKL and Naval Group Commands North and West prepared a number of studies on the employment of heavy forces in the conduct of *Atlantikkriegführung*. These studies served as the basis on which the SKL and naval group commands drafted *operative Weisungen* (operational instructions); a fleet commander issued *Operationbefehle* (operations orders).

On April 2, 1941, Admiral Raeder issued operational instructions to the fleet commander, the commanders of Naval Group Commands North and West, and the Commander of U-boats on the conduct of war in the Atlantic. He pointed out how tactical successes in the North Atlantic could have strategic effects on the war in the Mediterranean and the southern Atlantic. The most decisive effect on the war in the Atlantic would come from cutting off traffic between North America and Britain across the North Atlantic.

Raeder recognized that the numerically inferior German forces could not achieve sea dominance over the North Atlantic readily; however, he hoped the Germans could obtain local and limited control, and thereby gain sea dominance gradually. Raeder believed the enemy would be forced to strengthen significantly the defenses of his convoys, at the price of weakening his position in home waters and the Mediterranean or reducing the frequency of convoys.<sup>89</sup> Employing Germany's heavy ships over a wide ocean area would force the enemy to fragment his naval strength. This, in turn, would allow the Germans to mass forces against enemy weak points.<sup>90</sup>

However, Raeder's concept was deeply flawed. Even if the Germans were able gradually to obtain sea control in the North Atlantic, they could not maintain it for very long.

### *German Plans*

In his operational instruction issued on April 2, Raeder envisaged the employment of four battleships against enemy shipping in the Atlantic: *Bismarck* and *Tirpitz* from Gotenhafen and *Gneisenau* and *Scharnhorst* from Brest.<sup>91</sup> They would join up in the North Atlantic and operate against convoys. The assumption was that the British would be forced to suspend convoys, and even might be forced to withdraw their battleships from the Mediterranean.<sup>92</sup> These hopes were crushed when *Gneisenau* was torpedoed on April 6 and *Scharnhorst* experienced such serious machinery problems that it would not be available until the end of June. The British air raids on Kiel led to further delays in repairs to *Admiral Scheer* and *Admiral Hipper*; *Admiral Scheer* would not be available until the end of July, *Admiral Hipper* until August. The first German aircraft carrier, the 33,550-ton *Graf Zeppelin*, was eight months away from completion.<sup>93</sup> *Tirpitz* was undergoing sea trials and would not be operational by May 1941.

Raeder made a difficult decision: to employ *Bismarck* and the heavy cruiser *Prinz Eugen* alone. As a result, instead of being a part of a much larger effort, *Bismarck*'s foray became an isolated operation. This, in turn, greatly increased the risk, because the enemy would be able to concentrate all available forces against the *Bismarck* group.<sup>94</sup>

The SKL issued the final operational instruction for RHEINÜBUNG on April 14, 1941. At his meeting with Hitler on April 20, Admiral Raeder pointed out that the first, similar operation in the North Atlantic, conducted by the battleships *Gneisenau* and *Scharnhorst* in January–March 1941, had been a significant tactical success. Moreover, it had considerable strategic effect in the Mediterranean and South Atlantic.<sup>95</sup> He also claimed that commerce warfare was proceeding successfully.<sup>96</sup> Raeder informed Hitler that the next battleship operation, by *Bismarck* and *Prinz Eugen*, would be conducted in late April. The Pan-American Security Zone would be respected.<sup>97</sup> Hitler, while not rejecting the plan, had great misgivings about it; yet he left it to Raeder to make the final decision.<sup>98</sup> Raeder emphasized to Hitler that dangerous conditions existed at Kiel and Wilhelmshaven, and at Brest as well, where German ships went for repairs after their forays into the Atlantic. Hence, Brest shipyard would be used only in exceptional cases; it was important to acquire use of the Spanish port of El Ferrol. Hitler promised to secure that port for German ships in the fall of 1941. He also asked Raeder to explore whether Organisation Todt could be used to build a large dry dock at Trondheim quickly.<sup>99</sup>

Admiral Lütjens issued his operations order on April 22, 1941. Four days later, Lütjens had a meeting with Raeder to discuss the timing of the operation. Lütjens argued that the operation should be delayed until the damages *Prinz Eugen* had suffered when it ran into a mine were repaired.<sup>100</sup> He also suggested that *Bismarck* might sail out alone, to be followed by *Prinz Eugen*, or that both ships delay sortieing until the next new moon.<sup>101</sup> Lütjens further believed that the operation's chances of success would be much greater if the combat group's sortie was delayed until either *Scharnhorst* was repaired or *Tirpitz* became fully operational; the latter had been commissioned in February but, as mentioned, was still undergoing sea trials. He presciently told Raeder that any employment of *Bismarck* alone would trigger a massive response from the enemy, reducing the chances of success. Lütjens and Raeder also discussed the use of Brest after the completion of the operation, with Raeder stating that any stay at the French port should be short, only to embark munitions and supplies. If *Bismarck* were heavily damaged, it should steer to Saint-Nazaire instead; for a longer pause or overhaul, *Bismarck* should head directly for home port. Lütjens stressed the importance of air reconnaissance of the Denmark Strait to locate the ice boundary and any enemy patrols. He also requested that Raeder assign a larger number of aircraft and

U-boats, plus fishing steamers, to support the operation. Raeder concurred, and gave corresponding orders to his chief of staff, Vice Admiral Otto Schniewind (1887–1964).<sup>102</sup> Raeder later praised Lütjens for being so open with him, even though the fleet commander did not accept Raeder's reasoning entirely.<sup>103</sup> Lütjens had a premonition that *Bismarck's* foray would end badly. After meeting with Raeder, he stopped briefly in the office of the future rear admiral Hans Voss and reportedly said, "I'd like to make my farewells. I'll never come back." He added, "Given the superiority of the British, survival is improbable."<sup>104</sup>

Raeder's operational instruction of April 14 stated that the *aufgabe* (task) of the fleet commander was to attack the enemy supply traffic in the Atlantic north of the equator.<sup>105</sup> The situation would determine the duration of the operation.<sup>106</sup> The primary aim was to destroy the largest volume of enemy shipping, particularly that destined for British ports.<sup>107</sup>

The operations order that Lütjens issued on April 22 stipulated that the group's tasks were to sail through the Belts (the Danish straits) and the Arctic Ocean into the Atlantic, then attack shipping traffic in the northern Atlantic. Afterward, the group was to sail to a French port to replenish ammunition and supplies. If longer repairs or an overhaul were needed, the ships were to return to home port in Germany.<sup>108</sup> Originally, the operation was planned to start on April 28, to coincide with the new moon; however, it was delayed until May 18 because of the mine damages to *Prinz Eugen* and to conduct crane repairs on *Bismarck*.<sup>109</sup>

The forces initially assigned to support the operation consisted of several Luftwaffe squadrons and several U-boats, plus a number of logistical support ships. The commander of the 5th Air Fleet, General Hans-Jürgen Stumpff (1889–1968), was informed about RHEINÜBUNG, and that all available aircraft in Denmark and Norway were to provide continuous fighter cover and a close A/S defense screen, as well as reconnaissance of the North Sea and the Arctic Ocean to the limits of the various aircrafts' effective ranges. They also were to reconnoiter the British naval base at Scapa Flow. Air Leader Stavanger assigned the responsibility for reconnaissance to 1st Squadron, 120th Aufklärungsgruppe (Reconnaissance Group) (designated 1. / F 120), reinforced by one squadron of the 121st Reconnaissance Group (F 121), which flew Junkers (Ju) 88s. Also deployed in support of the *Bismarck* group were naval flying boat squadrons and Heinkel (He) 115 squadrons; these were based in Norway, concentrated in the Skagerrak-Trondheim area. Two reconnaissance squadrons of Ju-88s and 1. / F 120 monitored Scapa Flow continuously. They also provided continuous coverage of the North Sea and the Arctic. Parts of the 30th Kampfgeschwader (Battle Wing) (KG 30), flying Ju-88s, and the 26th Battle Wing (KG 26), flying He-111s and based in Denmark and Kristiansand and Gardermoen, Norway, were put in combat readiness. Fighter protection was provided by Fighter Leader Norway.<sup>110</sup>

**GERMAN ORDER OF BATTLE (PLANNED), APRIL 22, 1941**

(F = flagship)

**MAIN FORCES**

Fleet commander: Admiral Günther Lütjens

1 battleship: *Bismarck* (F)1 heavy cruiser: *Prinz Eugen***SUPPORTING FORCES**

6 U-boats (2 operating on north–south route, 4 operating on HX route [Halifax, Nova Scotia–U.K. ports])

2 reconnaissance ships (*Gonzenheim*, *Kota Penang*)2 supply ships (*Ermland*, *Spichern*)4 requisitioned tankers (*Lothringen*, *Belchen*, *Esso-Hamburg*, *Friedrich Breme*)4 weather-observation fishing steamers (*Freese*, *München*, *August Wriest*, *Lauenberg*)2 mine breakers (*Sperrbrecher 13*, *Sperrbrecher 31*)5th Minesweeper Flotilla (*M-4*, *M-23*, *M-31*, *M-201*, *M-202*, *M-205*, *M-251*, *M-252*, *M-253*)6th Destroyer Flotilla (*Z-23*, *Z-24*, *Hans Lody* [Z 10], *Friedrich Eckheldt* [Z 16])**5TH AIR FLEET, AIR LEADER STAVANGER**

2 reconnaissance squadrons (1. / F 120 [Ju-88s] Stavanger, 1. / F 121 [Ju-88As])

2 battle wings (KG 30 [Ju-88As] Eindhoven, KG 26 [He-111Hs] Stavanger-Sola)

**3RD AIR FLEET, AIR LEADER ATLANTIC**

5 battle wings (II. / KG 1 [Ju-88As] Rosières-en-Santerre, I. / KG 28 [He-111s] Nantes, KG 40 [FW-200s/Ju-88As] Bordeaux-Mérignac, II. / KG 54 [Ju-88As] Bretigny, I. / KG 77 [Ju-88As] Juvincourt)

1 combat group (KG 100 [He-111Hs], Vannes-Meucon)

2 coastal air groups (KG 406 [He-115s] Hourtin/Brest, KG 506 [Ju-88As] Westerland)

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**Sources:** Operationsbefehl des Flottenchefs für die Atlantikoperation mit “Bismarck” und “Prinz Eugen” (Deckbezeichnung: “Rheinübung”), April 22, 1941, pp. 40–41; Jürgen Rohwer and Gerhard Hümmelchen, *Chronology of the War at Sea, 1939–1945*, 2nd ed. (Annapolis, MD: Naval Institute Press, 1992), pp. 63–64.

But air support of the *Bismarck* group during its movement from Bergen to the Denmark Strait turned out to be very inadequate. The Luftwaffe lacked sufficient numbers of reconnaissance aircraft to provide comprehensive coverage in an area as distant as the Denmark Strait or the Iceland–Faeroes passage. In contrast, the Luftwaffe provided gap-free reconnaissance of the central and northern parts of the North Sea. It also envisaged full air cover for the *Bismarck* group during its operational deployment from Gotenhafen to Grimstadfjord (an inlet in the Korsfjord, near Bergen).<sup>111</sup> The North Atlantic west of longitude 30 degrees W was free of German aircraft, except for sporadic reconnaissance aircraft; however, Luftwaffe aircraft covered the entire sea area east of longitude 30 degrees W.<sup>112</sup> Generally, on a daily basis one or more Focke-Wulf (FW) 200s from Bordeaux or Stavanger conducted reconnaissance of the sea area northwest of Ireland out to approximately longitude 20 degrees W.<sup>113</sup> Coastal reconnaissance was conducted from bases at Brest and Hourtin, France (some thirty-two miles northwest of

Bordeaux), out to longitude 11 degrees W, or variously out to two hundred nautical miles, with He-111s; extension out to longitude 20 degrees W using He-111s and Blohm & Voss 138s was in preparation. Additionally, two reconnaissance ships (*Gonzenheim* and *Kota Penang*), plus some U-boats, were deployed some three hundred nautical miles south of Cape Farewell, Greenland, the southern entrance to the Denmark Strait.<sup>114</sup>

Initially, four U-boats were assigned to cooperate with the *Bismarck* group.<sup>115</sup> One was assigned to conduct weather observation in the area between latitudes 55 and 60 degrees N and between longitudes 20 and 25 degrees W.<sup>116</sup> Admiral Lütjens's April 22 operations order stated that activity in the operating area would include some U-boats operating on the north-south convoy route and four others on the HX convoy route (which ran from Halifax, Nova Scotia, Canada, to U.K. ports) after the end of May, plus two reconnaissance ships and five tankers.<sup>117</sup>

Available to Naval Group Command West were one supply ship; three requisitioned tankers carrying fuel, munitions, and food; and three tankers in reserve.<sup>118</sup> Assigned for logistical support of RHEINÜBUNG were two supply ships (*Ermland* and *Spichern*) and four (originally five) tankers (*Lothringen*, *Belchen*, *Esso-Hamburg*, and *Friedrich Breme*).<sup>119</sup> The support ships were deployed in waiting positions in the North Atlantic: one supply ship (*Ermland*) between the Azores and the Lesser Antilles, and the other (*Spichern*) four hundred nautical miles west of Faial, Azores; and the tankers *Belchen* and *Lothringen* some 120 and 200 nautical miles, respectively, south of Cape Farewell. One tanker (*Esso-Hamburg*) was deployed some 450 nautical miles (nm) northwest, and another (*Breme*) about seven hundred nautical miles southwest of Faial.<sup>120</sup>

Naval Group Command North would exercise control over the *Bismarck* group until it crossed a line running from the southern tip of Greenland to the northern tip of the Hebrides, when control would pass to Naval Group Command West.<sup>121</sup> Thereafter Naval Group Command West would control the entire operation, with tactical control residing in the hands of Admiral Lütjens aboard *Bismarck*.<sup>122</sup>

Admiral Lütjens was responsible for the movement of reconnaissance ships, supply ships, and tankers during their presence in the operating area. If breakout into the Atlantic was detected too early, the operation was to be shortened or aborted, depending on the situation. In such a case, either Naval Group Command West or the fleet commander would issue the order. If a sudden change in the situation required withdrawal to the Arctic, Naval Group Command North would make preparations for the arrival of the *Bismarck* group.<sup>123</sup>

Several U-boats (two at a minimum) would be deployed off Freetown, Sierra Leone. Beginning in mid-June, up to four U-boats would be employed along



the eastern part of the HX route between longitudes 30 and 45 degrees W. Both groups would be subordinate to B.d.U., but if an opportunity arose for direct cooperation, the fleet commander had authority to give orders directly to the U-boats.<sup>124</sup>

RHEINÜBUNG was to consist of five distinct phases: (1) movement from Gotenhafen to Grimstadfjord; (2) movement from Grimstadfjord to the Denmark Strait; (3) breakout into the North Atlantic; (4) attack on enemy shipping; and (5) return to home base. The SKL instruction issued on April 14 directed the *Bismarck* group to sortie from Gotenhafen in the afternoon of April 28. It would advance through the Belts/Skagerrak, then to the Arctic.<sup>125</sup> During the transit of the Belts, defense against mines would be provided by *Sperrbrecher* (mine breakers) and the 5th Minesweeper Flotilla.<sup>126</sup> During the group's transit through the Skagerrak, several destroyers would provide A/S protection.<sup>127</sup>

Lütjens's operations order provided a very precise timeline for transiting the Skagerrak and the Kattegat. This was necessary to coordinate properly the mine countermeasures, A/S support, and Luftwaffe air cover. During the transit of Arkona and the Skagen barrier, in addition to mine breakers / minesweepers, four destroyers (*Z-23*, *Z-24*, *Hans Lody* [Z 10], and *Friedrich Eckheldt* [Z 16]) would provide the A/S screen for the *Bismarck* group.<sup>128</sup> By 1900 on April 30, the *Bismarck* group was to reach Kristiansand; at 0230 on May 1 it would reach the latitude of Stavanger; at 0630 the same day, that of Korsfjord/Bergen; and on May 2, that of Trondheim.<sup>129</sup>

In operational terms, the planned movement of the *Bismarck* group from Grimstadfjord to the Denmark Strait was an *operational maneuver*, followed by a *tactical penetration* into the North Atlantic. The breakout was considered the most difficult part of the entire operation. The aim was to enter the Atlantic unobserved by enemy patrols, but if the *Bismarck* group were sighted the mission still was to be carried out to some extent, in accordance with the operational instructions.<sup>130</sup>

The German leadership incorrectly assumed that enemy patrol forces in the Denmark Strait would consist of auxiliary cruisers.<sup>131</sup> However, it assumed correctly that enemy aircraft also would patrol the Denmark Strait. The Germans knew that a bright night would make unobserved breakout more difficult, whereas low visibility would facilitate breakout. They also assumed that the Luftwaffe's reconnaissance of the northern part of the North Sea would be sufficient to provide an overview of the enemy situation.<sup>132</sup>

The ice boundary also influenced planning. Naval Group Command North suggested to Lütjens that he execute the breakout between Iceland and the Faeroes because those waters were ice-free. In contrast, the Denmark Strait is narrow to begin with, and the width of the passage available varies with the

position of the ice boundary, which had the potential to make it easier for enemy ships to obtain and maintain contact with the *Bismarck* group. The enemy also could draw on more-southward-deployed units. Another advantage of transiting the gap was the shorter transit time, which saved fuel, whereas use of the strait would require refueling. Unfortunately, Lütjens was bound to follow SKL instructions, which stipulated an undetected breakout through the Denmark Strait into the Atlantic. Refueling would be provided by one tanker (*Weissenberg*), which would wait at latitude 70 degrees N, longitude 01 degree W.<sup>133</sup>

After the successful breakout, searching for and destroying the largest volume of enemy shipping would be the *Bismarck* group's primary mission. In his operational instructions, Raeder directed that combat with an equally strong enemy should be avoided.<sup>134</sup> The only exception was if such an engagement would contribute to the accomplishment of the ultimate objective and the risk was low.<sup>135</sup>

The *Gneisenau/Scharnhorst* foray in January–March 1941 had shown that, even when B-Dienst provided the departure date and route of an enemy convoy, detecting those convoys in the broad spaces of the ocean depended on luck; if it happened, it might be only by accident. In his operations order, Lütjens explained that enemy convoys normally were escorted by one battleship, often with two cruisers and two destroyers in addition. *Bismarck* would tie up the battleship, while *Prinz Eugen* would deal with any other ships in the convoy's screen.<sup>136</sup>

Sailing to a French port would be considered only if no significant repairs were required; if lengthier repairs were needed, each ship would return to its home port.<sup>137</sup> If needed, the general alternate port of return would be Trondheim.<sup>138</sup>

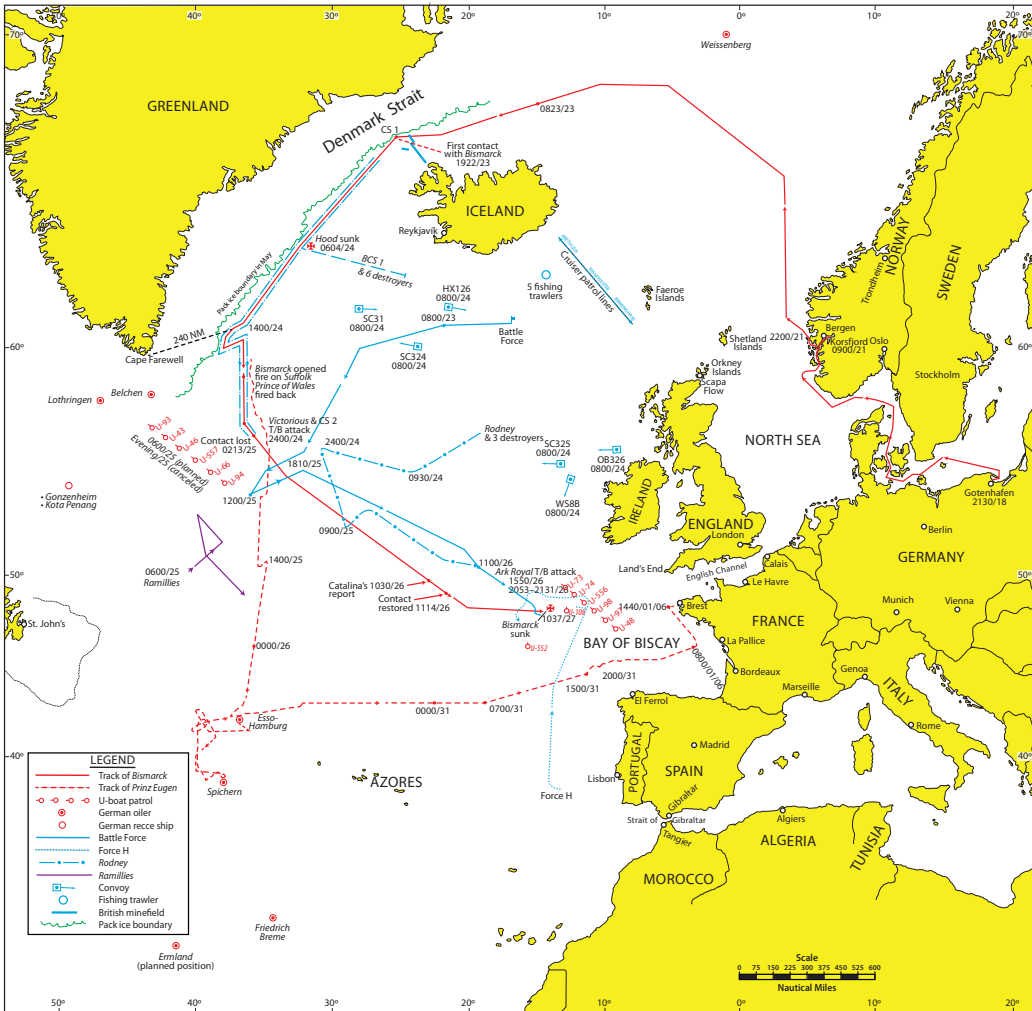
### *German Execution*

*Bismarck* and *Prinz Eugen* possessed an unmatched power compared with their respective enemy counterparts. However, the Home Fleet and Force H had an enormous numerical superiority, plus effective support from RAF Coastal Command. (For details, see sidebars and map 1.)

The majority of supply ships and tankers sortied about a week prior to the *Bismarck* group. The first to do so was the tanker *Belchen* from La Pallice on May 10; two reconnaissance ships sortied from La Pallice on May 17.<sup>139</sup> Four tankers and two supply ships would operate in the area between latitudes 45 and 46 degrees N and longitudes 32 and 35 degrees W. In the same area were deployed four weather-observation fishing steamers.<sup>140</sup> Two tankers sailed into the Arctic.<sup>141</sup> If bad weather delayed the *Bismarck* group breakout, one tanker was in a waiting position in the Norwegian Sea, while another tanker was at Trondheim.<sup>142</sup>

Prior to his arrival at Gotenhafen, Lütjens stopped at Kiel to see his predecessor, Admiral Marschall. Marschall had been removed from his post because of

**MAP 1  
BISMARCK COMBAT GROUP'S FORAY INTO THE ATLANTIC, MAY 18–27, 1941  
(OPERATION RHEINÜBUNG [RHINE EXERCISE])**



differences with Raeder and Naval Group Command West commander Admiral Saalwächter. During the meeting, Marschall advised Lütjens not to follow instructions received from the SKL too literally. Marschall believed the fleet commander must have a certain freedom of action in case the situation changed.<sup>143</sup> Lütjens responded in a tragically resigned tone: “No! Two fleet commanders have already been relieved of their commands due to the displeasure of the Naval [High] Command. I do not wish to be the third. I know what the Naval Command desires and will carry out their orders.”<sup>144</sup>

About one week prior to his arrival at Gotenhafen, Lütjens also visited his friend and former “crew member” (classmate) Rear Admiral Conrad Patzig

(1888–1975), the chief of the Personnel Office. Patzig asked why Lütjens had to go on board as the fleet commander, because the operation was minor in scale, yet the risk of losing his life was acute. Lütjens agreed with Patzig, but believed there was no alternative.<sup>145</sup> He did not want to question Raeder's decision. As mentioned, Lütjens apparently had a premonition of what would happen to him. He told Patzig: "I shall have to sacrifice myself sooner or later. I have renounced my private life and I am determined to execute the task which has been entrusted to me in an honorable manner."<sup>146</sup>

On May 12, Hitler met with Field Marshal Wilhelm Keitel, the Oberkommando der Wehrmacht (chief of the Supreme Command of the Wehrmacht), and several high-ranking members of his staff visited *Bismarck* at Gotenhafen. Raeder was not present. Hitler inspected the ship and attended gunnery exercises. He had a long talk with Lütjens. He asked the admiral about the *Scharnhorst/Gneisenau* experience. Lütjens mentioned to Hitler the threat that enemy carrier-borne torpedo aircraft posed to *Bismarck*.<sup>147</sup>

**Phase I: Gotenhafen–Grimstadfjord (0000 May 18–0900 May 21).** In operational terms, the movement of the *Bismarck* group from Gotenhafen to Grimstadfjord represented the *operational deployment*.<sup>148</sup> At about 0600 on May 18, Admiral Lütjens received from naval intelligence the latest status of the enemy heavy ships. The Germans estimated that in home waters were deployed three battleships (*Prince of Wales*, *King George V*, and *Rodney*), one battle cruiser (*Hood*), and only one carrier (*Victorious*). One damaged carrier (*Illustrious*) was probably on the way to the United States. For a long time, there was no information on the whereabouts of another carrier (*Argus*). Force H was in Gibraltar. On the north–south convoy route were deployed one battleship (*Repulse*) and one carrier (*Furious*) (used for ferrying aircraft from Britain to Gibraltar and the Gulf of Guinea). One battleship (*Nelson*) and one carrier (*Eagle*) had left Durban, South Africa, on May 10, but it was unclear whether they were organized as a group.<sup>149</sup>

During the forenoon of May 18, Admiral Lütjens issued his *Absicht* (intent) for the pending operation. He stated that if the weather situation were favorable for breaking out (i.e., it was bad), his intent was not to stop at Korsfjord but to proceed directly to the Arctic, refuel from the waiting tanker *Weissenberg*, then break out into the northern Atlantic through the Denmark Strait at high speed. He hoped that if reduced visibility and fog prevailed, an encounter with the enemy cruisers or auxiliary cruisers in the Denmark Strait could be avoided. In the case of an encounter with light forces, *Prinz Eugen* might use its torpedoes, on order from Lütjens.<sup>150</sup>

At about 2130 on May 18, *Bismarck* and *Prinz Eugen* sailed from Gotenhafen. They proceeded separately until they reached Arkona, where they joined up at

1100 on May 19.<sup>151</sup> On the order of the Befehlshaber der Sicherung der Ostsee (Commander, Security Forces, Baltic), traffic in the Great Belt and Kattegat was stopped for the night of May 19/20 and the morning of May 20, to enhance the secrecy of the *Bismarck* group's movement.<sup>152</sup>

During the morning of May 20, Luftwaffe photoreconnaissance ascertained the presence in Scapa Flow of two battleships (*King George V* and *Rodney*), one battle cruiser (*Hood*), one carrier (*Victorious*), six light cruisers, four destroyers, and two submarines. In the northern Scotland area were probably twelve cruisers that were nonoperational—under repair.<sup>153</sup> No enemy forces were sighted in the North Sea or the Arctic.

Around noon on May 20, the *Bismarck* group was in the vicinity of the Skagerrak mine barrier, to be escorted by the minesweeper flotilla; around 1600 it was escorted through the mine-free area in the Kattegat. It then was mixed with commercial vessels waiting to pass through the mine-free area in the reverse direction.<sup>154</sup> By evening, the *Bismarck* group was south of Kristiansand.<sup>155</sup>

At about 0620 on May 21, the 18th Air Group transmitted a message to the British Admiralty concerning the presence of two enemy battleships and three destroyers.<sup>156</sup> B-Dienst decrypted this message almost immediately, and Naval Group Command North and the SKL agreed that enemy agents had observed the *Bismarck* group in the Great Belt.<sup>157</sup>

The original source of the information to the Admiralty about *Bismarck*'s transit was the Swedish cruiser *Gotland*.<sup>158</sup> Major Törnberg (assistant to Major Carl Petersén [1883–1963], head of Sweden's C-Bureau, a unit for secret-intelligence collection) passed the information to the British naval attaché in Stockholm, Captain Henry Denham (1897–1993).<sup>159</sup> In his message the naval attaché stated: "Kattegat today 20th May (a) This afternoon eleven German merchant vessels passed Lenker North (b) at 1500 two large German warships escorted by three destroyers, five escort craft, and ten to twelve aircraft passing Marstrand [in the Bohuslän archipelago, in the northeastern Kattegat] course northwest 2058/20."<sup>160</sup> Raeder knew from Admiral Wilhelm Canaris (1887–1945), chief of the Abwehr (Military Intelligence), that the signal from Stockholm was sent to the Admiralty on the morning of May 21; Canaris had proof positive that British agents had reported the *Bismarck* group's movement.<sup>161</sup>

German naval intelligence learned that the report on the sighting of the *Bismarck* group had prompted intensive reconnaissance by the 18th Air Group. This group, with headquarters near Rosyth, cooperated with CINC, Rosyth and the Orkneys/Shetlands Naval Command. The B-Dienst intercepts located enemy aircraft in the northern part of the North Sea, off the Norwegian coast, and in the Faeroes area. Yet at the same time, monitoring of the radio traffic of the Home Fleet revealed no sign of special activity.<sup>162</sup>

At 0900 on May 21, the *Bismarck* group entered Korsfjord. *Bismarck* anchored at Grimstadfjord, at the entrance to the Fjøsanger fjord. *Prinz Eugen* refueled at Kalvanes Bay from a tanker.<sup>163</sup> Surprisingly, *Bismarck* did not refuel, even though it had burned some two thousand tons of oil since Gotenhafen.<sup>164</sup> From enemy radio transmissions, it was clear to the Germans that the enemy knew about the presence of the *Bismarck* group, although as noted no reaction had been detected.<sup>165</sup>

Coincidentally, the RAF planned to attack the *Bismarck* group during the night of May 21/22. It also intended to conduct reconnaissance off the Norwegian coast from Trondheim to Kristiansand on May 22.<sup>166</sup> However, in both instances low clouds prevented aircraft from finding their targets.<sup>167</sup> In the evening on May 21, British air reconnaissance ascertained that the *Bismarck* group had left Bergen.<sup>168</sup>

On May 21, Admiral Tovey decided to strengthen cruiser patrols in the Denmark Strait and between Iceland and the Faeroe Islands.<sup>169</sup> When the heavy cruiser *Suffolk* arrived at Hvalfjord, Iceland, after being relieved by *Norfolk* in the Denmark Strait, it was directed to rejoin CS 1 after refueling.<sup>170</sup> To save fuel, *Suffolk* would join the patrol just before the earliest arrival of the enemy. The cruiser *Arethusa*, due to arrive at Reykjavík, was directed to remain at Hvalfjord at the disposal of Commander, CS 1.<sup>171</sup> BCS 1 (*Hood* and *Prince of Wales*), plus a screen of six destroyers (*Electra*, *Anthony*, *Icarus*, *Echo*, *Achates*, and *Antelope*), sailed from Scapa Flow to Hvalfjord.<sup>172</sup> Vice Admiral Lancelot E. Holland (1887–1941), Commander, BCS 1, was instructed to cover patrols in the Denmark Strait and the Iceland–Faeroes passage, operating north of latitude 62 degrees N.<sup>173</sup> Tovey issued orders recalling *Repulse* from the Clyde (where it was waiting to escort a convoy to the Middle East) to Scapa Flow.<sup>174</sup> The cruisers *Birmingham* and *Manchester*, then patrolling the Iceland–Faeroes passage, were directed to refuel at Skaalefjord in the Faeroe Islands, then resume patrol.<sup>175</sup> Their assigned patrolling line was between latitude 61 degrees N, longitude 10° 30' W and latitude 64 degrees N, longitude 15 degrees W. Five fishing trawlers were on their routine patrols west of this line. *Arethusa* was directed to join *Manchester* in the Iceland–Faeroes passage.<sup>176</sup>

During the evening of May 21, Admiral Max K. Horton (1883–1951), Rear Admiral, Submarines, directed *Minerve*, then on patrol southwest of Norway, to move to a position at latitude 61° 53' N, longitude 03° 15' E, while *P-31* sailed out from Scapa Flow to a position off Stadlandet (Selje, in the northwestern part of Sogne Fjord).<sup>177</sup>

**Phase II: Grimstadfjord–Denmark Strait (2200 May 21–2000 May 22).** The *Bismarck* group left Grimstadfjord at 2200 on May 21. Several hours afterward, enemy aircraft searched for *Bismarck* in the skerries (small, rocky, uninhabited islands) off Bergen. On the basis of this enemy activity, the Germans concluded that the movement of the *Bismarck* group was known, but apparently the enemy

was uncertain about the group's exact location. At 0510, after the *Bismarck* group reached the latitude of Kristiansund, Lütjens released the accompanying destroyers, which would proceed to Trondheim. On the basis of reports he received, Lütjens believed that the major part of the Home Fleet was still at Scapa Flow at noon on May 22. Even if the Home Fleet sailed out on May 22, it would have to transit some 1,200 nautical miles to reach a position near Cape Farewell.<sup>178</sup>

At 1200 on May 22, Lütjens directed the *Bismarck* group to increase its speed to twenty-four knots and steer for the Denmark Strait.<sup>179</sup> The group was then some two hundred nautical miles off the Norwegian coast.<sup>180</sup> On the evening of May 22, the sky was covered with clouds and the atmosphere was misty. The meteorologist aboard *Bismarck* predicted that the weather would be favorable for a breakout. Lütjens intended to steer for Cape Farewell.<sup>181</sup> Possibly he was influenced by information he had received while at Korsfjord in the forenoon of May 21, from a Luftwaffe officer who told him there was no sign that the Home Fleet had sailed from Scapa Flow. Lütjens probably believed that he must stay ahead of the enemy. He was aware that the enemy knew about his sortie from Gotenhafen and his stay in the skerries off Bergen.<sup>182</sup>

At 1939 on May 22, RAF aircraft reported that the enemy battleship and cruiser, but not the merchant ships, had left Bergen. Three destroyers and one catapult ship were sighted at Trondheim. Most of the Norwegian coast was then under fog.<sup>183</sup>

After receiving a report at 2000 that the enemy warships had departed from Bergen, Tovey believed there were four possibilities regarding enemy activity. The first was that the convoy was carrying important military stores to northern Norway and would sail through the Leads; for some weeks there had been reports of movements of German troops to Kirkenes. The second possibility was that the convoy was carrying a raiding party, perhaps to capture an airfield to support an attack on Reykjavík or Hvalfjord. Third, the enemy battleship and cruiser might try to break out through the Denmark Strait to reach the trade routes, as German ships had done in the past. However, breaking out through the passage between Iceland and Scotland could not be ruled out, especially because the enemy had stopped at Bergen. The fourth possibility was that the enemy ships already had covered an important German convoy as far as the Inner Leads, and now might be returning to the Baltic. Tovey considered the third scenario to be the most likely, and made his dispositions accordingly.<sup>184</sup>

At 2043 on May 22, Tovey requested air reconnaissance of all passages between Greenland and the Orkneys and the Norwegian coast, as well as any enemy forces approaching Iceland. The aim was to detect enemy ships breaking out westward. The Admiralty responded to Tovey's request by directing subordinate commands

to conduct reconnaissance of the Iceland–Faeroes gap, the Denmark Strait, the Faeroes–Shetland gap, and the Norwegian coast.<sup>185</sup> An additional air-patrol line about 250 miles west of the Iceland–Faeroes passage also was established by CINC, Western Approaches, Admiral Sir Percy Noble (1880–1955).<sup>186</sup> The 15th Air Group units on Iceland were directed to provide A/S cover for *Hood* and *Prince of Wales* and to keep a close watch on the Denmark Strait.<sup>187</sup> The Admiralty canceled the sailing of the carrier *Victorious* and battleship *Repulse*, which had been assigned to protect pending Convoy WS8B, and put these warships at Admiral Tovey’s disposal. *Victorious* was then at Scapa Flow, while *Repulse* was directed to sail from the Clyde to Scapa Flow.<sup>188</sup>

*Phase III: Breakout to the Northern Atlantic (2000 May 22–1922 May 23).* On May 23, the *Bismarck* group continued on a course to transit the Denmark Strait. The weather was favorable for penetration: an easterly wind, overcast skies, moderate-to-heavy rain, and moderate-to-bad visibility (650 feet or less).<sup>189</sup> Overall, the situation for a breakout was considered favorable. However, that same bad weather prevented Luftwaffe aircraft from reconnoitering Scapa Flow on May 23.<sup>190</sup> The Germans also did not have aircraft available to reconnoiter the area between Iceland and the Faeroes.<sup>191</sup> Lütjens ordered an increase in speed to twenty-seven knots.<sup>192</sup> In the meantime, Tovey’s Battle Force proceeded northward to latitude 60 degrees N—far enough to be in a position to deal with either an attack on Iceland or a breakout.<sup>193</sup>

Also on May 23, Headquarters RAF Iceland received a message from CINC, Western Approaches via Flag Officer in Charge, Iceland to give priority to reconnoitering the Denmark Strait, especially the Akureyri area of Eyja Fjord, in north-central Iceland. A crossover patrol of the Denmark Strait from Iceland to the limit of the ice already had been ordered.<sup>194</sup> But only two air sorties of the Iceland–Faeroes gap were carried out, because of the bad weather, and there was no air reconnaissance of the Denmark Strait; however, Admiral Tovey did not become aware of this until much later.<sup>195</sup> Tovey directed *Suffolk* to patrol within RDF range of the ice-edge boundary in the Denmark Strait.<sup>196</sup> When conditions were clear inshore, *Norfolk* would patrol about fifteen miles abeam of *Suffolk*; when thick inshore, *Norfolk* would patrol to cover the inshore passage.<sup>197</sup>

*Repulse* and three destroyers from Western Approaches Command joined the Battle Force northwest of the Butt of Lewis, Outer Hebrides, during the forenoon of May 23.<sup>198</sup> Tovey intended to detach two cruisers to patrol the Faeroes–Shetlands passage; however, in the end he decided to keep all four cruisers with him.<sup>199</sup>

By noon, the *Bismarck* group reached the ice boundary.<sup>200</sup> At 1427, the weather forecast for the area north of Iceland was for southeasterly-to-easterly winds,



wind force 6 to 8, mostly overcast, rain, and moderate-to-poor visibility; in the area south of Iceland, it was for winds of force 5 to 7; cloudy to overcast; a low-pressure system east of Iceland; and warm air moving toward the Denmark Strait and the area south of Iceland.<sup>201</sup>

At 1700, the weather in the vicinity of the *Bismarck* group was snow showers, with visibility of around five thousand yards.<sup>202</sup> The *Bismarck* group sailed near the ice boundary. On its starboard side there was good visibility, while to port there was fog.<sup>203</sup> After entering the Denmark Strait shortly before 1900, the *Bismarck* group moved into an area of pack ice, with some floating icebergs, a few of which were of enormous size. Thus, on May 23, the width of the ice-free passage in the Denmark Strait was only about twenty nautical miles.<sup>204</sup> Both *Bismarck* and *Prinz Eugen* were zigzagging.<sup>205</sup>

German knowledge of the situation in the Denmark Strait and its approaches was very spotty because of the lack of sufficient FW-200 aircraft. The last report that Lütjens received was provided on May 19 by a single FW-200. The aircraft reported the ice boundary to be seventy to eighty nautical miles away from Iceland. The same day, at a distance of some fifty nautical miles northwest of North Cape, Iceland, another FW-200 had aborted its flight after encountering dense fog.<sup>206</sup>

At 1922, *Suffolk* sighted *Bismarck* and *Prinz Eugen* at a distance of 12,320 yards and steering on a southwesterly course. The *Bismarck* group's position was then some sixty miles northwest of North Cape.<sup>207</sup> At the same time, *Prinz Eugen* sighted what it believed to be an auxiliary cruiser at a distance of 14,200 yards. *Bismarck* fired five salvos but scored no hits. The enemy ship disappeared.<sup>208</sup> *Suffolk* used mist as a cover and maintained contact with *Bismarck*.<sup>209</sup> At the time of initial contact, Tovey's Battle Force was at latitude 60° 20' N, longitude 13 degrees W. It turned to course 280 and increased speed to twenty-seven knots. Tovey's intent was to reach a position from which he could intercept the enemy east of the Denmark Strait and at the same time support BCS 1. As more information was received, it became clear that the enemy intended to break out through the Denmark Strait.<sup>210</sup>

At 2028, *Suffolk* sighted *Bismarck* again near the ice boundary, at a distance of twelve thousand yards. Four minutes later, *Norfolk* also made contact with *Bismarck* at a distance of 10,560 yards.<sup>211</sup> The Admiralty received *Norfolk*'s message at 2103, before it received *Suffolk*'s.<sup>212</sup> *Bismarck* opened fire, but *Norfolk* retired safely behind a smoke screen.<sup>213</sup> The *Bismarck* group's repeated attempts to break off contact failed.<sup>214</sup> The B-Dienst personnel aboard both *Bismarck* and *Prinz Eugen* deciphered *Suffolk*'s signal ("one battleship, one cruiser, bearing 330°, distance 6 nautical miles, course 240°") within minutes.<sup>215</sup> However, they mistook *Norfolk*'s call sign for that of *King George V*.<sup>216</sup>

Lütjens was surprised at encountering enemy cruisers in the Denmark Strait. However, for some reason he did not draw the proper conclusion: that the enemy would try to block his foray into the Atlantic. He believed the British ships were not equipped with advanced search radars; however, *Suffolk* had been fitted with advanced artillery radar (Type 284/285).<sup>217</sup> *Suffolk*'s radar now had an effective range of 26,250 yards.<sup>218</sup> In contrast, *Norfolk* had the older-model artillery radar (Type 286M).<sup>219</sup> *Bismarck* and *Prinz Eugen* were fitted with search radar; however, they lacked the accurate gunfire director, and hence were unable to drive off shadowers using "blind" fire.<sup>220</sup>

At 2200 on May 23, the B-Dienst intercepted a message sent by a British unit, probably a heavy cruiser, reporting that it had detected in the Denmark Strait, at a distance of six nautical miles, one enemy battleship and one cruiser, both sailing in a southwesterly direction.<sup>221</sup> The B-Dienst also learned that CINC, Western Approaches had issued a radio warning to three convoys about the possibility of encountering enemy ships.<sup>222</sup> These German radio intercepts revealed urgent messages being sent to the enemy heavy units.<sup>223</sup>

*Norfolk* and *Suffolk* shadowed the *Bismarck* group throughout the night of May 23/24. The weather was characterized by rain and mist and the visibility was as low as two miles. The ships "shadowed by sight and/or RDF according to visibility." *Norfolk* kept farther south and east "to cover move of enemy away from ice."<sup>224</sup>

*Phase IV: Encounter in the Denmark Strait, 0538–0613 May 24.* BCS 1 (*Hood* and *Prince of Wales*) and its screen arrived at their assigned position at about 0205—sooner than Tovey had anticipated. Both ships turned to a course parallel to that of *Bismarck* and *Prinz Eugen*.<sup>225</sup> At 0200, Admiral Holland detached his destroyers because CS 1 had lost contact with *Bismarck*. This was a serious error, though, because he lost the opportunity to launch torpedo attacks on the German ships.<sup>226</sup> During the rest of the night, *Prince of Wales* obtained positions by using RDF information from *Norfolk* and *Suffolk*.<sup>227</sup>

At 0538, *Suffolk* again regained contact with the *Bismarck* group.<sup>228</sup> At 0545, the *Bismarck* group's B-Dienst detachment identified two enemy units: *Hood* and a battleship of the *King George V* class (actually *Prince of Wales*). The enemy ships were at a distance of 31,700 yards and sailing at high speed. At 0552, *Hood* opened fire at a range of 25,000 yards. Two minutes later both German ships responded.<sup>229</sup> They concentrated their fire on *Hood*.<sup>230</sup> The running combat distance varied from 19,650 to 22,750 yards.<sup>231</sup> The fire of both *Bismarck* and *Prinz Eugen* was excellent. *Hood* was hit by the second or third salvo, which started fires aboard that spread rapidly.<sup>232</sup> At 0600, *Hood* was straddled again. There was a huge explosion and *Hood* blew up.<sup>233</sup> It sank in three to four minutes.<sup>234</sup> *Hood*

had been able to fire only five or six salvos.<sup>235</sup> Out of a ship's company of ninety-five officers and 1,324 men, only three survived.<sup>236</sup>

After the sinking of *Hood*, *Prince of Wales* engaged *Bismarck*. Both *Prinz Eugen* and *Bismarck* shifted their fire onto *Prince of Wales*. The firing range was reduced to eighteen thousand yards. Within two minutes, *Prince of Wales* was hit with four 15-inch shells and probably three 8-inch shells. Its salvos now were falling short and had a very large spread. Hence, Captain John Leach, the commanding officer of *Prince of Wales*, decided to break off the engagement.<sup>237</sup> By then the range had been reduced to only 14,600 yards.<sup>238</sup> At 0613, *Prince of Wales* turned away under a smoke screen.<sup>239</sup> The ship had two guns out of action and considerable damage to its bridge.<sup>240</sup> Yet it had performed well, even though its crew was only partly trained.<sup>241</sup> *Bismarck* had received two heavy and one light hits. It left a trail of oil from one of its tanks.<sup>242</sup>

At 0632, Lütjens sent a signal to Naval Group Command North informing it that one battle cruiser, probably *Hood*, had been sunk, while one battleship, either *King George* or *Renown*, was damaged and had withdrawn. Two enemy heavy cruisers maintained contact with *Bismarck*. In the meantime, B-Dienst decrypted a series of messages sent by *Suffolk* and *Norfolk*.<sup>243</sup>

**Lütjens's Fateful Decision.** Admiral Lütjens made the decision not to pursue the damaged *Prince of Wales*. Perhaps the main reason was that continuing the engagement would have required sailing at higher speed, resulting in higher fuel consumption. This would have had an especially negative effect on *Prinz Eugen*, because of its shorter range. Lütjens also was probably unsure whether he could destroy *Prince of Wales* as quickly as he had *Hood*. Moreover, his principal mission was to destroy enemy shipping, not the enemy's heavy surface ships.<sup>244</sup>

After sinking *Hood*, Lütjens could steer to Bergen, Trondheim, or Saint-Nazaire to attend to the damages he had suffered in the Denmark Strait. The route to Bergen ran between the Faeroes and the Shetlands, with a transit distance of 1,150 nautical miles. This was the shortest route and the fastest way to reach an area where the Luftwaffe could provide effective cover. Its major drawback was that the *Bismarck* group would have to sail within the effective range of many enemy aircraft and naval bases. The possibility existed that the Home Fleet, based at Scapa Flow, might appear. These reasons made this route the most dangerous for the *Bismarck* group to take.

The route to Trondheim ran either south of Iceland (approximately 1,300 nm) or through the Denmark Strait (approximately 1,400 nm).<sup>245</sup> The major advantage of the route through the Denmark Strait was that the *Bismarck* group would sail into an area of extensive low visibility and close to the ice boundary, making the threat from enemy aircraft much smaller than on the other routes. However, the threat

of encountering enemy heavy ships could not be excluded entirely. The *Bismarck* group needed to make only seven hundred nautical miles good toward Trondheim for the Luftwaffe to protect it effectively. This route also offered the best chance of avoiding the main body of the Home Fleet if it made a foray into the Arctic.<sup>246</sup>

The route to Saint-Nazaire was about 1,700 nautical miles long—making it the longest route—and more than two thousand nautical miles if the *Bismarck* group made a temporary swing westward. A major disadvantage of this route was that *Bismarck* would run the risk of encountering a large concentration of enemy forces. But the advantage of this route was that the vast expanse of the North Atlantic might make it possible to shake off the shadowers. Another advantage was that reaching Saint-Nazaire would offer *Bismarck* a much more favorable position for conducting war in the Atlantic.<sup>247</sup> A major disadvantage of this route was that the enemy could use land-based and carrier-based aircraft to detect and attack the *Bismarck* group, then concentrate his heavy surface ships to prevent *Bismarck* from actually reaching Saint-Nazaire.

Lütjens chose to steer for Saint-Nazaire. We only can speculate about his reasons. In any case, it is clear that once the element of surprise was lost the best option was to cancel the entire operation and return home.<sup>248</sup> Some SKL staffers and the commanders of Naval Group Command North and Naval Group Command West argued that Lütjens should have been directed to return home, but Raeder believed that such a decision should be left to Lütjens to make.<sup>249</sup> A better option for Lütjens would have been to pursue *Prince of Wales*, destroy it, then sail for Trondheim via the Denmark Strait.

## THE BRITISH OPERATIONAL REACTION

### *Operational Concentration, May 24–25*

The Admiralty broadcast CS 1 sightings of the *Bismarck* group on May 24. Among other things, it directed Admiral Somerville to sail from Gibraltar with Force H to join the convoy that *Repulse* was to have brought south of the Clyde, which now had only the cruiser *Exeter* as an escort. At the same time, the Admiralty added that “should reconnaissance today (24th) indicate that one or both German battle cruisers have left Brest it will be necessary you alter these instructions.” The Admiralty also ordered CS 18 (*Manchester*, *Birmingham*, and *Arethusa*), which had been patrolling the Iceland–Faeroes passage, to join north-east of Langanes, Iceland, “in readiness to form a patrol line in event of enemy breaking back.” It also arranged for air patrols with the same purpose.<sup>250</sup>

At 0800, the Battle Force was about three hundred miles away to the southeastward of the Denmark Strait and sailing at twenty-seven knots.<sup>251</sup> Tovey believed that the enemy, having sunk *Hood*, was unlikely to turn back. Hence, the best

hope was to intercept *Bismarck* with the Battle Force. Tovey ordered a course change to 260, then 240. The most unfavorable situation for the Home Fleet would be if the enemy hugged the eastern coast of Greenland, then sailed toward Norway's western coast to take fuel from a waiting tanker. If that happened, *Bismarck* would be able to escape the pursuit by *King George V*.<sup>252</sup> The Admiralty directed Rear Admiral William F. Wake-Walker (1888–1945), commander of CS 1, to “continue to shadow *Bismarck* even if you run out of fuel, in order that the commander in chief [Tovey] may catch up in time.”<sup>253</sup>

At 0801, Lütjens sent a repeat message to the SKL and both naval group commanders about the encounter in the Denmark Strait. He also reported that the free fairway in the Denmark Strait was some fifty miles wide and contained floating mines.<sup>254</sup>

After the engagement with *Prince of Wales*, the *Bismarck* group sailed on a southwesterly course. *Bismarck* tried repeatedly but unsuccessfully to shake off the shadowers. *Suffolk* masterfully used RDF to maintain contact.<sup>255</sup>

In the meantime, the Admiralty made a series of tactical decisions to direct a number of ships in the Atlantic to take part in the pursuit of *Bismarck*. Collectively these decisions resulted in an operational concentration. *Rodney* had sailed from the Clyde on May 21 en route to Boston for refit, accompanying the troop transport *Britannia*. The Admiralty gave the position of *Bismarck* and directed *Rodney* to close in, leaving *Britannia* behind, with one destroyer to screen it.<sup>256</sup> At 1022, *Rodney*, then some 520 miles west of Bloody Foreland, county Donegal, Ireland, was directed to steer best course to close the enemy. *Ramillies*, which was escorting Convoy HX127, was then a thousand miles south of the *Bismarck* group; at 1144, it was ordered to leave the convoy and proceed to contact the enemy from the west.<sup>257</sup> At 1234, the Admiralty ordered *Revenge* to sail from Halifax and overtake Convoy HX128. The cruisers *Edinburgh* (then cruising near latitude 45 degrees N and longitude 21 degrees W) and *London* (escorting the 19,000-ton troopship *Arundel Castle* from Gibraltar) received orders to “give up their task and steer toward the enemy, husbanding fuel against future needs.”<sup>258</sup>

At 1340, the SKL and both naval group commanders received Lütjens's message sent at 0801 on May 24. This was when they first learned about the outcome of the encounter in the Denmark Strait, the extent of damage to *Bismarck*, and Lütjens's intent to sail for Saint-Nazaire.<sup>259</sup>

At 1400, the *Bismarck* group's position was about 240 nautical miles north-northeast of Cape Farewell.<sup>260</sup> Lütjens sent a signal to the SKL and the naval group commanders that the battleship *King George* was maintaining contact with his group. If there were no combat, his intent was to break off from the shadowers during the night of May 24/25.<sup>261</sup> At 1420, Lütjens directed *Prinz Eugen* to maintain its present course until three hours after *Bismarck*'s maneuver to the west to

**BRITISH ORDER OF BATTLE, MAY 18, 1941**

(F = flagship)

**HOME FLEET**

CINC, Home Fleet: Admiral Sir John C. Tovey

2 battleships: *King George V* (F) (at Scapa Flow), *Rodney* (en route from the Clyde to Boston with *Britannia*)1 aircraft carrier: *Victorious* (825 Sqdn) (at Scapa Flow, to escort Convoy WS8B)**1ST BATTLE CRUISER SQUADRON (BCS 1)**

Vice Admiral Commanding, Battle Cruiser Squadron: Lancelot E. Holland

2 battle cruisers: *Hood* (at Scapa Flow), *Repulse* (at the Clyde, to escort Convoy WS8B)1 battleship: *Prince of Wales* (at Scapa Flow)**1ST CRUISER SQUADRON (CS 1)**

Rear Admiral Commanding, CS 1: William F. Wake-Walker

2 heavy cruisers: *Norfolk* (on Denmark Strait patrol), *Suffolk* (refueling at Reykjavik)**2ND CRUISER SQUADRON (CS 2)**

Rear Admiral Commanding, CS 2: Neville Syfret

4 light cruisers: *Aurora*, *Galatea*, *Kenya*, *Neptune* (at Scapa Flow)**18TH CRUISER SQUADRON (CS 18)**

Commodore C. M. Blackman

4 light cruisers: *Manchester*, *Birmingham* (on Faeroes–Iceland passage patrol); *Arethusa* (en route to Reykjavik); *Edinburgh* (on patrol off the Azores)**DESTROYERS***Inglefield*, *Intrepid* (en route to Scapa Flow); *Achates*, *Active*, *Antelope*, *Anthony*, *Echo*, *Electra*, *Icarus*, *Nestor*, *Punjabi* (at Scapa Flow); *Jupiter* (at Londonderry); *Eskimo*, *Mishona*, *Somali*, *Tartar* (at sea with *Rodney* and *Britannia*)**WESTERN APPROACHES COMMAND (Liverpool)**1 light cruiser: *Hermione* (en route to Scapa Flow to join CS 2)5 destroyers (escorts for *Repulse*): *Lance* (at Scapa Flow); *Assiniboine*, *Legion*, *Saguenay* (at the Clyde); *Columbia* (at Londonderry)**PLYMOUTH COMMAND**4th Destroyer Flotilla: *Cossack*, *Maori*, *Sikh*, *Zulu*; *Piorun* (Polish) (at the Clyde, as escorts for Convoy WS8B)**NORE COMMAND**1 destroyer: *Windsor* (at Scapa Flow)**FORCE H (at Gibraltar)**

Flag Officer Commanding, Force H: Vice Admiral Sir James F. Somerville

1 battle cruiser: *Renown*1 aircraft carrier: *Ark Royal* (810, 818, 828 Sqdns)1 light cruiser: *Sheffield*5 destroyers: *Faulkner*, *Foresight*, *Forester*, *Fury*, *Hesperus***AMERICA AND WEST INDIES COMMAND**2 battleships: *Ramillies* (escorting Convoy HX127), *Revenge* (at Halifax, Nova Scotia)**SOUTH ATLANTIC COMMAND**1 heavy cruiser: *Dorsetshire* (escorting Convoy SL74)**SUBMARINES**

Rear Admiral, Submarines: Max K. Horton (Aberdour / north London)

*P-31* (at Scapa Flow); *Sealion*, *Seawolf*, *Sturgeon* (in English Channel); *Pandora* (en route from Gibraltar to United Kingdom); *Tigris* (at the

Clyde); *H44* (at Rothesay); *Minerve* (Q185) (French) (off Norway's southwestern coast)

#### RAF COASTAL COMMAND

No. 15 Group (Liverpool)

No. 16 Group (Chatham, Kent)

No. 18 (Pitreavie Castle, Scotland)

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**Sources:** Training and Staff Duties Division (Historical Section), Naval Staff, Admiralty, London, "Appendix A: *Bismarck* Operations; List of H.M. Ships, C.B. 3081 (3)," in *Battle Summary No. 5*, pp. 38–40; Schofield, *Loss of the Bismarck*, pp. 72–75; Air Marshal, CINC, Coastal Command, "Dispatches of CINC Home Fleet on the Sinking of the *Bismarck*," September 3, 1946, app. A, AIR 15/204, TNA; Müllenheim-Rechberg, *Battleship Bismarck* (1980), pp. 264–67; Rohwer and Hümmelchen, *Chronology of the War at Sea*, pp. 63–64.

shake off the shadowers. *Prinz Eugen* then would refuel from a tanker (*Belchen* or *Lothringen*). After receiving the signal "Hood," it would operate independently and conduct commerce raiding.<sup>262</sup>

At 1440, Dönitz issued an instruction to the U-boats to establish a patrol line southeast of Cape Farewell. The aim was to lure enemy ships approaching from the north. At that time, Lütjens's intent was to operate in the area halfway between Greenland and Newfoundland. The *Bismarck* group would carry out a swing and lure pursuing enemy forces over the U-boat patrol line. The distance of the U-boat patrol line from the British coast was about 1,400 nautical miles.<sup>263</sup> The depth of the patrol line would be ten nautical miles. Dönitz ordered the U-boats to reach their assigned positions by 0600 on May 25.<sup>264</sup>

At 1445, the Admiralty requested that Admiral Wake-Walker provide information on the percentage of fighting effectiveness *Bismarck* retained and about his intent to have *Prince of Wales* reengage. In his response at 1545, Admiral Wake-Walker stated that he had no evidence that the damage the enemy had received had reduced his speed at all. Wake-Walker also believed that the enemy would not reengage but would try to avoid any combat.<sup>265</sup> Wake-Walker also stated that *Prince of Wales* "should not reengage until the other heavy ships are in contact and unless interception fails; doubtful if she has speed to force action."<sup>266</sup> The reason for not reengaging *Bismarck* was that the cruisers of CS 1 might be damaged and thereby forced to reduce their speed. This would make it impossible to maintain contact with *Bismarck*. Admiral Tovey believed that, under the circumstances, Wake-Walker was justified in his decision. Tovey believed that his forces were more likely ultimately to destroy *Bismarck* if he used the cruisers to maintain contact until the approaching reinforcements arrived.<sup>267</sup>

At 1455, Tovey reported that *Victorious*, escorted by CS 2 (*Galatea*, *Aurora*, *Kenya*, and *Hermione*), was detached to launch an aerial torpedo attack at about 2200, when within a hundred-mile range of the enemy.<sup>268</sup> The aim was to reduce *Bismarck*'s speed. Tovey believed that keeping *Victorious* with the Battle Force

until the morning of the next day (May 25) would not be helpful in locating *Bismarck* if it had slipped away during the three hours of darkness. The remainder of the Battle Force (*King George V* and *Repulse*) and its escorts steered an intercepting course. The aim was to bring the enemy to action soon after sunrise.<sup>269</sup>

At 1800, Tovey was with *King George V*, *Repulse*, *Victorious*, and two cruisers.<sup>270</sup> CS 18 (*Manchester*, *Birmingham*, and *Arethusa*) was returning from a point northeast of Iceland to Hvalfjord to refuel. The battleship *Revenge* left Halifax at 1505 to overtake Convoys HX128 and SC32. Admiral Somerville, with his Force H (*Renown*, *Ark Royal*, *Sheffield*, and a half dozen destroyers), was directed to join Convoy WS8B after daylight on May 26.<sup>271</sup>

In the meantime, the shadowers shortened the distance to *Bismarck*. At 1830, *Bismarck* opened fire on *Suffolk*. *Prince of Wales* fired several salvos at *Bismarck* from thirty thousand yards. However, this brief encounter did not result in damage to any of the ships.<sup>272</sup>

At 1842, Naval Group Command West sent a radio message in which it agreed with Lütjens's intent to release *Prinz Eugen* to operate independently. It informed Lütjens that preparations were under way at Saint-Nazaire and Brest to receive *Bismarck*. It also suggested that if *Bismarck* successfully broke away from its shadowers it should remain in its present isolated area.<sup>273</sup> However, *Bismarck*'s reduced speed made breaking off contact more difficult. Neither Raeder nor the two naval group commanders knew whether Lütjens had considered the possibility of avoiding the enemy by moving northward, or which factors he had considered when he selected Saint-Nazaire.<sup>274</sup>

At 2210, nine Swordfish torpedo bombers took off from *Victorious*; at 2300, they were followed by three Fulmar fighters; at 2400, two more Fulmars took off. The weather was showery with squalls, good visibility, and a northwesterly wind. Sunset was at 0052.<sup>275</sup> At about midnight on May 24/25, twelve aircraft (seven Swordfish and five Fulmars) from *Victorious* carried out a torpedo attack on *Bismarck*; however, they claimed just one hit on the ship. This first air attack failed to inflict any serious damage on *Bismarck*.<sup>276</sup>

In the meantime, at 2331, the Admiralty sent new orders to Force H "to steer so as to intercept *Bismarck* from the southward. Enemy must be short on fuel, and will have to make for an oiler; her future movements may guide to this oiler."<sup>277</sup>

### ***Loss of Contact with Bismarck, 0213 May 25***

CS 1 lost contact with *Bismarck* at 0213 (*Prince of Wales* claimed this happened at 0126) on May 25.<sup>278</sup> Heretofore, despite frequent and abrupt changes in the visibility, *Norfolk* and *Suffolk* had maintained contact with *Bismarck* skillfully for thirty hours.<sup>279</sup> When Tovey received the information that contact with *Bismarck* was lost, he believed that the German battleship had three options: rendezvous with a tanker, possibly off the east coast of Greenland or farther south, such as



near the Azores or Canary Islands; make for a dockyard on the west coast of France, or possibly an Italian port in the Mediterranean; or return to Germany for repairs.<sup>280</sup>

At 0300, Force H was approximately 850 miles west of Porto, Portugal. Heavy seas had delayed its progress.<sup>281</sup> CS 2, with *Victorious* and four accompanying cruisers, was directed to organize a search northwest of *Bismarck*'s last known position. *Norfolk* and *Suffolk*, after remaining at the enemy's last known position for some time, proceeded westward to cover the southwestern sector. *Rodney*, with three destroyers, reported that it was steering to intercept the enemy if it showed up in the southeastern sector. *Repulse* had yet to be detached to Newfoundland to refuel, while *Prince of Wales* was directed at 0620 to join Tovey's Battle Force. The Admiralty directed *London* to search the area around latitude 25° 30' N, longitude 42° W, where an enemy tanker was believed to be located.<sup>282</sup>

At 0800 on May 25, *Bismarck* was some one hundred miles astern of *King George V*, sailing southeast.<sup>283</sup> At 0854, Lütjens sent a message in which he erroneously stated that the enemy ships still were shadowing *Bismarck*. The sending of this signal gave away his position to the British radio-intercept operators. At 1030, Tovey received from the Admiralty a series of DF fixes. They indicated that the signals appeared to come from the same ship that had transmitted several signals soon after the torpedo attack by aircraft from *Victorious* the previous night (i.e., *Bismarck*). When these fixes were plotted incorrectly on *King George V*, they showed a position too far north. This provided a misleading indicator that the enemy was retreating northward toward the North Sea. This information confirmed Tovey's existing belief that *Bismarck* was heading north.<sup>284</sup> This is why Tovey directed the entire Home Fleet to search to the north. *King George V* changed course to 055, increased speed to twenty-seven knots, and headed toward the Iceland–Faeroes passage.<sup>285</sup> But Tovey's decision was unsound.

The Admiralty, for its part, apparently was not entirely convinced that *Bismarck* was sailing northward. So at 1023 the Admiralty directed Admiral Somerville and CS 1 to proceed “on assumption that enemy turned towards Brest.”<sup>286</sup> In another signal sent at 1100, the Admiralty signaled to Somerville to “act as though the enemy is proceeding to a Bay of Biscay port.” The Admiralty had great difficulty obtaining accurate information about the position of *Bismarck*. A DF fix at 1320 located *Bismarck* at a position within fifty miles of 55° 15' N, 32° W. The Admiralty transmitted this information to Tovey at 1419, and he received it at 1530. At 1428, the Admiralty directed *Rodney* to ignore the signal sent at 1108, which had directed the battleship to proceed in the direction of Brest, and to comply with Tovey's instructions that assumed *Bismarck* was proceeding to Norway via the Iceland–Scotland passage. At 1621, Tovey sent a query to the Admiralty: “Do you consider that enemy is making for Faroes.”<sup>287</sup>

However, by the late afternoon and early evening of May 25 the Admiralty's view about *Bismarck's* movements had changed in favor of the Bay of Biscay destination. At 1805, the Admiralty canceled the signal it had sent to *Rodney* at 1428 and directed the ship to act on the assumption that the enemy was proceeding toward a French port. Finally, at 1924, the Admiralty informed Tovey and all other forces that it believed *Bismarck* was heading toward a French port. Tovey already had come to the same conclusion at 1810, when he decided to turn his force onto a southeasterly course, heading toward the Bay of Biscay.<sup>288</sup>

Final confirmation came in the evening and from an unlikely source. General Hans Jeschonnek (1899-1943), the Luftwaffe chief of staff, sent a message to the Naval High Command asking whether *Bismarck* would be coming into a French port for repairs. (The reason for this might have been personal: Jeschonnek's son served in *Bismarck*.) This message was sent in the Luftwaffe's Enigma code, and hence was readable to the British decoders. Jeschonnek's message was deciphered quickly and passed on to the Admiralty, and at 1812 was sent to Tovey as well. Tovey's error had given *Bismarck* a chance to escape.<sup>289</sup>

In the meantime, at 1320 on May 25, Raeder briefed Hitler on *Bismarck's* situation. He reported that during the night of May 24/25 the enemy had maintained contact with *Bismarck*. Because the enemy used advanced radar, *Bismarck* had not been able to break off contact. Near *Bismarck* were one battleship (*King George V*), two heavy cruisers, and one carrier. Lütjens reported around midnight on May 24 that *Prinz Eugen* had been detached for refueling in the mid-Atlantic. This maneuver went unobserved by the enemy. Lütjens intended to reach Saint-Nazaire. All available U-boats and light naval forces would be used to support *Bismarck*.<sup>290</sup>

At 1932, Naval Group Command West informed Lütjens about pending actions in support of *Bismarck*. Air units would be used during the approach phase to a French port. Luftwaffe aircraft would conduct reconnaissance out to longitude 15 degrees W. Bombers would be used out to longitude 14 degrees W. Long-range reconnaissance would be conducted out to longitude 25 degrees W. By 1313 on May 25, six U-boats had deployed to their assigned positions (see map 1). The approaches to Brest and Saint-Nazaire would be strongly controlled. There also was a possibility that *Bismarck* could return to the port of La Pallice.<sup>291</sup>

In the evening on May 25, Tovey still had *Repulse* in company with *King George V*. *Rodney* was sailing on a southeasterly course toward the Bay of Biscay. The Admiralty recalled *Ramillies* to rejoin *Britannia* and sail to Boston. At 2100, CS 1 was at latitude 55° 50' N, longitude 31° 28' W. It sailed on a southeasterly course (120) at twenty-six knots. It was some one hundred miles behind Tovey's Battle Force. However, it was low on fuel, with only fifty percent remaining. The cruiser *London* proceeded to search for an enemy tanker halfway between the

Azores and the Leeward Islands. On the morning of May 26, the cruiser *Edinburgh's* fuel was at only 13 percent of capacity. That evening, *Prince of Wales* was directed to sail to Iceland for refueling.<sup>292</sup>

At 0053 on May 26, Naval Group Command West reported that four FW-200s would provide loose coverage between latitudes 43° 30' N and 54° 25' N and out to longitude 25 degrees W. With additional aircraft they would provide heavier coverage out to longitude 19 degrees W in the northern part and to longitude 14 degrees W in the southern part. Despite bad weather, the four FW-200s covered their assignment. Because of the stormy weather it was not possible to send German destroyers to the area to relieve the enemy pressure on *Bismarck*.<sup>293</sup>

*Bismarck's* situation worsened on May 26. That morning *Bismarck* was some seven hundred nautical miles away from the French coast. Some thirty-one hours had passed since the British cruisers had lost contact with *Bismarck*, but now three British forces were converging on *Bismarck*, plus several single large surface combatants. The 4th Destroyer Flotilla (*Cossack*, *Sikh*, *Zulu*, *Maori*, and *Piorun*) was detached from Convoy WS8B. The ships were directed to join and screen *King George V* and *Rodney*. One destroyer (*Jupiter*) at Londonderry was directed to join the same screen. After receiving the first enemy report on the morning of May 26, the cruiser *Dorsetshire* left Convoy SL74 and proceeded to join the Battle Force.<sup>294</sup>

In the meantime, other British forces that were unable to reach *Bismarck's* most probable track moved to cover its alternative possible movements. Two light cruisers (*Manchester* and *Birmingham*) of CS 18 patrolled within the Iceland–Faeroes passage, while another light cruiser of the same squadron (*Arethusa*) patrolled the Denmark Strait. *Victorious* and CS 2 were positioned to prevent the enemy from gaining access to the Iceland–Faeroes passage. If necessary, CS 2 would be detached to fuel at Hvalfjord. *Prince of Wales* was on the way to Hvalfjord and destroyers were directed to screen both *Prince of Wales* and CS 2.<sup>295</sup>

Flag Officer Commanding, North Atlantic was instructed to arrange air and submarine patrols to prevent passage of the Strait of Gibraltar. The battleship *Nelson* was recalled from Freetown to Gibraltar to reinforce the forces converging on *Bismarck*. The cruiser *London* was recalled from its search for the enemy tanker between the Azores and the Leewards and was directed to escort Convoy SL75, which was approaching the Bay of Biscay. *Suffolk* was sent to search in the Davis Strait (between Greenland and Canada's Baffin Island) for the enemy supply ships and tankers believed to be in the area and from which *Prinz Eugen* might refuel.<sup>296</sup>

The Admiralty's arrangement on May 25 provided for RAF commands to cooperate by conducting reconnaissance from Iceland and the Faeroes to and including the coast of Norway. Canadian aircraft conducted six-hundred-mile

searches from Newfoundland. One of the American air squadrons based in Newfoundland also took part in the searches.<sup>297</sup> Coastal Command established two patrols across *Bismarck's* probable track, from latitude 52° 19' 30" N to 48 degrees N, out to longitude 23° 30' W.<sup>298</sup>

### *Contact with Bismarck Restored*

Finally, at 1030 on May 26, *Bismarck* was detected some six hundred nautical miles west of Land's End, by a Catalina seaplane of Coastal Command based at Plymouth.<sup>299</sup> However, the Catalina lost contact because of anti-aircraft (AA) fire from *Bismarck*.<sup>300</sup> *Ark Royal* launched two long-range aircraft to search for *Bismarck*.<sup>301</sup> At 1114, an aircraft from *Ark Royal* reestablished contact with *Bismarck*. *Bismarck's* position was latitude 49° 20' N, longitude 20° 50' W, or forty miles from the position the Catalina had reported some forty-five minutes earlier.<sup>302</sup> After this point, *Bismarck* was kept under almost continuous surveillance for the rest of the day.<sup>303</sup> Visibility in the area was variable, the wind northwesterly at force 7–8.<sup>304</sup> *Bismarck* steered a southeasterly course at twenty-two knots. The distance between *Bismarck* and Tovey's Battle Force was too great to close unless *Bismarck's* speed could be reduced. This could be accomplished only by a torpedo attack by *Ark Royal's* aircraft. At 1052, the Admiralty directed Admiral Somerville not to have *Renown* engage unless *Bismarck* already was engaged heavily with *King George V* or *Rodney*.<sup>305</sup>

A major and increasingly critical problem for the Home Fleet was the fuel situation, especially regarding the battleships. *King George V* had only 1,200 tons of fuel remaining, or 38 percent. *Rodney* had to part company at 0800 on May 27. When these ships joined the Battle Force, they had to share the A/S screen provided by only three destroyers (*Somali*, *Tartar*, and *Mishona*)—and those destroyers had to leave that night for lack of fuel. The British suspected that there were several U-boats in the area. They also assumed that every available enemy destroyer and U-boat in western France would be ordered to sail out as well. The Admiralty warned Tovey to expect heavy air attacks.<sup>306</sup>

Tovey considered it essential to have fuel reserves sufficient to allow battleships to return to their home bases. After the loss of *Hood* and the damage inflicted on *Prince of Wales*, *King George V* was the only effective battleship in home waters. Tovey was not willing to expose *King George V* unscreened and sailing at low speed to almost certain attack by U-boats unless there was a good chance to achieve results that were commensurate with the risk. Tovey's decision was that unless *Bismarck's* speed was reduced, *King George V* would leave the pursuit at 2400 on May 26 and proceed to refuel.<sup>307</sup>

At 1115, *Bismarck* reported its position some six hundred nautical miles west of Brest. In the afternoon Lütjens was directed that if the bad weather in the Bay

of Biscay prevented him from proceeding to Saint-Nazaire he should steer toward Brest. Reichsmarschal Göring directed the Luftwaffe to make all efforts with the aircraft available to support *Bismarck's* return.<sup>308</sup>

At 1315, Somerville detached the cruiser *Sheffield*.<sup>309</sup> The Admiralty also directed Somerville not to engage *Bismarck* until other battleships arrived in the vicinity; Force H's *Renown* was no match for *Bismarck*.<sup>310</sup> In the afternoon, *Sheffield* obtained contact with *Bismarck*. The first aerial striking force from *Ark Royal* flew at about 1450.<sup>311</sup> *Sheffield* vectored the attack in.<sup>312</sup> The aircraft reached *Bismarck* at about 1550 and carried out their torpedo attack.<sup>313</sup> However, all the torpedoes missed their target.<sup>314</sup>

At 1630, an aircraft from *Ark Royal* reported *Bismarck's* position at latitude 47° 40' N, longitude 18° 15' W. *Bismarck* was steering a southeasterly course (120) at twenty-two knots. Somerville directed *Sheffield* to maintain contact with *Bismarck*, while he kept *Ark Royal* and *Renown* outside the effective range of *Bismarck's* heavy guns.<sup>315</sup>

In one message from Lütjens, the SKL learned that *Bismarck's* loss of fuel from its ongoing leak was more serious than hitherto believed. Naval Group Command West considered sending one supply ship (*Ermland*) during the night of May 26/27 to refuel *Bismarck*.<sup>316</sup> By the evening the situation was considered very serious, but the SKL expected that *Bismarck* would be able to defend itself against torpedo attacks and in the early morning would be within the effective range of Luftwaffe aircraft.<sup>317</sup>

Six U-boats were concentrated not far away from *Bismarck*; four had torpedoes, while two were without. At 1900, one U-boat (*U-48*) was directed to sail at highest speed toward *Sheffield*, yet it never established contact.<sup>318</sup> At 2000, one U-boat (*U-556*) obtained contact with a battleship of the *King George* class, and the carrier *Ark Royal* passed within effective range, but the U-boat had no torpedoes, and it lost contact.<sup>319</sup>

At 1910, fifteen Swordfish aircraft flew off from *Ark Royal*.<sup>320</sup> *Sheffield* directed them to *Bismarck*.<sup>321</sup> Weather conditions were bad: skies 7/10 covered by low rain clouds; winds force 6; seas rolling, with a northwesterly swell; and daylight fading.<sup>322</sup> The first wave of aircraft attacked at 2053.<sup>323</sup> The British attack was not synchronized, spreading over thirty-eight minutes, and only two of thirteen torpedoes fired scored a hit. One torpedo hit the armor belt and had little effect. But the second torpedo sealed *Bismarck's* fate: it damaged the ship's propellers, wrecked its steering gear, and jammed its rudders.<sup>324</sup> This severely affected *Bismarck's* ability to maneuver, and therefore to continue sailing toward a French port.<sup>325</sup> The German AA fire was intense and accurate; *Bismarck's* AA guns shot down seven British aircraft.<sup>326</sup>

The Germans intercepted many of the British radio messages to the destroyers and Force H.<sup>327</sup> Observation and radio intercepts indicated that *Bismarck* was surrounded by at least three, possibly four, battleships; the carrier *Ark Royal*; two heavy cruisers; one light cruiser, and possibly a second; and the 4th Destroyer Flotilla, with many modern destroyers.<sup>328</sup> This spelled a situation that was hopeless for *Bismarck*. It was also tragic, because, except for being unable to maneuver, the ship retained its full striking power.<sup>329</sup> At that time, *Bismarck* was only four hundred nautical miles from Brest, but enemy forces in the vicinity made it impossible to bring tankers to refuel.<sup>330</sup> Very bad weather prevented the Germans from using their destroyers or bringing out tugs to take *Bismarck* in tow. *Scharnhorst* and *Gneisenau* were undergoing repairs. *Bismarck*'s only support would come from the Luftwaffe and the U-boats operating in the Bay of Biscay.<sup>331</sup>

Admiral Tovey decided to detach from the Battle Force all five destroyers of the 4th Destroyer Flotilla. They were directed to shadow and attack *Bismarck*. Their reports to Tovey throughout the night were invaluable. Tovey requested that Force H, with *Ark Royal* and *Renown*, withdraw southward to clear the way for his battleships to close with *Bismarck* in the morning. The heavy cruiser *Norfolk* also arrived in the area.<sup>332</sup>

At about midnight, Lütjens sent a message to Naval Group Command West: "Ship is able to defend itself and propulsion plant intact. Does not respond to steering with engines, however."<sup>333</sup> The weather conditions were unfavorable. The horizon was clear from northwest to northeast, but other sectors experienced rainstorms and poor visibility. *Bismarck* made frequent changes of course between southwest and northeast. Its speed was only ten to twelve knots.<sup>334</sup> Between 0122 and 0146 on May 27, three British destroyers (*Cossack*, *Zulu*, and *Maori*) carried out torpedo attacks on *Bismarck*. Each destroyer achieved one hit.<sup>335</sup> *Bismarck*'s speed was reduced to only eight knots and its movements became even more erratic. Yet *Bismarck* still was able to deliver heavy and accurate fire.<sup>336</sup>

At 2400, Lütjens sent a message to Hitler: "We fight to the last in our belief in you, my Führer, and in unshakable confidence in Germany's victory." At the same time he also sent a message to Naval High Command and Naval Group Command West: "Unable to maneuver. We fight until the last grenade. Long live the Führer." At 0153, Hitler sent a message to Lütjens: "Thank you in the name of the entire German people." He also addressed *Bismarck*'s crew: "All of Germany is with you. What can still be done will be done."<sup>337</sup>

At 0542, Naval Group Command West informed Lütjens that two FW-200s had taken off at 0330 to conduct reconnaissance from 0445 to 0515, with another three bomber groups taking off at 0530.<sup>338</sup> This was despite the fact that the weather was highly unfavorable for air operations.<sup>339</sup> Some German aircraft

established contact with enemy cruisers and destroyers, but their effect on the *Bismarck* situation was negligible.<sup>340</sup>

At 0835, Naval Group Command West informed Lütjens that at about 1100 on May 27, the Spanish cruiser *Canarias* and two destroyers would leave El Ferrol en route to *Bismarck*'s position, to be available to render assistance. They would proceed at twenty to twenty-two knots.<sup>341</sup>

### *The End*

In the morning on May 27, weather conditions were winds northwesterly at force 8, skies overcast, rainsqualls, and visibility of thirteen miles or so. Sunrise was at 0702.<sup>342</sup> *Bismarck* sailed on course 330 at ten knots (see map 2). At 0755, Tovey's force had the enemy on bearing 120 at twenty-one miles. Tovey directed a course change to the east (080) to close with *Bismarck*.<sup>343</sup> At 0900, *King George V* and *Rodney* turned to a southerly course (170) and opened fire with their main guns. By 0930, *Bismarck* was on fire and virtually out of control; however, its speed was not reduced, and its main guns still were firing. It also used its secondary armament.<sup>344</sup> At 0954, *Norfolk* joined the action. All three ships fired independently at ranges as short as 3,300 yards. By 1000, *Bismarck*'s main guns were out of action, and ten minutes later the secondary guns stopped firing. *Bismarck* was now a wreck, on fire fore and aft and wallowing heavily.<sup>345</sup> Tovey ordered a stop to the action, and all firing ceased at 1022. The cruiser *Dorsetshire* (which had left Convoy SL74) had just arrived at the scene of the action.<sup>346</sup> Tovey ordered *Dorsetshire* to close in to finish off *Bismarck* by torpedoing. So perhaps it was *Dorsetshire*'s torpedoes that sank *Bismarck*, although German sources maintain that the ship was sunk by activating scuttling charges.<sup>347</sup> *Bismarck* sank at 1037, at latitude 48° 10' N, longitude 16° 12' W. Its colors still flew.<sup>348</sup>

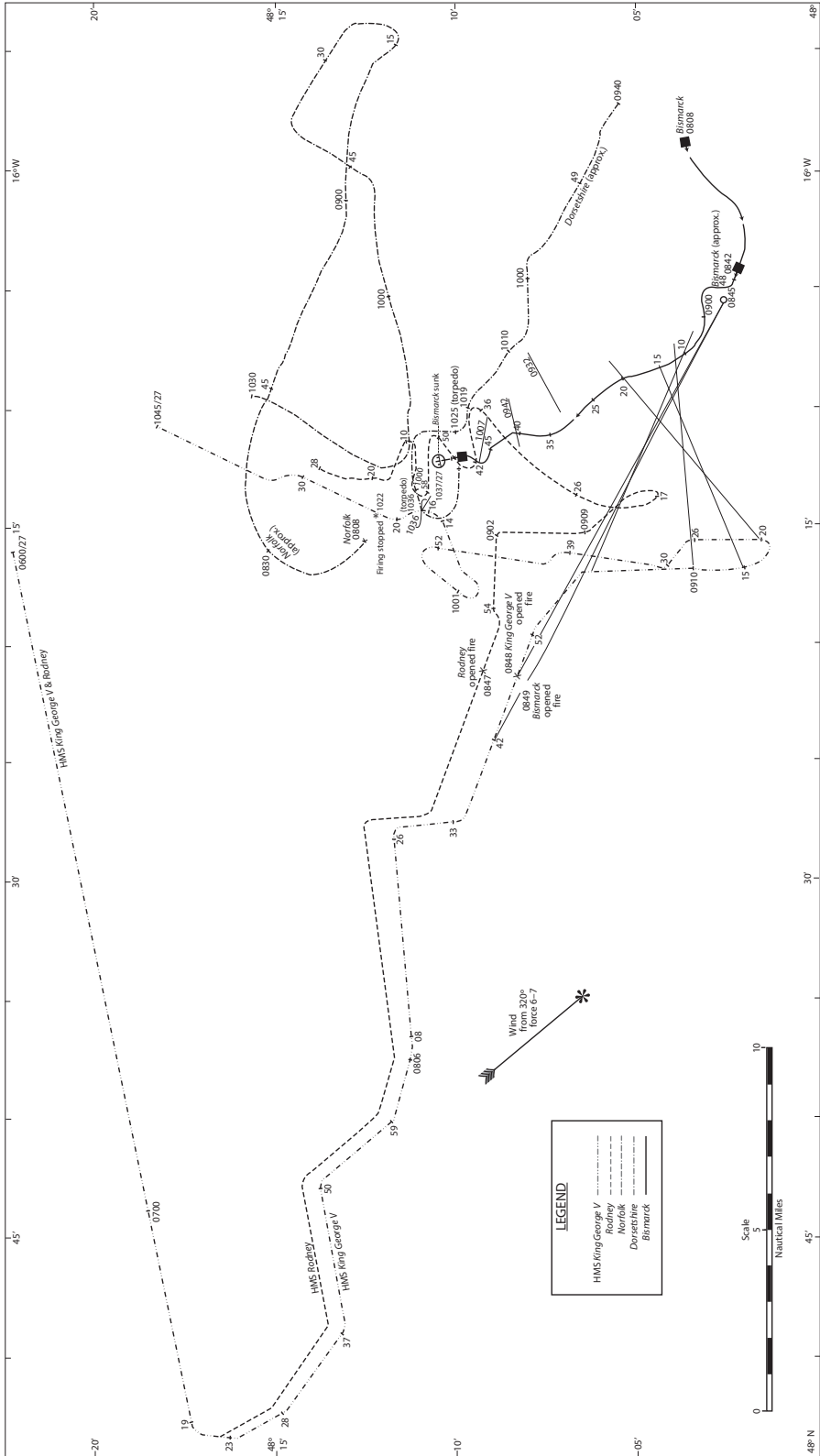
Out of 2,200 men aboard the ship, only 115 were saved.<sup>349</sup> The cruiser *Dorsetshire* took aboard eighty-five survivors and the destroyer *Maori* twenty-five. Then the British ships stopped their efforts because of their concern that U-boats were in the vicinity. *U-74* saved three men and one weather steamer (*Sachsenwald*) picked up two men on May 28.<sup>350</sup>

*Bismarck* showed a remarkable resilience. Out of seventy-one torpedoes fired, at least eight, if not twelve, hit the ship.<sup>351</sup> The number of hits by 16-inch shells is unknown, but must have been very large. World War I had demonstrated the Germans' ability to build tremendously stout ships, and apparently they had not lost it during the interwar years.<sup>352</sup>

### *Withdrawal of the Home Fleet*

The ships of the Home Fleet returned to their bases in northern Scotland. *King George V* and *Rodney*, with three destroyers (*Cossack*, *Sikh*, and *Zulu*), proceeded northward. *Dorsetshire* and *Maori* rejoined them at 1230 on May 27, and nine

**MAP 2  
FINAL ATTACK ON BISMARCK, MAY 27, 1941**





other destroyers rejoined at 1600 on May 28. They received several signals warning of heavy enemy attacks on that day, but only four enemy aircraft appeared. However, at 1200 on the 28th, one hundred miles to the south, destroyers *Mishona* and *Tartar* suffered heavy attacks, and *Mishona* was sunk. *Rodney*, screened by *Maori*, and *Columbia* were detached to the Clyde at 1700 on May 28. *Dorsetshire* was detached to the Tyne at 2316. Fog delayed the battleships, but they entered Loch Ewe eventually, at 1230 on May 29.<sup>353</sup>

In his after-action report, Tovey wrote: "She [*Bismarck*] had put up a most gallant fight against impossible odds, worthy of the old days of the Imperial German Navy." He opined that it was unfortunate that "for political reasons" this fact could not be made public.<sup>354</sup> Tovey praised the cooperation, skill, and understanding that all forces had displayed during the prolonged chase of *Bismarck*; flag officers and commanding officers invariably acted as "I would have wished before and without receiving instructions from me."<sup>355</sup> The Admiralty exercised excellent strategic control. The coordination of the movements and actions of the many disparate forces across a large part of the northern Atlantic was superb. Admiral Tovey wrote that "the accuracy of information supplied by the Admiralty and the speed with which it was passed were remarkable, and the balance struck between information and instructions passed to the forces out of visual touch with me was ideal."<sup>356</sup>

The failure of RHEINÜBUNG and the sinking of *Bismarck* had a major effect on the future employment of German heavy surface combatants against British and Allied shipping in the North Atlantic. Admiral Raeder wrote later that prior to May 27, 1941, he had considerable freedom of action in determining the employment of heavy surface ships, as long as there were no negative effects on the actions of other services of the Wehrmacht. But because of the loss of *Bismarck*, Hitler in his subsequent instructions greatly limited that freedom. Among other things, he prohibited the sending of heavy ships to conduct commerce warfare in the Atlantic, and the Kriegsmarine attempted no such operations for the remainder of the war.<sup>357</sup>

## CONCLUSION AND OPERATIONAL LESSONS LEARNED

The main reasons for the failure of RHEINÜBUNG were as follows: the German surface ships' base of operations was extremely unfavorable in multiple ways; the plan was overly reliant on the ships breaking out into the North Atlantic undetected; and—perhaps most important—air reconnaissance was inadequate, and the ships were operating beyond the effective range of Luftwaffe aircraft.

The deployment and combat employment of the forces opposing RHEINÜBUNG took place over the vast space of the North Atlantic. The harsh weather conditions significantly affected the employment of surface ships and aircraft

and the effectiveness of their weapons and sensors. Bad weather in the Denmark Strait favored the Germans because it greatly enhanced the chances of an undetected breakout into the North Atlantic.

The German surface ships and aircraft operated from a very long and fragmented base of operations. Gaining access from the Arctic to the open waters of the North Atlantic was extremely difficult. The British not only controlled Iceland and all three passages to the Atlantic but also kept under surveillance the southern part of the Arctic and southern Norway. Any German attempt to breakout to the North Atlantic was inherently a high-risk endeavor. Although the Germans were well aware that British monitoring of the northern passages had improved steadily over the course of 1941, they apparently were overconfident in their ability to use bad weather to make an unobserved breakout through the Denmark Strait.

*Success in a war at sea is difficult and sometimes impossible to achieve without favorable positions for basing one's naval forces and aircraft. Disadvantages of geography can be reduced but not eliminated by having highly capable ships and aircraft. One of the key responsibilities of operational commanders and their staffs is to evaluate realistically all aspects of the operating areas. In planning a major naval/joint operation, it is critical to maximize the advantages and minimize the disadvantages of one's base of operations.*

Both the Kriegsmarine and the Royal Navy were highly centralized organizations. Admiral Raeder was generally reluctant to allow full freedom of action to subordinate operational commanders. The operational, and in many cases the tactical, organization of the Kriegsmarine underwent frequent—and sometimes unnecessary—changes. The establishment of naval group commands did not simplify but instead considerably complicated the C2 of German seagoing forces. Naval group commands should not have been entrusted with operational command of fleet forces. Raeder made an unsound organizational decision by directing Lütjens, a four-star admiral, to command a single combat group at sea; by doing so, Lütjens became subordinate in some matters to a junior admiral (Saalwächter, the commander of Naval Group Command West). Perhaps such a decision would have been appropriate if the entire operation had been carried out using four battleships, as originally envisaged. The Kriegsmarine failed to move the fleet headquarters ashore. If that had been done, the fleet commander would have been a supported commander, while the naval groups' commanders would have been supporting commanders.

In the Royal Navy, the Admiralty exercised strategic, and in some cases operational, control over all seagoing forces and shore commands. It also often usurped the responsibilities of subordinate commanders by making purely tactical decisions. The Home Fleet was the largest and most important seagoing force in

home waters. Like the Kriegsmarine's Fleet Command, the Home Fleet consisted of several type commands. Each of these was responsible for both administration and operations. In combat, it is far more flexible and effective to organize diverse forces into task forces/groups subordinate directly to the respective fleet commanders. Type commanders should be responsible solely for combat training and administration.

*A major factor in the successful outcome of a major naval/joint operation is sound operational command organization. Optimally, unity of effort should be based on unity of command. A single operational commander should have full authority over and responsibility for subordinate tactical forces. Such authority should not be shared among two or more commanders. Prior to the planning process, higher authority should designate a single supported commander. All other commanders should support the supported operational commander fully.*

Both British and German operational and tactical intelligence relied primarily on information obtained via air reconnaissance. Especially useful was photoreconnaissance. At this time the British ability to penetrate and read the German Enigma messages was not as effective as it would be later in the war. In contrast, the German B-Dienst seems to have been highly effective in decrypting British radio messages. One of the German advantages was that B-Dienst teams embarked in major surface combatants, and they usually were very quick in decrypting enemy messages. The major advantage the British enjoyed over the Germans was their establishment of a highly effective network of agents in Norway and other Scandinavian countries; perhaps the most effective of these was the British naval attaché in Stockholm and his helpers within the Swedish secret service.

*Operational intelligence is one of the key elements for preparing sound plans for a major naval/joint operation. It combines strategic and tactical intelligence. Operational intelligence should be based on information collected from diverse sources. Human intelligence is a critical and irreplaceable source for obtaining an accurate, timely, and relevant operational picture of the situation.*

German naval operational planning was methodical and thorough. Normally, plans for a major operation were based on a relatively large number of staff studies and critical comments on these studies by the SKL and naval group commanders. The SKL and naval group commanders usually would issue broad instructions, while tactical commanders would draft operations orders for subordinate commanders. The SKL's objective was to employ the Kriegsmarine's heavy surface forces and auxiliary cruisers to complement the U-boats in their war on the British transatlantic convoys. Raeder's intent was to weaken British naval strength in either home waters or the Mediterranean, and either to increase convoy defenses or to reduce the number of convoys.

For the Germans, an almost insurmountable problem was their numerical inferiority in surface forces and a lack of adequate and reliable air support. Hence, the loss of any major surface combatant such as a battleship would have a much greater negative effect than such a loss would have on the Royal Navy. For all the high quality of its staff studies and the solid planning it conducted, the SKL made some very unrealistic assumptions about the effect that employment of battleships would have on the naval situation in the North Atlantic. Perhaps the single most important reason they were unrealistic was geography. Even if the Germans incrementally had achieved sea control in the North Atlantic, they were not in a position to maintain that control for any length of time; both the Kriegsmarine and the Luftwaffe lacked sufficient strength and favorable bases of operations to control such a vast area of ocean.

*Sea control cannot be achieved by focusing on destroying the enemy forces defending convoys. Doing so invariably will result in a protracted war of attrition. Sea control is accomplished primarily by destroying a major part of the enemy forces in a major naval/joint operation in the initial phase of the war at sea. The obtaining of sea control aims at accomplishing an operational or strategic objective; however, consolidating one's operational/strategic success by maintaining sea control also is critical—otherwise the fruits of victory will be lost.*

There is no doubt that the decision Raeder faced—whether to employ the *Bismarck* combat group by itself in a new major operation against enemy convoys in the Atlantic—was a difficult one. The original intent—employing four battleships—probably had a much greater chance of success. Another good option would have been to delay the operation until *Tirpitz*, at least, was fully operational. The employment of both *Bismarck* and *Tirpitz* jointly would have compounded greatly the British problem in terms of preventing their breakouts and their subsequent attacks on the transatlantic convoys. In using the *Bismarck* group alone, Raeder took a high—and imprudent—risk. Everything depended on the *Bismarck* group breaking out undetected; otherwise, it was reasonable to expect (and not just in retrospect) that the British would make an all-out effort to destroy the *Bismarck* group. Even if *Bismarck* successfully avoided detection and subsequently attacked the convoys, it was almost certain the British would do everything possible to prevent its return either through the Denmark Strait or into a French port in the Bay of Biscay. Raeder's concept of employing heavy cruisers and auxiliary cruisers to attack enemy ocean shipping was essentially sound; however, battleships—especially those of the *Bismarck* class—were another matter. The risk involved in employing such major surface combatants beyond the effective range of Luftwaffe aircraft was simply too great, and hence unacceptable. The Germans were well aware of the air threat to their surface

ships, yet apparently their faith in their ability to break them out into the North Atlantic undetected was too strong.

The operational deployment of the *Bismarck* group from Gotenhafen to Korsfjord, Bergen, proceeded uneventfully. But after the Admiralty and Home Fleet received information from the naval attaché in Stockholm about the passage of the *Bismarck* group through the Great Belt, they acted quickly. The cruise patrol in the Denmark Strait was strengthened. A part of the Home Fleet then in Scapa Flow was put into a state of increased combat readiness. Air reconnaissance of the Norwegian ports and Arctic waters was intensified. Admiral Tovey properly evaluated the situation and made sound decisions for the subsequent disposition of his forces. Prior to the encounter in the Denmark Strait, Tovey's dispositions of the Battle Force and cruiser patrols covered all three northern passages, while keeping his Battle Force centrally positioned and able to intervene in a timely fashion toward the west or east.

The Germans suspected that British agents had sighted the movement of the *Bismarck* group, but Admiral Lütjens made no major changes to his plans despite his suspicions. Perhaps the chances of a successful breakout into the North Atlantic would have been greater if the *Bismarck* group had sailed to Trondheim instead of Korsfjord, and had remained there for several weeks. This would have kept the British in suspense about the direction and timing of the group's next movement.

Tactically, Lütjens handled the *Bismarck* group much better than his counterpart, Admiral Holland, handled his forces. The gunnery of both *Bismarck* and *Prinz Eugen* was superior to that of the British ships. Holland made a mistake in detaching his destroyers prior to the encounter, thereby missing the opportunity to use them for a torpedo attack on the *Bismarck* group. Lütjens made a sound tactical decision in not pursuing the damaged *Prince of Wales*; his main mission was to attack enemy convoys, not to engage enemy heavy surface ships. *Bismarck* had suffered damages in the encounter with *Prince of Wales* and their extent was not precisely known at the time he had to make his decision. Reengaging *Prince of Wales* might well have resulted in additional damage to *Bismarck*.

Why Admiral Lütjens decided on the morning of May 24 to steer for Saint-Nazaire instead of turning north and heading for Trondheim or Bergen is not known. He probably had good reason to believe that it would be possible to break away from his pursuers and make a westward swing into the open spaces of the North Atlantic. Yet he was well aware that once his group was discovered the British would make an all-out effort to destroy it. He also was much concerned with the threat that enemy carrier-borne torpedo planes posed. At the same time, the *Bismarck* group would operate well beyond the effective range of Luftwaffe bombers. In retrospect, it seems that after the encounter with BCS 1 the sound

decision would have been to withdraw back through the Denmark Strait. If Lütjens had made the decision to do so quickly, he would have had a very good chance of not encountering enemy heavy forces on his way to Trondheim or Bergen. In addition, the *Bismarck* group would have reached the protective cover of Luftwaffe aircraft much sooner than on the route to Saint-Nazaire.

The British cruisers' masterful use of their search radars made it impossible for the Germans to shake off their pursuers. This was a major reason the Admiralty and Admiral Tovey eventually were able to concentrate an overwhelming force against *Bismarck*. The Admiralty took a high but prudent risk in detaching so many ships from convoy duty to take part in the pursuit. In the final phase of the operation, *Bismarck's* chances diminished steadily. Perhaps if *Bismarck* had not unluckily received the torpedo hit that disabled its rudder there would have been some chance for the ship to reach the safety of a French port. Whether that would have allowed *Bismarck* to survive is a question no one can answer for certain.

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20. Bernd Stegeman, “Die zweite Phase der Seekriegführung bis zum Frühjahr 1941,” in *Das Deutsche Reich und der Zweite Weltkrieg*, ed. Klaus A. Maier et al., vol. 2, *Die Errichtung der Hegemonie auf dem europäischen Kontinent* (Stuttgart, F.R.G.: Deutsche Verlags-Anstalt, 1979), p. 345.
21. *Ibid.*, p. 348.
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28. Ruge, *Der Seekrieg*, p. 164.
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30. *Ibid.*, p. 358.
31. Assmann, *Deutsche Seestrategie in zwei Weltkriegen*, p. 145.
32. Stegeman, “Die zweite Phase der Seekriegführung,” p. 358.
33. *Ibid.*
34. Gerhard Bidlingmaier, *Einsatz der schweren Kriegsmarineeinheiten im ozeanischen Zufuhrkrieg: Strategische Konzeption und Führungsweise der Seekriegsleitung, September 1939–Februar 1942* (Neckargemünd, F.R.G.: Scharnhorst Buchkameradschaft, 1963), p. 156.
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37. Raeder, *Von 1935 bis Spandau 1955*, p. 258.
38. Assmann, *Deutsche Seestrategie in zwei Weltkriegen*, pp. 145–46.
39. U.S. Government, *Sailing Directions (Planning Guide): North Atlantic Ocean and Adjacent Seas*, Publication 140 (Springfield, VA: National Geospatial-Intelligence Agency, 2017) [hereafter Pub. 140], pp. 476–77.
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49. Schofield, *Loss of the Bismarck*, p. 16.
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63. Donald P. Steury, “Naval Intelligence, the Atlantic Campaign and the Sinking of the *Bismarck*: A Study in the Integration of Intelligence into the Conduct of Naval Warfare,” in “Intelligence Services during the Second World War,” special issue, *Journal of Contemporary History* 22, no. 2 (April 1987), pp. 211–12.
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91. *Ibid.*, p. 5.
92. Schofield, *Loss of the Bismarck*, p. 12.
93. Bercuson and Herwig, *The Destruction of the Bismarck*, p. 43.
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95. "Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg in Atlantik," June 2, 1941, in *Rheinübung-Bismarck Operation*, Band 2, Heft 4, Erfahrungen und Schlussberichte, Mai 1941–November 1941, RM 7/1701, BA-MA, p. 1.
96. Vortrag Ob. d. M. beim Führer am 20. April 1941, 1. SKL, Teil C VII, Überlegungen des Chefs der SKL und Niederschriften über Vorträge und Besprechungen beim Führer, Januar 1941–Dezember 1941, RM 7/182, BA-MA, p. 2.
97. This zone was established in October 1939; originally it varied in width from three hundred to one thousand nautical miles. On April 18, 1941, President Franklin D. Roosevelt extended the zone to longitude 26 degrees W (2,300 nautical miles east of New York, and only fifty nautical miles off Iceland). *Ibid.*, p. 3.
98. Raeder, *Von 1935 bis Spandau 1955*, p. 268.
99. Vortrag Ob. d. M. beim Führer am 20. April 1941, p. 3. Organisation Todt was a civil and military engineering/construction group in Nazi Germany. It was named after Fritz Todt (1891–1942), its founder and leader.
100. Vortrag Flottenchef bei Ob.d.M., April 26, 1941, in *Rheinübung-Bismarck Operation*, Band 1, Heft 1, Vorbereitende Weisungen und Operationsbefehle, März 1941–Mai 1941, RM 7/1700, BA-MA, p. 141.
101. The term *new moon* refers to the phase of the moon when it is in conjunction with the sun and therefore invisible from Earth, or shortly thereafter when it appears as only a slender crescent.
102. Vortrag Flottenchef bei Ob.d.M., April 26, 1941, pp. 141–42.
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104. Cited in Burkard von Müllenheim-Rechberg, *Battleship Bismarck: A Survivor's Story* (Annapolis, MD: Naval Institute Press, 1990), p. 61.
105. "Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg in Atlantik," p. 3.
106. Ob.d.M. to Flottenkommando, Operative Weisung für Flottenkommando zum Einsatz des Schlachtschiffes *Bismarck* und des Kreuzers *Prinz Eugen* im Atlantik (Deckname RHEINÜBUNG), April 14, 1941, in *Rheinübung-Bismarck Operation*, Band 1, Heft 1, Vorbereitende Weisungen und Operationsbefehle, März 1941–Mai 1941, RM 7/1700, BA-MA, p. 1.

107. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," 1. SKL, Teil C VII, Überlegungen des Chefs der SKL und Niederschriften über Vorträge und Besprechungen beim Führer, Januar 1941–Dezember 1941, RM 7/182, BA-MA, p. 133; "Anlage 1: Allgemeiner Befehl für die Atlantikunternehmung," Operationsbefehl des Flottenchefs für die Atlantikoperation mit *Bismarck* und *Prinz Eugen* (Deckname RHEINÜBUNG), April 22, 1941, 1. SKL, Teil C I Ib, Westraum-Atlantikküste-Flottenoperationen, Januar 1941–Dezember 1941, RM 7/132, BA-MA, p. 6.
108. Flottenkommando, Operationsbefehl des Flottenchefs für die Atlantikoperation mit *Bismarck* und *Prinz Eugen* (Deckname RHEINÜBUNG), April 22, 1941, 1. SKL, Teil C I Ib, Westraum-Atlantikküste-Flottenoperationen, Januar 1941–Dezember 1941, RM 7/132, BA-MA, p. 2.
109. "Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg in Atlantik," p. 5.
110. Brennecke, *Schlachtschiff Bismarck*, pp. 67–68.
111. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," pp. 135–36.
112. Chambers presentation, p. 5.
113. Ob.d.M. to Flottenkommando, Operative Weisung für Flottenkommando zum Einsatz des Schlachtschiffes *Bismarck* und des Kreuzers *Prinz Eugen* im Atlantik (Deckname RHEINÜBUNG), p. 3.
114. *Ibid.*, pp. 4–5.
115. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 135.
116. Ob.d.M. to Flottenkommando, Operative Weisung für Flottenkommando zum Einsatz des Schlachtschiffes *Bismarck* und des Kreuzers *Prinz Eugen* im Atlantik (Deckname RHEINÜBUNG), p. 3.
117. Flottenkommando, Operationsbefehl des Flottenchefs für die Atlantikoperation mit *Bismarck* und *Prinz Eugen* (Deckname RHEINÜBUNG), p. 40.
118. Versorgungsschiffe für nächste Atlantikoperation, KTB, Teil C I Ib, Band 1, 20.1–23.12 1941, 1. SKL, Teil C I Ib, Westraum-Atlantikküste-Flottenoperationen, Januar 1941–Dezember 1941, RM 7/132, BA-MA, p. 36.
119. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 135.
120. Brennecke, *Schlachtschiff Bismarck*, p. 41.
121. Ob.d.M. to Flottenkommando, Operative Weisung für Flottenkommando zum Einsatz des Schlachtschiffes *Bismarck* und des Kreuzers *Prinz Eugen* im Atlantik (Deckname RHEINÜBUNG), p. 4.
122. Operationsbefehl des Flottenchefs für die Atlantikoperation mit *Bismarck* und *Prinz Eugen* (Deckname RHEINÜBUNG), April 22, 1941, in *Rheinübung-Bismarck* Operation, Band 1, Heft 1, Vorbereitende Weisungen und Operationsbefehle, März 1941–Mai 1941, RM 7/1700, BA-MA, p. 2.
123. Ob.d.M. to Flottenkommando, Operative Weisung für Flottenkommando zum Einsatz des Schlachtschiffes *Bismarck* und des Kreuzers *Prinz Eugen* im Atlantik (Deckname RHEINÜBUNG), pp. 4–5.
124. *Ibid.*, pp. 5–6.
125. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 133.
126. The literal translation of *Sperrbrecher* is "obstacle breaker." The mine breaker was a type of mine-defense ship that the Germans used in both world wars. It was a converted merchant ship filled with buoyant material and crewed by merchant seamen. It sailed through a minefield ahead of other ships to detonate mines in its path.
127. Operationsbefehl des Flottenchefs für die Atlantikoperation mit "Bismarck" und "Prinz Eugen" (Deckbezeichnung: "Rheinübung"), April 22, 1941, 1. SKL, Teil C I Ib, Westraum-Atlantikküste-Flottenoperationen, Januar 1941–Dezember 1941, RM 7/132, BA-MA, p. 41.
128. *Ibid.*
129. Operationsbefehl des Flottenchefs für die Atlantikoperation mit "Bismarck" und "Prinz Eugen" (Deckbezeichnung "Rheinübung"), April 22, 1941, in *Rheinübung-Bismarck* Operation, Band 1, Heft 1, Vorbereitende Weisungen und Operationsbefehle, März 1941–Mai 1941, RM 7/1700, BA-MA, pp. 2–3.

130. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 133.
131. Operative Weisung für Flottenkommando zum Einsatz des Schlachtschiffes "Bismarck" und des Kreuzers "Prinz Eugen" im Atlantik (Deckbezeichnung "Rheinübung"), April 14, 1941, in *Rheinübung-Bismarck Operation*, Band 1, Heft 1, Vorbereitende Weisungen und Operationsbefehle, März 1941–Mai 1941, RM 7/1700, BA-MA, p. 1.
132. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 134.
133. Bidlingmaier, *Einsatz der schweren Kriegsmarineeinheiten*, pp. 210–11.
134. Operative Weisung für Flottenkommando zum Einsatz des Schlachtschiffes "Bismarck" und des Kreuzers "Prinz Eugen" im Atlantik (Deckbezeichnung "Rheinübung"), p. 5.
135. "Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 2.
136. "Allgemeiner Befehl für die Atlantikunternehmung," Anlage 1 to Flottenkommando B.Nr. 100/41 A1 Chefs, Operationsbefehl des Flottenchefs für die Atlantikoperation mit "Bismarck" und "Prinz Eugen" (Deckbezeichnung: "Rheinübung"), April 22, 1941, 1. SKL, Teil C IIb, Westraum-Atlantikküste-Flottenoperationen, Januar 1941–Dezember 1941, RM 7/132, BA-MA, pp. 45–46.
137. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 133.
138. Operative Weisung für Flottenkommando zum Einsatz des Schlachtschiffes "Bismarck" und des Kreuzers "Prinz Eugen" im Atlantik (Deckbezeichnung "Rheinübung"), p. 6.
139. Bercuson and Herwig, *The Destruction of the Bismarck*, p. 60.
140. Brennecke, *Schlachtschiff Bismarck*, p. 58.
141. Ibid.
142. Bercuson and Herwig, *The Destruction of the Bismarck*, p. 60.
143. Brennecke, *Schlachtschiff Bismarck*, p. 47.
144. Cited in Herwig, "The Failure of German Sea Power," pp. 99–100.
145. Brennecke, *Schlachtschiff Bismarck*, p. 50.
146. Schofield, *Loss of the Bismarck*, p. 14.
147. Raeder, *Von 1935 bis Spandau 1955*, p. 268; Brennecke, *Schlachtschiff Bismarck*, p. 54.
148. "Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 6.
149. Beitrag vom 19.5–4.6. 1941 zum Kriegstagebuch Skl-Anlageheft 2/Skl/B/ (B.-Leitstelle), 2/Skl.b (3./Skl. B-Leitstelle), B-Dienst, 1. Januar 1941–31. Dezember 1941, RM 7/104, BA-MA, p. 74.
150. Oberkommando der Kriegsmarine, *Die Atlantikunternehmung der Kampfgruppe Bismarck-Prinz Eugen, Mai 1941*, p. 12.
151. Ibid.
152. Ibid.
153. B.-Bericht Nr. 20/41, May 23, 1941, 2./Skl B-Berichte (Funkaufklärung), Nr. 14/41–24/41, 11. April 1941–4. Juli 1941, RM 7/734, BA-MA, p. 3.
154. Bidlingmaier, *Einsatz der schweren Kriegsmarineeinheiten*, p. 208.
155. Ibid.
156. B.-Bericht Nr. 21/41, May 30, 1941, 2./Skl B-Berichte (Funkaufklärung), Nr. 14/41–24/41, 11. April 1941–4. Juli 1941, RM 7/734, BA-MA, p. 7.
157. "Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 8.
158. "Movements Leading to the Sinking of the *Bismarck* 21st to 27th May 1941," Pursuit and Destruction of German Battleship *Bismarck*, ADM 199/1188, The National Archives, Kew, United Kingdom [hereafter TNA], p. 59.
159. Bidlingmaier, *Einsatz der schweren Kriegsmarineeinheiten*, p. 207.
160. Co. N.W., War Diary, Home Commands, May 21, 1941, ADM 199/2227, TNA, p. 685; "Movements Leading to the Sinking of the *Bismarck*," p. 59.
161. Kennedy, *Pursuit*, p. 28.
162. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," p. 137.
163. Oberkommando der Kriegsmarine, *Die Atlantikunternehmung der Kampfgruppe Bismarck-Prinz Eugen, Mai 1941*, p. 13.
164. Kennedy, *Pursuit*, p. 31.

165. "Annex: Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg im Atlantik," pp. 136–37.
166. "Sinking of the German Battleship *Bismarck* on 27th May 1941," supplement, *London Gazette*, October 14, 1947, ADM 1/11782, TNA, p. 2.
167. "Report of Operations in Pursuit of the *Bismarck*," enclosure to Home Fleet Letter 659/H.F.1325, May 30, 1941, ADM 199/1178, TNA, p. 421.
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169. "Movements Leading to the Sinking of the *Bismarck*," p. 60.
170. "Report of Operations in Pursuit of the *Bismarck*," p. 421.
171. "Sinking of the German Battleship *Bismarck*," p. 2.
172. "Movements Leading to the Sinking of the *Bismarck*," p. 60.
173. "Sinking of the German Battleship *Bismarck*," p. 3.
174. "Movements Leading to the Sinking of the *Bismarck*," p. 60.
175. "Sinking of the German Battleship *Bismarck*," p. 1.
176. *Ibid.*, p. 3.
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178. Seekriegsleitung B.Nr. 1.Skl (I b) 885/41 op. Chefs, Annex "Unternehmung der Kampfgruppe 'Bismarck' zum Handelskrieg im Atlantik," 1. SKL, Teil C VII, Überlegungen des Chefs der SKL und Niederschriften über Vorträge und Besprechungen beim Führer, Januar 1941–Dezember 1941, RM 7/182, BA-MA, p. 138; Oberkommando der Kriegsmarine, *Die Atlantikunternehmung der Kampfgruppe Bismarck-Prinz Eugen, Mai 1941*, pp. 13–14.
179. Bidlingmaier, *Einsatz der schweren Kriegsmarineeinheiten*, p. 211.
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181. Bidlingmaier, *Einsatz der schweren Kriegsmarineeinheiten*, p. 211.
182. Oberkommando der Kriegsmarine, *Die Atlantikunternehmung der Kampfgruppe Bismarck-Prinz Eugen, Mai 1941*, p. 14.
183. War Diary, Home Commands, May 22, 1941, ADM 199/2227, TNA, p. 685.
184. "Sinking of the German Battleship *Bismarck*," pp. 2–3.
185. War Diary, Home Commands, May 22, 1941, p. 697.
186. "Report of Operations in Pursuit of the *Bismarck*," p. 423.
187. Episode notes for "Battle of the Denmark Straits and Sinking of the Battleship *Bismarck*," AIR 20/1329, TNA, p. 1907.
188. War Diary, Home Commands, May 22, 1941, p. 685.
189. "Unternehmung der Kampfgruppe *Bismarck* zum Handelskrieg in Atlantik," p. 11.
190. *Ibid.*, p. 12; Oberkommando der Kriegsmarine, *Die Atlantikunternehmung der Kampfgruppe Bismarck-Prinz Eugen, Mai 1941*, p. 14.
191. "Bemerkungen Unternehmung 'Bismarck' und Folgerungen," July 17, 1941, RM 7/825, BA-MA, p. 38.
192. Bidlingmaier, *Einsatz der schweren Kriegsmarineeinheiten*, p. 211.
193. "Sinking of the German Battleship *Bismarck*," p. 3.
194. "Battle of the Denmark Straits and Sinking of the Battleship *Bismarck*," p. 197.
195. "Sinking of the German Battleship *Bismarck*," p. 3.
196. *RDF* was the British term at the time for radar—not to be confused with *radio direction finding*. The United States coined the term *radar*, for radio detection and ranging, in 1940.
197. "Sinking of the German Battleship *Bismarck*," p. 3.
198. "Report of Operations in Pursuit of the *Bismarck*," p. 3/423. (Note: some documents in the British archives provide a page number for each individual document and another as part of the respective volume.)
199. "Sinking of the German Battleship *Bismarck*," p. 3.

200. Bidlingmaier, *Einsatz der schweren Kriegsmarineeinheiten*, p. 212.
201. Rheinübung-Bismarck Operation, Band 1, Heft 3, Laufende Meldungen und Befehle, RM 7/1700, BA-MA, p. 1; Oberkommando der Kriegsmarine, *Die Atlantikunternehmung der Kampfgruppe Bismarck-Prinz Eugen, Mai 1941*, p. 15.
202. Oberkommando der Kriegsmarine, *Die Atlantikunternehmung der Kampfgruppe Bismarck-Prinz Eugen, Mai 1941*, p. 15.
203. Ibid.
204. Heinz Bonatz, *Seekrieg im Äther: Die Leistungen der Marine-Funkaufklärung 1939–1945* (Herford, F.R.G.: E. S. Mittler & Sohn, 1981), p. 177.
205. Tom McGowen, *Sink the Bismarck: Germany's Super-battleship of World War II* (Brookfield, CT: Twenty-First Century Books, 1999), p. 19; Burkard von Müllenheim-Rechberg, *Battleship Bismarck: A Survivor's Story* (Annapolis, MD: Naval Institute Press, 1980), p. 98. Subsequent cites to *Battleship Bismarck* are to the 1980 edition.
206. Oberkommando der Kriegsmarine, *Die Atlantikunternehmung der Kampfgruppe Bismarck-Prinz Eugen, Mai 1941*, p. 15.
207. "Movements Leading to the Sinking of the *Bismarck*," p. 61.
208. Oberkommando der Kriegsmarine, *Die Atlantikunternehmung der Kampfgruppe Bismarck-Prinz Eugen, Mai 1941*, p. 15.
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210. Ibid., p. 6.
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## REVIEW ESSAYS

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### CLOSING THE “LIPPMANN GAP” AND THE FUTURE OF AMERICAN GRAND STRATEGY

Karl Walling

*American Grand Strategy in the Age of Trump*, by Hal Brands. Washington, DC: Brookings Institution, 2018. 256 pages. \$25.99 (paperback).

*Republic in Peril: American Empire and the Liberal Tradition*, by David Hendrickson. New York: Oxford Univ. Press, 2017. 304 pages. \$34.95.

These two books reach dramatically different conclusions, but both authors start from similar premises. David Hendrickson is deeply rooted in what one might call the Old Testament in American foreign policy: as the American founders established it, with a heavy emphasis on neutrality and nonintervention in foreign conflicts—that is, restraint. Hal Brands is no less rooted in what one might call the New Testament in American grand strategy: as practiced from the Cold

War to the present, and focused on preserving the post–World War II, American-led liberal international order, which he sees as dependent on continued American primacy.

Each man is troubled by heresy, so to speak, with Hendrickson fearful that the American people have come to worship the “golden calf of empire” and Brands worried that in the age of President Trump they will throw away all they built from the rubble of the Second World War. This quasi-religious terminology seems appropriate, because both Hendrickson and Brands understand

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that—whatever partisan differences Americans may have—American grand strategy depends on a consensus akin to what Abraham Lincoln called a “political religion” about what the strategy is for. Both authors agree on something fundamental, made famous at the dawn of the Cold War by the journalist Walter Lippmann: that the grand strategic dimension of foreign policy entails “bringing into balance, with a comfortable surplus of power in reserve, the nation’s commitments and the nation’s power” (Brands, p. 128; Hendrickson, pp. 172–75).

As Brands discusses the issue, there are three generic solutions to this problem: (1) “decrease commitments, thereby restoring equilibrium with diminished resources”; (2) “live with greater risk,” either by gambling that adversaries will not test vulnerable commitments or by employing riskier approaches, such as nuclear escalation or cyber warfare, to “sustain commitments on the cheap”; or (3) “expand capabilities and thereby restore strategic solvency” (Brands, p. 128). Moreover, both writers express some admiration for Richard Nixon and Henry Kissinger for attempting a grand strategic reassessment meant to correct American overextension by reducing some commitments and shifting some burdens to American allies during the Vietnam War (Brands, pp. 115, 118, 140; Hendrickson, pp. 175–80). The difference is that Hendrickson stresses reducing commitments, while Brands stresses increasing capabilities, to close what can be called the Lippmann Gap. In theory, either solution might work; but which is best?

That depends, in part, on how one understands what grand strategy is for. Hendrickson is emphatic: Americans have lost their way. Like an Old Testament prophet, he tries to recall us to the original covenant. Primacy, or empire, was never the ultimate purpose of the American republic. The purpose of the American regime is to secure republican liberty, not everywhere—however much one might wish well to those who seek it elsewhere—but at home, with the survival of liberty in America a beacon of hope to those other places. So Hendrickson stresses the primacy of domestic policy. All grand strategic decisions must be evaluated not merely in terms of how well they secure life and material prosperity but, ultimately, and most fundamentally, in terms of how well they secure liberty for ourselves and our posterity.

Like Brands, Hendrickson is aware that the pursuit of continued primacy, or the ability to dominate in any conflict, has animated the grand strategic visions of every American president since the end of the George H. W. Bush administration. Both agree that there is far more continuity than change in this pursuit; usually disagreements occur over different emphases. These include soft versus hard power; with allied support or not; and through forward presence in Europe, Asia, and the Middle East, at the risk of encouraging free riders, or by some light footprint meant to limit American liability and avoid local and international

blowback. For Hendrickson, however, the primary issue is how well these approaches serve liberty at home and American principles of liberty abroad.

Hendrickson is damning in his critique of primacy as a threat to just about everything the American republic is meant to stand for. Empires tend to need emperors—which leads to imperial presidencies. Since September 11, 2001, presidents have used the original authorization to use military force against Al Qaeda to justify interventions, well, almost everywhere in Northeast Asia, the Middle East, and Africa, and Congress has failed to provide a serious check. And the increasing growth of the national security state—what Dwight D. Eisenhower, who was no liberal, called the military-industrial complex—constitutes an enormous transfer of power to unaccountable elites. Drunk on the ideology of spreading democracy everywhere, Americans, as John Quincy Adams long ago warned might happen, have gone abroad in search of monsters to destroy but have become monsters themselves, wreaking havoc with unnecessary wars and creating anarchy in Libya and Iraq in the name of regime change.

So Hendrickson advocates restraint, although it looks a lot like retrenchment. Fearful of aggravating conflict further, he suggests that American grand strategy focus on avoiding giving unnecessary offense. It would be prudent, he thinks, for the United States to adopt a policy of self-limitation—which others might see as accepting spheres of influence, for Russia and China especially. War with a resurgent Russia and a rising China would be less likely if the United States changed its policy, and also its strategy. Forward deployments of American military forces give unnecessary offense and should be minimized. Maritime strategies to fight anywhere near the coast of China are unduly provocative and probably doomed to fail, while attritional strategies on the high seas have better odds of success. Consistent with the Nixon Doctrine, the United States should shift the burden of defense and deterrence as much as possible onto regional allies, and hold its forces in reserve until required. Hendrickson's approach, by limiting American reach, might prevent strategic overextension, which he sees in political more than military or economic terms. The more the United States acts like an empire, the greater the threat to the republic, so restraint is essential to the true purposes of an *American* grand strategy.

Not so fast, says Brands, to all advocates of restraint today. Yes, the Iraq War was almost certainly a mistake, but the New Testament in American grand strategy has accomplished unprecedented good. The American-led liberal international order has prevented great-power war—the greatest killer in history—since 1945; that is, for over seventy years. In Europe and Asia especially, this has produced a security community with a degree of wealth and liberty almost unimaginable a hundred years ago. It is based on two premises: the reality of security, economic,

and other forms of interdependence; and the continuing indispensability of the United States as the hegemon (not to be confused with emperor) of a voluntary and usually cooperative network of alliances, in Europe and Asia especially, and more problematically in the Middle East.

Of course, Hendrickson, like many other advocates of restraint, does not want to throw this extraordinary accomplishment away; he supports preserving the American network of regional alliances, but at the lowest possible level of cost, risk, and effort, to minimize the dangers the national security state might pose to liberty at home. In contrast, Brands warns against attempting to hold the liberal international order together on the cheap. Prudence requires understanding that as Americans retrench, allies may not pick up the slack, or even might “bandwagon” over to the side of challengers. And Brands is at his best critiquing theories of offshore balancing and limited liability as ways of closing the Lippmann Gap. Maybe retrenchment might lower short-term costs, but it also might increase the risks that other powers will fill a vacuum, which would lead to higher costs later if Americans decided to reintervene, as they did in Iraq after the rise of ISIS. Costs might be lower with a sustained, minimal presence in theaters deemed strategically vital to the United States—but only maybe. So Brands is unapologetic in insisting that the best grand strategy for our time is to increase capabilities substantially—on the level of the increase of the Carter and Reagan administrations, that is, by 50 percent, although he insists this would amount to no more than 4 percent of gross domestic product (GDP), much lower than during the hottest periods of the Cold War. So, ironically, he too seems to think there are cheap solutions to America’s grand strategic problems.

In truth, both Hendrickson and Brands are living in semi-ideal worlds. Even in the age of President Trump, the option of Lippmann’s that Americans are most likely to pick—deliberately or through inertia—is the one about which neither Hendrickson nor Brands talks much: accepting higher risk. Americans do not yet wish to downgrade commitments to the level Hendrickson advises, nor to pay the cost of increased capabilities at the level Brands advocates. This is obviously a dangerous predicament, but not unlike those of the Cold War, when, to cut costs, Americans accepted greater risks by threatening massive nuclear retaliation and the escalation that might ensue.

But, as Clausewitz teaches, strategy, even grand strategy, is about the imaginative search for options, and then selecting the best, according to such criteria as cost, risk, theory of victory, and probability of success. Brands is so much a part of the New Testament orthodoxy, and so fearful of the heresies of the 2016 election and its aftermath, that he says nothing—absolutely nothing—about the dangers to the American republic arising from the quest for primacy. And Brands is too

facile on the subject of “democracy promotion” as an end of American grand strategy. As a student of John Quincy Adams, Hendrickson is all too aware that this can lead, and often has led, to a form of democratic imperialism incompatible with American principles, rightly understood. Yes, the Old Testament is old, but it is not “overcome by events.” It is still worth reading precisely because it calls us back to first principles.

Are there any other grand strategic options? Of course. One such might split the profound difference between Hendrickson and Brands. It would accept the necessity of primacy, but not at all times and all places against everyone—a recipe for strategic overextension and moral decline, with the United States risking emulating the Roman Republic in becoming a new Roman Empire. It would suffice for the United States to be *primus inter pares* (first among equals) within the liberal order, which it built, not altruistically, but to serve American security and principles. Limited primacy—to lead a coalition, not to dominate the globe—might preserve the liberal international order, so long as burdens are adjusted more equitably.

Hard military power is largely a function of economic power. Today, the United States produces 24 percent of global GDP; the European Union 23 percent; Japan 4.1 percent; and South Korea 1.8 percent—the latter the same as resurgent Russia’s! China has 18.5 percent, and its share is growing; but, given its demographics and other problems, how long that will remain true is unclear. Throw in some other possible allies, such as India or Vietnam, and the United States and its current allies—sometimes called the West, even when some reside in the East—are still in the catbird seat.

These countries just have to work together as members of a team—a questionable proposition in current political circumstances, but not inconsistent with practice since the end of the Second World War. It just requires the United States to lead, rather than divide, its own team.

## SEA POWER DOES EUROPE STILL GET IT?

*Martin N. Murphy*

*The Decline of European Naval Forces: Challenges to Sea Power in an Age of Fiscal Austerity and Political Uncertainty*, by Jeremy Stöhs. Annapolis, MD: Naval Institute Press, 2018. 290 pages. \$36.95.

This is a lucid *tour d'horizon* of a dispiriting subject: Europe's navies. With the partial exceptions of the British and French navies, and the peculiar exceptions of Norway and Sweden—which exist under the dark shadow of Russia—all other European navies have suffered from deliberate neglect, wishful thinking, and poor decision-making. Furthermore, they appear to view the world as Europe's politicians want it to be rather than as it is.

Underpinning all this credulity is the assumption that America will ride to Europe's rescue; most of Europe's navies could not operate without at least some degree of U.S. support. President Donald J. Trump's harsh warning that North Atlantic Treaty Organization (NATO) allies—Germany especially—need to increase their defense spending should be repeated regularly until they do. They should not see the U.S. Defense Department's recent actions—deliberations about whether to maintain a carrier regularly in the Mediterranean to counter an increasingly assertive Russian naval presence in the region and the announcement from the Chief of Naval Operations that the Second Fleet will be reestablished because of the marked rise in Russian submarine activity in the North Atlantic—as excuses to believe that things have returned to some faux-Cold War normal and they once again can shelter under a U.S. umbrella.

To be sure, Russia is breathing down Europe's neck, but it is China that presents the real danger. The world's seas are gaining importance: for trade, fish, energy, minerals, and, of course, great-power confrontation. Key to all these is sea control underpinned, from a Western perspective, by a freedom of the seas that China is seeking to deny to others except on its own terms. The front line lies in the waters around Taiwan, stretching down into the South China Sea and slowly extending into the eastern Indian Ocean.

So far, the only state standing in China's way is the United States, with Japan in support. The United States already is concentrating its forces in the Indo-Pacific theater and making it clear that it is looking to other states to join it and

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internationalize the pushback against the fundamental threat that China presents to the existing global maritime order. Europe's problem, in other words, is that not only is the United States largely leaving Europe to fend for itself in its own waters, but it is expecting its allies to join the only fight that counts (pp. 18–19, 23, 27).

Britain and France alone are taking steps to support the United States and Japan. However, the help they can provide is largely moral, given the damage that a quarter century of cuts has imposed on their fleets and absent a substantial recommitment to their naval capabilities. Unless other navies join this effort and their political leaders support it, then, as Stöhs writes, Europe will have “relegated itself to the outer fringes of a world centered on the Pacific” (p. 8).

Stöhs, who is an analyst at Kiel University's Institute for Security Policy and an adjunct at its Center for Maritime Strategy and Security, describes his main objective as giving readers an insight into the developments and changes that have occurred in Europe's navies since the end of the Cold War. He succeeds admirably. He examines all of Europe's principal naval powers comparatively from a platform-centric point of view, using graphs to illustrate the steep declines in their military expenditure and warship numbers.

Stöhs shows how little Europe's current navies resemble their Cold War predecessors. Britain and France remain powerful, but even they are no longer in the first rank of naval powers. The disappearance of the Soviet threat after 1991 left politicians across the continent eager to spend the so-called peace dividend and their navies scrambling for something to justify their existence.

Like the U.S. Navy, they mostly found that justification in power projection and expeditionary operations, first in Iraq and later in support of humanitarian assistance and the war on terror. However, each of these functions sacrificed the skills and equipment to fulfill traditional naval missions, a decline that is most noticeable at the upper end of the conflict spectrum. Germany is the most egregious example; effectively, it is taking advantage of its neighbors' sea power as Europe collectively takes advantage of the sea power of the United States. As Stöhs puts it, numerous indicators suggest that “Germany will remain unwilling to conduct any form of high-intensity warfighting in the foreseeable future” (p. 129). In other words, although naval forces across Europe look powerful on paper, that strength—with the partial exceptions of Britain and France—is concentrated at the lower level of the intensity scale.

This stands in stark contrast with Indo-Pacific navies that are configured for war fighting. Europe's smaller navies, moreover, have continued the Cold War practice of niche specialization as an answer to inadequate funding. To make that work, great strides have been made to improve interoperability. However, what was justifiable and practical as part of NATO in the face of the relatively narrow

range of Cold War threats looks imprudent now in the face of challenges that are less predictable and more distant. Many European states rely on the naval forces of neighbors (and the United States) to fill capability gaps to make them relevant at all (pp. 187–89).

This is an important and timely book. Europe lies on the periphery of America's vision. It catches our eye largely because of Russia's newfound adventurism. Yet it remains important to us, not least because of the growing confrontation with China that is driven by rival values as well as by rival power. Europe should be our ally. Given the importance of the sea in future power balances, economic as well as geopolitical, and Europe's reliance on the sea for its own economic well-being, our mutual interest should be obvious across a continent whose history is so rooted in sea power.

But it is not. As Stöhs notes, it is difficult to persuade any nation's taxpayers of the sea's importance, especially in the absence of clear political leadership, and across Europe that leadership, political and military, cannot agree on common goals (pp. 182, 192). These divisions well may widen when Britain leaves the European Union (EU) and the European Commission attempts to boost its much-vaunted "defense union" at the expense of NATO.

NATO operates on consensus, which it is hard to believe will extend to the East Asia littoral absent a clear and present danger, a recognition that is muddied by the economic leverage that China has gained over powerful political interests in several member states. The EU, despite its political posturing, is largely irrelevant for the moment. If that changes, from a defense perspective as it already has from an economic one, Europe is likely to become more insular, less global, and even less naval in its outlook.

Sea power, both economic and military, will play a critical role in the world's future. The question Stöhs raises (p. 6) for Europe is: Whose sea power will it be?



## BOOK REVIEWS

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### WHEN ELEPHANTS DANCE

*World War II at Sea: A Global History*, by Craig L. Symonds. New York: Oxford Univ. Press, 2018. 792 pages. \$34.95.

Craig Symonds evidently believes in taking on roles that reasonably could be regarded as tough acts to follow.

He followed the eminent Professor E. B. Potter at the U.S. Naval Academy and he is currently Professor John B. Hattendorf's successor as (appropriately) the Ernest J. King Distinguished Visiting Professor of Maritime History at the Naval War College.

Consequently, whereas most scholarship on World War II tends to concentrate on single geographic areas, such as the Pacific, the Atlantic, or the Mediterranean, or specific themes, Professor Symonds has undertaken the daunting task of describing and explaining in one volume the complex, interrelated "impact of the sea services from all nations on the overall trajectory and even the outcome of the war" (p. xii). True to his word, Symonds includes, unusually, not only the major states engaged at sea (the United States, Japan, Great Britain, and Germany), but also the Italians, French, and Russians, who, in other accounts, usually appear in walk-on parts or as foils to the main combatants.

In many areas he is, of course, treading a well-worn, generally familiar path,

whose main features are hallowed by decades of specialist scholarship, folk memory, and innumerable memoirs and monographs. Having entered the field with influential contributions to the scholarship of the maritime history of World War II, most notably *The Battle of Midway* (Oxford Univ. Press, 2011) and *Neptune: The Allied Invasion of Europe and the D-day Landings* (Oxford Univ. Press, 2014), Symonds, in *World War II at Sea*, filters a very wide selection of primary and secondary sources to provide an authoritative, comprehensive account that covers the full range of maritime decision-making and combat. His main theme is that the sea provides the essential unity and definition to a world war. Moreover, if you want to win a world war, first you have to win it at sea.

The challenge for the narrative historian in emphasizing the seamlessly interrelated character of a world war at sea comes in maintaining focus and balance in the face of a wide range of parallel issues, simultaneous campaigns, and geographically dispersed combat episodes. Happily, the way in which maritime campaigns unfolded in World

War II—first in and around Europe, then across the Atlantic, before spreading to Russia and the Indo-Pacific region—assists in this regard. After Pearl Harbor it becomes more difficult, and Symonds employs a useful device by regularly reminding the reader what is going on elsewhere. For example, he notes that D-day in Normandy in June 1944 virtually coincided with the amphibious assault on Saipan. Indeed, the fact that “the Allies could mount two major invasions on opposite sides of the world only nine days apart underscored the global character of the war as well as the depth of Allied resources” at that stage of the war (p. 538). Elsewhere, the simultaneous fates of Malta and Guadalcanal are linked in a single chapter, while another entitled “Landing Ships, Tank (LSTs)” provides a useful unifying thread for amphibious campaigns in the Pacific (the Gilbert and the Marshall Islands), the Mediterranean (Anzio), and D-day in Normandy.

In three dispersed chapters on “the war on trade,” he neatly combines several disparate themes and underlines how the Allies’ ability to access the sea for their own use and to deny its use to their enemies was critical to victory. The Japanese, Italians, and Germans progressively were deprived of the raw materials, food, and, most importantly, fuel to sustain their fighting power and populations, while the Allies’ eventual control of the sea enabled them to secure their home countries from attack, maintain their populations, and project decisive combat power at and from the sea. In particular, Symonds details how the highly destructive antishipping campaign against the Japanese by American submarines and aircraft, the British interdiction of German and Italian supplies to North Africa, and the effective blockade of the European Axis

powers were decisive in this regard, even as Axis naval forces were destroyed at sea. Conversely, he describes how the Germans and Italians in the Atlantic and beyond were unable to—and the Japanese, in the Pacific, did not care to—interdict Allied supply routes decisively.

In this carefully researched and elegantly structured account, Symonds combines a highly engaging narrative style with the rare ability to describe both complex issues and potentially confusing maritime campaigns and actions in a concise and lucid way. A tiny scattering of technical inaccuracies will distract only the deep specialist or pedant. Meanwhile, both professional and armchair historians will recognize and appreciate his well-judged, finely drawn—if conventional—characterizations of the major politicians and commanders, distinctively illuminated by entertaining anecdotes and asides.

There are also plenty of lessons for the discerning practitioner, particularly in reminding the twenty-first-century navy, by implication, about the realities and exceptional demands of high-end maritime combat, most of which have been forgotten or discarded. The most striking strategic lesson is that in a global conflict at sea, choice and priorities really count; one cannot be strong everywhere simultaneously, whether in landing craft, antisubmarine escorts, or merchant shipping. In a faint echo at the tactical level, I recall serving on a destroyer under heavy air attack in San Carlos Water near the Falklands in 1982, earnestly wondering (complaining) why it was that the Royal Navy had not laid smoke screens, maximized the number of machine guns on deck, and deployed barrage balloons.

Another lesson that applies today is that none of the Allied powers could have prevailed in World War II

against Germany or Japan without the industrial muscle, logistical support, and fighting power of the United States, even before Pearl Harbor. This dependent relationship against major opponents persists today and links to the evidence in this book that a continental power cannot expect to prevail against a major power on another continent without the ability to use the sea to its advantage and to deny its use to an opponent. One might be forgiven for thinking that an industrially charged China has absorbed these lessons.

CHRIS PARRY



*Admiral Bill Halsey: A Naval Life*, by Thomas Alexander Hughes. Cambridge, MA: Harvard Univ. Press, 2016. 544 pages. \$35.

Fleet Admiral “Bull” Halsey was the object of wide-ranging publicity during the Second World War. After the war, Halsey published his memoirs, and since then half a dozen biographers have told his story and many have visited his campaigns in thematic approaches. With so much already done, readers might tend to overlook this volume as just more of the same. Doing that would be a mistake. Thomas Hughes’s well-researched study of Halsey is a masterfully crafted, revisionist work that brings new insights to the understanding of one of the most complex and controversial commanders in American naval history. In this volume, Hughes draws a clear distinction between “Bull” Halsey, the wartime leader whom the press celebrated and made into a larger-than-life caricature, and the real Bill Halsey, whose story the author tells in this volume.

Halsey’s wartime career is well-known and continually debated, but few readers

have known much about his family background and earlier years. Hughes describes these aspects of life with great insight. Fleet Admiral Halsey liked to boast that he was descended from generations of hard-drinking, rowdy sailors and adventurers; this hardly was the case. The Halsey family had a distinguished heritage. On his father’s side, his ancestors had arrived in Puritan Massachusetts in 1638 and soon became large landowners on Long Island, New York. In the early nineteenth century, one of them, Charles Halsey, married the granddaughter of Rufus King, a signer of the Constitution, one of America’s first ambassadors to Great Britain, and a very wealthy man. Rufus King’s son Charles King married a daughter of Archibald Gracie of New York, whose stately home became the official residence of New York’s mayor. Charles King was publisher and editor of New York newspapers and became president of Columbia University. Charles Halsey’s son William married Anne Brewster, a direct descendant of Elder William Brewster, the primary author of the Mayflower Compact and the leading religious figure of the Plymouth colony. Their son was Admiral Halsey.

Before William Jr. joined the U.S. Navy, only a few of his Brewster ancestors had been seafarers, and none were of the swashbuckling variety. Admiral Halsey’s father and namesake entered the Naval Academy in 1869 and graduated in 1872. He retired as a captain in 1907 but continued to work for the Navy’s Bureau of Construction and Repair until 1919. While he was at sea in 1882 aboard USS *Iroquois* on the Pacific station, his son—the future admiral—was born at his wife’s family home in Elizabeth, New Jersey. During his career, William Sr. attended the summer course at the Naval War

College in 1897 and heard Theodore Roosevelt speak as Assistant Secretary of the Navy; but for the future admiral, the Naval War College became a much more important aspect of his career.

In the early part of his career, William Jr. served under William S. Sims in the destroyer flotilla, along with Dudley Knox and others. Knox may have been the key to the younger Halsey's assignment to the Office of Naval Intelligence in 1920 and six months later as naval attaché in Berlin, where he reported extensively on German naval developments in the early years of the Weimar Republic. In 1932–33, Captain Halsey Jr. followed his father's earlier example by attending the Naval War College. One of his classmates was another future five-star admiral, Captain Ernest J. King. Halsey and his wife lived in Jamestown and commuted daily across the bay to the College. Although no star student at the Naval War College, he was initially considered as a choice for the faculty. After some false starts with other orders, Halsey eventually went on in the next year to the Army War College, then located in Washington, DC, where his classmates included Jonathan Wainwright and a future Army five-star general, Omar Bradley. Again he did not distinguish himself academically, but his time there gave him unusual perspective as one of the very few to graduate from both the Army and Naval War Colleges.

However, that may well have been Washington's way of putting him in a holding pattern preparatory to going on to the aviation positions that Admirals Leahy and King had been recommending for him. In 1934, Halsey went to Pensacola for training as a flight observer, but soon bent the rules of the system to earn his pilot's wings as the oldest newly qualified naval aviator,

at the age of fifty-two. Thus, Halsey cleared the way for a series of aircraft carrier commands that eventually led to his wartime career in the Pacific.

Hughes has researched Halsey's wartime career carefully and writes judiciously and with great authority using his extensive new research. Among many interesting points, Hughes finds an explanation for the mysterious skin ailment that forced Halsey out of commanding the *Enterprise* Task Force just before the battle of Midway in 1942. While a fungal infection probably caused dermatitis, it likely was related to a bacterial infection in five of his teeth, all of which Dr. Warren Vaughan, a noted dermatologist from Richmond, Virginia, brought under control in early 1943 so that Halsey could return to command in the Pacific theater.

Controversies about Halsey as a combat commander undoubtedly will continue, and Hughes's excellent book will not be the last word on the subject, but there is no doubt that it should be the first book on the subject that one should consult.

JOHN B. HATTENDORF



*The Chinese Invasion Threat: Taiwan's Defense and American Strategy in Asia*, by Ian Easton. Arlington, VA: Project 2049 Institute, 2017. 406 pages. \$20.

Ian Easton examines and discusses in fair detail the difficulties that the Chinese People's Liberation Army (PLA) would face during an invasion of Taiwan. He provides overall orders of battle for both Taiwan and China; explains which beaches on Taiwan are, or are not, suitable for invasion; provides monthly historical estimates of the

weather with which an invasion likely would have to contend; and describes the defenses and policies Taiwan has created to deter, or defeat, such an invasion. Easton also describes, albeit to a lesser degree, some of the aspects of the Chinese bombardment and blockade campaigns that likely would precede or accompany an invasion of Taiwan.

The author builds a case that China's military is well aware of the many problems and issues that would have to be overcome if the PLA were to invade Taiwan successfully, and that Taiwan is well positioned, trained, and equipped to repel such an effort. He concludes that "Taiwan has little to fear of invasion for right now" (p. 272).

A strength of the book is that the author uses current and authoritative, or at least well-situated, Chinese and Taiwan sources in making his estimates. Consequently, the bibliography is a valuable resource for anyone devoted to studying the military balance across the Taiwan Strait. Also noteworthy is the fact that the author of this volume works at the 2049 Institute. Furthermore, he acknowledges Mark Stokes as a long-term mentor and thanks Randal Shriver, until recently the 2049 Institute's director, for his leadership and support. Stokes, of course, is as knowledgeable about many aspects of the PLA as any Westerner, and Shriver currently serves as Assistant Secretary of Defense for Asian and Pacific Security Affairs. Readers therefore can assume that the book offers insights into some of the current administration's potential inclinations regarding defense support to Taiwan. In those important ways, the book is impressively informed and worth reading.

Despite those strengths, the author's sincere sympathy for Taiwan leads to a tendency to overreach, which sometimes

results in unsubstantiated assumptions. For example, while demonstrating that Taiwan will have ample strategic warning of a Chinese invasion, he asserts that in the immediate run-up to an invasion "farm animals, especially pigs, would be gathered in huge herds to feed the troops" (p. 76). One wonders why the invading forces would require substantially more fresh pork than they consumed beforehand. On the next page he writes, "Shipyards would probably be operating at breakneck speeds for at least three months prior to the invasion, working on 24 hour shifts and brightly lit up at night. Light and noise travel great distances over water, making them easy to pickup with submarines and surveillance ships." That any such increases in noise and light could correlate definitively to landing ship construction, from miles offshore, and through a periscope, is at best doubtful. This tendency toward inconsistent logic is repeated on page 97, where he asserts, "China cannot effectively blockade Taiwan without bombarding it and Taiwan cannot be bombed until it has been blockaded." Another example occurs on page 259, when in a discussion of the perils of mirror imaging he states, "It is too easy to forget that reality and facts are things that are arbitrary and subjective." Better editing would have helped this volume.

More significantly, the author's bias for Taiwan sometimes leads to dubious conclusions. An example occurs when the author states that "Taiwan's spy-catchers have discovered and arrested traitors soon after China has recruited them, ensuring that security breaches were short lived" and that "experts point out that Taiwan has done an extraordinary job in recruiting well-placed agents in China who can provide early warning information to the Presidential Office (and the White House)" (p. 70). One

hopes that Taiwan's counterintelligence efforts are indeed that good, but readers probably recall that the John Walker spy ring operated for over fifteen years in the United States during the Cold War, causing enormous harm. Doubtless, Taiwan works hard to catch spies—as did the Federal Bureau of Investigation during the Cold War—but it just does not seem credible that Taiwan is immune to effective Chinese espionage efforts. Readers also might be forgiven for doubting the author's claim of Chinese counterintelligence ineptitude if recent reports in the press describing Beijing's destruction of Central Intelligence Agency networks in China are accurate. The perils inherent in the book's analytical tilt in favor of Taiwan extend to other areas, perhaps most critically to the author's assessment (which relies on some of his previous, similar work) that the threat that China's conventional missile force and counterair systems pose to Taiwan's air force and navy is manageable. This is important because if this conclusion is wrong Taiwan's exposure to Chinese bombardment and blockade, and even invasion, is far higher than the author asserts. This vulnerability—which depends on whether Chinese long-range precision strikes can be effective against Taiwan's defenses—will remain a critical factor in Taiwan's ability to deter or withstand Chinese uses of force. The implications of this competition extend far beyond Taiwan. This work would be better if it had addressed this issue more thoroughly. Another subject that falls in this category of insufficient treatment is China's ability to use its maritime militia during an invasion of Taiwan. Nonetheless, there is value in this book. Its sources, and the author's background and experiences, provide a

basis for optimism regarding Taiwan's ability to resist an invasion, which the author relates enthusiastically.

WILLIAM S. MURRAY



*Congress Buys a Navy: Politics, Economics, and the Rise of American Naval Power, 1881–1921*, by Paul E. Pedisich. Annapolis, MD: Naval Institute Press, 2016. 304 pages. \$39.95.

The subject of Paul E. Pedisich's newest work, *Congress Buys a Navy: Politics, Economics, and the Rise of American Naval Power, 1881–1921*, is apparent from its title. Pedisich proposes that it was Congress—rather than the executive branch—that was most directly responsible for funding and building the U.S. Navy during this pivotal period. This well-researched work considers four decades of presidential actions, congressional legislation, and USN policy and their role in the buildup of U.S. naval power and capabilities.

These four decades (1881–1921) are in many ways the most important in U.S. naval history and development, spanning the aftermath of the Civil War through the end of the First World War. At the beginning of this period, Pedisich demonstrates the relative feebleness of the U.S. Navy in comparison with European naval powers, most notably Great Britain. However, this study demonstrates how the efforts of nine presidents and their cabinets, sixteen Secretaries of the Navy, and innumerable members of Congress were able to transform the U.S. Navy from a neglected, presteel, and defensively focused organization into—in the aftermath of World War I—the world's premier naval power.

Pedisich's study is notable for its focus on the legislative branch's central place

in developing the nation's maritime power and naval war-fighting capabilities. Consequently, it should be noted that this work is not a study of naval warfare, tactics, or strategy. Rather, Pedisich's extensive research of the congressional sources explores the personal and political negotiations and decisions, and the attendant legislation and congressional appropriations, that in essence "built" this new Navy over the course of four decades.

Perhaps this book's greatest strength is as a catalog of the wealth of primary-source material from which Pedisich drew: personal and private correspondence, political speeches, and military and congressional records. The book is also rich in a level of detail that constitutes a microhistory of the period's naval and congressional politics. One thing readers will not be lacking after reading this book is information.

Yet *Congress Buys a Navy* has numerous weaknesses. Perhaps the most obvious is a lack of clear purpose. While this work extensively chronicles naval politics in Washington—including congressional appropriations, arguments, voting records, and political maneuvers—as well as decisions from the various Navy Secretaries and the rest of the executive branch, it falls short in providing the larger historical contextualization for making sense of this plethora of specific information. Furthermore, Pedisich does not explain the meaning of this massive data dump in any conclusive manner. Most significantly, Pedisich's overall assessment of this period is uncertain: Did the Navy (and the United States) need more funding? Less? The reader is left uncertain. Despite Pedisich's richness of detail, his assessment of the specific processes that transformed the Navy from

a weak, presteel force into a premier fighting force remains ambiguous.

Despite Pedisich's attention to consecutive legislatures, congressional appropriations, funding, and various Secretaries of the Navy and politicians, he does not give the reader regular, intermediate updates regarding the exact strength and capability of the Navy for this period. Occasionally, Pedisich does draw attention to numerical values of naval forces, but when he does he offers little in the way of explanation of the lethality and functionality of the Navy. As a result, the reader may be disappointed at the lack of details on the status of naval forces, such as ships in use and those under construction.

Absent a consistent and overarching metanarrative, the book ultimately reads more as a collection of case studies on congressional processes and as an encyclopedic compilation of attendant economic and political facts and statistics—all perhaps of lesser interest to armchair naval historians. However, *Congress Buys a Navy* is a thoroughly researched work that warrants accolades for highlighting the key role that Congress played in creating a modern U.S. Navy.

BLAKE I. CAMPBELL



*Everything under the Heavens: How the Past Helps Shape China's Push for Global Power*, by Howard W. French. New York: Knopf, 2017. 352 pages. \$27.95.

As a journalist who has done his historical research, Howard W. French has produced a highly readable book that probes the Chinese concept of *tian xia*, roughly meaning China's "natural dominion over everything under

heaven” (pp. 3–4), and particularly on its impact on the People’s Republic of China (PRC) as it drives toward regional and international dominance. His focus on the cultural and racial nature of the traditional Chinese view of the world evolved from a different direction from that of other scholars and analysts. It comes from his years reporting from Africa for the *Washington Post*, service that produced a book on Africa’s development as “China’s second continent.” Subsequent assignments with the *New York Times* brought him to Japan and China and a familiarity with the written Japanese and Chinese languages.

Unlike other journalists, who create books primarily out of interviews and opinions, French uses interviews sparingly, instead relying on the writings of noted scholars and experts to contextualize current issues. In addition to numerous mainland Chinese and other Asian scholars, French also quotes Andrew Erickson, a noted China scholar on the faculty of the Naval War College. Professor Erickson points out that, concerning the strategic military competition among China and its neighbors and the United States, as “the PLA [People’s Liberation Army] approaches leading edge capabilities, the more expensive and difficult it will be to advance further . . . [since] China’s cost advantages decrease as military equipment becomes less labor-intensive and more technology- and materials-intensive. The more sophisticated . . . the less relative benefit China can derive from acquiring and indigenizing foreign technologies, and less cost advantage it will have in producing and maintaining them” (p. 271).

Such assurance may be cold comfort to those technology companies whose intellectual capital may have been

pilfered via Chinese industrial espionage. However, French also uncovers a critical trend concerning this long-term competition: because of the one-child (primarily boys) policy and other factors, China’s population will peak in 2025; because of immigration, America’s population is forecast to continue to increase. At the existing rate, the four-to-one population ratio in China’s favor will shrink to two-to-one, with an aged Chinese population and decreasing productivity as the country’s manufacturing advantage declines. French quotes Chinese demographer Yi Fuxian: “People say we [China] can be two to three times the size of America’s economy. . . . I say it is totally impossible. It will never overtake America’s because of the decrease in the labor force and the aging of the population” (p. 281).

In assessing China’s historical relationship with the world, French recounts a continuing Chinese effort to achieve *tian xia* through intimidation or force, not through attraction or mutually balanced economic relationships. Instead of being enamored of the PRC’s myth of the peaceful precedent of the eunuch Zheng He’s trading voyages of the fifteenth century throughout the Indo-Pacific (one of the reasons Beijing claims to own the South China Sea), French chooses well and relies on the late Edward L. Dreyer, one of the most thorough historians of Chinese wars. Dreyer maintained that the modern idea of Zheng He as explorer, trader, and nonimperialist was “a creation of Western scholarship. Zheng He’s fleet was actually an armada, in the sense that it carried a powerful Army that could be disembarked, and its purpose was to awe the rulers of Southeast Asia and the Indian Ocean into sending tribute to China” (p. 104). Taking twenty thousand Ming dynasty troops to explore and



negotiate trade agreements is a little like using the Third Fleet to achieve adjustments to NAFTA. Frankly, that is exactly what French sees as the future role of the People's Liberation Army Navy (PLAN), once the PLAN's growing size helps to reduce U.S. influence in China's sphere.

French's most significant observation—unique among similar books—is that the American-centric nature of most assessments of the PRC's rise blinds us to the fact that most Chinese do not regard the United States as its primary, long-term enemy. Rather, Japan is perceived as the once-and-future foe that deserves the most retribution for China's "century of humiliation." French illustrates the popularity of this mainland view by examining the composition of the PRC's entertainment media. "[T]o turn on the television in China is to be inundated with war themed movies, which overwhelmingly focus on Japanese villainy. More than two hundred anti-Japanese films were produced in 2012 alone, with one scholar estimating that 70 percent of Chinese TV dramas involve Japan-related war plots" (p. 21). Thus, in French's estimate, it would not be tension over islands (some of them false) in the South China Sea that would result in inadvertent war, but rather an escalating dispute over the Senkakus.

French has done an excellent job of identifying the ties between dynastic China's open *tian xia* policies and PRC president Xi Jinping's aspirations for the future. French points out the ironic similarities between Xi's rhetoric and that of the Chinese communists' greatest enemy, Chiang Kai-shek, over the rightful dominance of China in Asia. Their desired rules for international politics resemble those represented in Thucydides's Melian Dialogue. French recounts that when a Singaporean deputy expressed

support for a maritime code of conduct at a recent multilateral conference, Chinese foreign minister Yang Jiechi responded, "China is a big country and other countries are small countries . . . and that's just a fact" (p. 126).

*Everything under the Heavens* is both an informative book and an enjoyable read. One hopes it will make the overly optimistic think a little bit harder about future relations between China and the rest of the world. However, in the end, French—whether by personal nature or intellectual predilection—feels compelled to offer only optimistic recommendations. "A China that is treated as an equal with much to contribute to human betterment," he writes, "but met with understated but resolute firmness when need be, is a China that will mellow as it advances in the decades ahead, and then most likely plateau" (p. 284). Of course, how to be both understated and resolute in an increasingly shrill world is the unanswered dilemma. The problem with hugging (or scolding) the panda is that it bites.

SAM J. TANGREDI



*Anatomy of a Campaign: The British Fiasco in Norway, 1940*, by John Kiszely. New York: Cambridge Univ. Press, 2017. 390 pages. \$44.99.

*Anatomy of a Campaign* by John Kiszely provides an excellent historical review of the military campaigns in Norway in 1940. In his book, Kiszely takes the reader on an exciting journey following the British expeditionary military campaign in Norway. He asks for and investigates the reason behind the failure. Was it poor military performance, lack of intelligence, or just poor strategy and decision-making?

This journey takes the reader beyond the obvious historical causes and looks at the underlying reasons for the blunders in operational and strategic decision-making. Compared with other books written about the German and British campaigns in Norway, this dissection of the “anatomy” of a campaign is more applicable to military campaigns today.

Kiszely looks into the structural functions of the campaign and how they related to each other to find out what did and did not work. Since the military campaign links the political objective to military ways and means, he claims the outcome of the campaign was a given—even before the first shot. The book is valuable because the lessons from the Norwegian campaign demonstrate the relations between strategy and policy and the effect on the operational and tactical levels. Modern campaigns build on experience from the past, and readers will appreciate this honest dissection as the author shares his own insight from joint strategic military and operational experience. Kiszely is a retired, highly decorated British officer and a soldier with operational command experience in national and international operations, as well as service on the Joint Staff.

The author examines the challenges that Great Britain faced in the transition from peace to war. How does a country move from a peacetime organization and optimize the ways and means to achieve strategic ends? His insight into British decision-making and the relationship between military leaders and their political masters is an outstanding assessment of a strategy-policy mismatch and shows how a service-oriented approach to a military campaign utterly fails. Modern, theater-level campaigns are orchestrated at the operational level to synchronize joint-service contributions. Kiszely claims that unique,

British, service-oriented leadership contributed to a disconnect between strategic- and tactical-level objectives. British military culture at that time was founded on superior improvisation and ad hoc adaptation. Services conducted separate operations driven by German military initiatives, and those operations sometimes were counterproductive to the theater campaign. Today’s commanders should not overlook the lessons that his insight provides.

The author makes a convincing argument that understanding expeditionary operations and campaigns is vital to managing the strategic and grand strategic environments. On the grand strategic level, the British struggled to formulate common political objectives with its allies, which had a direct effect on the conduct of the campaign. Domestic politics influenced the national decision-making, and the need to do *something* haunted the Allied coalition. Even as the security situation obviously required the Allies to build up forces on the continent to meet the threat from Germany, forces were diverted to a secondary front in Norway, for which they were not prepared.

Those directing multinational operations need to consider how to build political and military unity into a campaign. According to Kiszely, the Allies and Germany approached strategy and policy very differently because of their opposing political orientations: a democratic coalition on the one hand and an authoritarian regime on the other. The German decision-making in this phase of the war had strategic advantages, as its policy and campaign plans were synchronized, whereas the Allied coalition was not able to adapt to the operational tempo and unite around a coherent grand strategy.

Kiszely provides a convincing argument that the foundation for German success was theater-level strategy and management of the campaign. Even though the Allies had local successes, as demonstrated in the battle of Narvik, their tactical achievements were not embedded in a grand strategy or theater-level objective for winning the campaign.

In conclusion, Kiszely claims that the campaign in Norway was a decisive victory for the Germans, in that they achieved strategic surprise and dominating airpower. The main reason for the British campaign failure is found in the link between policy and plans. The ends were not supported by available means and ways, and policy became divorced from reality. Such determinations leave the reader to evaluate and decide where the responsibility for the failure of the campaign lies.

The book summarizes key military lessons learned and strategic guidance. I strongly encourage national security advisers and military leaders to read it.

LARS SAUNES



*The Cold War: A World History*, by Odd Arne Westad. New York: Basic Books, 2017. 720 pages. \$40.

Odd Arne Westad has taken on a difficult task: providing a one-volume history of the Cold War. The U.S.-Soviet confrontation lasted over four decades and had many episodes. Cramming the entire story into one book—even one that is over seven hundred pages long—is no simple thing. Westad made his task even harder by taking an international focus and starting his coverage in the 1890s, with the politicization of the confrontation between labor and capital.

However, Westad is certainly up to the task. He is something of a transnational man. Although Norwegian, he holds a PhD from a U.S. school (the University of North Carolina) and has taught in both the United Kingdom and the United States. This book is the product of research in archives around the planet (Bulgaria, Egypt, India, Russia, South Africa, and the United States) and the reading of other source material published in German, French, Chinese, and Norwegian. An important advantage to this book is that it is an easy read, which is crucial, given its length. It is easy for historians to get trapped in the details of their research and skimp on their analysis and writing. That is not the case here. Westad covers events in a compelling but concise manner. At times, though, the reader might wish that he had provided more documentation of his arguments, since his footnotes often do not show from where his evidence came.

The chapter on the ideological elements of the confrontation before the 1940s is less than convincing, but fortunately short. Westad sustains these arguments better in the body of the text. In World War II, capitalism and communism worked together not because of the Nazi threat but only because of the Germans. “Some form of postwar conflict was next to inevitable” (p. 68). Joseph Stalin was a brutal dictator, but he also was indecisive and let European affairs drift, while the United States acted. As a result, Washington had more to do with turning the postwar confrontation into a sustained Cold War than did Moscow.

One of the central arguments of this book is that the Cold War was about more than the United States and the Soviet Union. On this point, Westad is certainly correct; the question is one of emphasis. He gives a good deal of

coverage to China and India; Latin America and Africa also get attention. However, the theme of these sections seems to be impact rather than influence, and while that focus makes sense for the argument he wants to make, it does seem to divert attention away from more-significant developments.

The individuals most responsible for moving the Cold War away from dangerous confrontation were Richard M. Nixon and Leonid I. Brezhnev. Both wanted détente, but for different reasons. Westad argues that this period was basically a truce. In many ways, détente turned out to be much better for the United States. The competition did not go away, but it turned to soft power, in which global trends ended up favoring capitalism and the United States. Nixon also managed to turn China into an ally during this period. Westad argues that this development occurred more because of the incompetence of Mao Zedong as a statesman than Nixon's skills as a strategist. Mao had weakened China, and his policies often brought about situations that were exactly the opposite of what he wanted. Rejecting the argument of most historians, Westad argues that the Americans rather than the Soviets killed détente, mostly because of American domestic politics. These arguments are well sustained, and although many might have trouble accepting these contentions, they are basically correct. Why did the Cold War end with a U.S. victory? "Like its enemy, the United States had its portion of Cold War successes and failures. It is just that the balance sheet came out differently, and better, than that of the other side" (p. 620). The assets that worked to the advantage of the United States included long-term alliances, economic growth and transformations, technological change, and diplomatic skill.

This book is hardly the last word on the Cold War; given its significance, the period will be studied for decades to come. But Westad has given his readers an important, thought-provoking account, and that is no small thing.

NICHOLAS EVAN SARANTAKES



*Incidents at Sea: American Confrontation and Cooperation with Russia and China, 1945–2016*, by David F. Winkler. Annapolis, MD: Naval Institute Press, 2017. 336 pages. \$31.95.

In the summer of 1988, I stepped aboard USS *Yorktown* (CG 48) as a young midshipman during my orientation cruise and noticed a ship silhouette painted on the bridge wing. When members of my class inquired about its meaning, the crew regaled us with the story of the shouldering incident with the Russian frigate *Bezzaventnyy* just a few months earlier in the Black Sea—the incident pictured on the cover of David F. Winkler's recently updated *Incidents at Sea: American Confrontation and Cooperation with Russia and China, 1945–2016*. Winkler began studying the 1972 Agreement on the Prevention of Incidents on and over the High Seas (also known as the Incidents at Sea Agreement, or INCSEA) after experiencing such events firsthand as a junior officer in the Sea of Japan in the mid-1980s. Since then, he has established himself as an authority on the subject at the Naval Historical Foundation. With a foreword by the chief U.S. negotiator of INCSEA, former Secretary of the Navy John W. Warner, this edition of Winkler's book builds on the original (published in 2000) by addressing the expanding influence of China and the resurgence of Russia as global competitors in the maritime domain.

*Incidents at Sea* takes a chronological approach to the intricate relationship between the American and Russian navies beginning at the end of World War II, through the growth of the Soviet navy, into the post-Cold War tensions with Russia, to the emergence of China as a global maritime force. Drawing from oral histories and extensive personal interviews, Winkler puts a human face on these interactions by relating the experiences of junior officers aboard USN ships, senior naval leaders, and senior government officials. He also provides intimate details about the interactions of the members of the American delegation with their Soviet counterparts during the initial INCSEA negotiation and subsequent annual reviews.

No single event precipitated this unprecedented agreement; instead a series of dangerous, and sometimes deadly, interactions between the two nations' navies and air forces reached a tipping point in 1971, resulting in a Soviet call for action. American naval leaders had sought such an agreement in the decade prior, but senior State Department officials were wary that these discussions might derail ongoing American efforts regarding territorial sea claims. Given assurances from the Russians that this would be a navy-only discussion, the State Department acquiesced, and then—Under Secretary of the Navy Warner headed the U.S. negotiating team for initial talks. After months of preparation, the American delegation went to Moscow in October 1971, and the resulting agreement included all the points it desired. A follow-on meeting in Washington, DC, in March 1972 ironed out remaining details, and Secretary Warner signed the INCSEA agreement with the Soviet navy's commander in chief, Fleet Admiral Sergey Gorshkov,

on May 25, 1972, at President Richard M. Nixon and Soviet leader Leonid I. Brezhnev's Moscow summit.

INCSEA marked the first formal interaction between the two superpowers. Discussions involved more than just negotiating sessions; they also included a social agenda, with each side showcasing the strengths of its culture and economy. Winkler presents the social agenda as a key element in the breakdown of barriers between the two ideologically different sets of participants. Another key to INCSEA's success was its bilateral and navy-to-navy nature. Limiting the scope of the agreement created more common ground for the two parties. Winkler notes something I also have observed in bilateral navy staff talks: naval officers have a common shared experience of operating at sea that cuts across the politics of nations.

Since the signing of the historic agreement, U.S.-Russian relations have ebbed and flowed, but INCSEA remains a stalwart of international agreement and cooperation. Winkler illustrates how—despite other sources of tension between the two countries—both sides have maintained civility during the annual INCSEA reviews. He also describes several tense international situations during which following INCSEA protocols kept a cold war from turning hot. Yet despite its success, INCSEA has not prevented all unsafe interactions at sea—witness the *Bezzaventnyy-Yorktown* incident in February 1988. More recently, since the Russian resurgence under President Vladimir Putin, the number of incidents between the two nations has increased, especially as American warships and aircraft reassert the right to navigate freely in the Black and Baltic Seas.

The growth of the Chinese People's Liberation Army Navy in the 1990s

brought increased interaction with American warships, naval auxiliaries, and military aircraft, reminiscent of the Cold War. The United States and China signed the Military Maritime Consultative Agreement (MMCA) in 1998, modeled after INCSEA. Winkler notes, however, that the MMCA lacks the level of trust established between the Soviet and American navies, and therefore has been less effective.

The high seas and contested littorals were the front line of U.S.-Soviet interaction during the Cold War. Winkler's book provides an intimate look at the development and execution of a landmark agreement between adversaries that provided a key mechanism for ensuring that their interaction at sea remained professional and kept the Cold War from becoming hot.

JAMES P. MCGRATH III



*The British Carrier Strike Fleet after 1945*, by David Hobbs. Annapolis, MD: Naval Institute Press, 2015. 480 pages. \$59.95.

This work is the latest in a series of books from this author about Royal Navy aircraft carriers, and British carrier aviation in particular. It takes the story forward from where his last work on the British Pacific Fleet left us—in the misty waters of Tokyo Bay in September 1945. Hobbs shows how the ethos of naval strike warfare that had been developed and honed in the rigors of World War II survived the many and varied challenges that the postwar era threw at it. Most obviously, perhaps, it is a study of naval retrenchment under that most demanding of scenarios: demobilization after a world war coupled with a broader and ongoing

retreat from global preeminence. It is no surprise, then, that budgetary issues take center stage, but Hobbs manages to make his account much more than a mere litany of what might have been. He charts moments of gritty determination and ingenuity mixed with some unforgivable and almost criminal areas of waste and abuse—features that are certainly familiar to anyone involved in military planning. Above all, though, an unswerving belief from within the service about the value of its aviation has allowed the capability to be resurrected almost from the dead in recent years, in the form of two large carriers with real strike capability. This fact alone makes this book a compelling read.

It is difficult to imagine a more qualified individual than Hobbs to guide us through this story. After a thirty-year naval career as an aviator that spanned the last years of the “big deck” carriers, the “through-deck” cruiser era, and right up to the “renaissance” after the Falklands War, Hobbs capped this off with a period working in naval records and as the curator of the Fleet Air Arm Museum. This gave him almost unparalleled access to the necessary archival material, a resource he has used to great effect in this volume. The book is nothing short of exacting in its research.

That said, and although he tries valiantly to hide it, Hobbs clearly has a message he is anxious to communicate. It is, as he freely admits, “in part my own story” (p. vii). His thesis, which he openly reveals in the last few pages, is that Britain would have been better served had it continued to replace its strike carriers from the 1960s onward. While an understandable and legitimate viewpoint, it is just that—a viewpoint—and many will bemoan this lack of objectivity, particularly as the broader constraints

acting on the British government during this period are given scant attention. Equally, the work would have benefited from a deeper dive into the effectiveness of the military advice to the politicians, something that the loss of the service ministries in 1964 did little to improve.

Although broadly chronological, the book is perhaps best examined in terms of its three main themes: the carrier operations themselves, the ongoing innovations to overcome operating constraints, and the political considerations surrounding carrier acquisition. As explained above, the author is perhaps least successful with the last of these, where his experiences at the front line have tended to cloud his objectivity. Where, for example, is a balanced assessment of any opposing political constraints? Luckily, though, Hobbs is at his best with the other two, which makes the work valuable in its own right and tends to carry it through any shortcomings elsewhere. The day-to-day coverage of the main carrier operations is detailed but easy to follow and clearly fulfills the need to demonstrate the ongoing relevance of this capability to a maritime nation with global interests, such as Great Britain. Likewise, the coverage of the British innovations that have made carrier airpower the formidable asset it is today is comprehensive. The angled deck, the mirror landing aid, the steam catapult, the development of helicopter carriers, and the ski jump—all are given the prominence they deserve, along with some other ideas that were less successful.

In the end, the ongoing relevance of a discussion over the viability of carriers, particularly given the expense of the new *Ford* class and their perceived vulnerability to a new generation of antiship weapons, is sure to encourage a wide

interest in this book, particularly from within the U.S. Navy. This is a good thing, since many of the constraints that Great Britain had to face are essentially cyclical in nature and tend to recur in similar forms over time. In particular, though, I commend this book to the acquisition community, if only to gain an appreciation for how out of step with each other politicians and operators can become.

ANGUS ROSS



*The Law of War: A Detailed Assessment of the US Department of Defense Law of War Manual*, by William H. Boothby and Wolff Heintschel von Heinegg. Cambridge, U.K.: Cambridge Univ. Press, 2018. 479 pages. \$150.

Perhaps no recent document published by the Department of Defense (DoD) has been more studied, reviewed, and criticized than its *Law of War Manual*. Initially released in June 2015, it already has received multiple updates. These updates occur partly because of the flurry of well-considered criticism from both academics and practitioners. However, no effort at reviewing the manual has been more exhaustive than this recently published book by two of Europe's most eminent international law scholars.

*The Law of War* represents a remarkable effort and should occupy a spot on the bookshelf of anyone seriously studying international law as it applies to military operations. However, readers also should be careful to understand what it is. It is not a traditional treatise on the law of war; rather, it is a deliberate—paragraph-by-paragraph—review of DoD's *Law of War Manual* and must be read alongside that document. Those readers lacking an existing

understanding of the law of armed conflict will find the book difficult and cumbersome. However, the scholar trying to place DoD's manual within the context of coexisting understandings will have found an indispensable guide.

This view of *The Law of War* should not be understood as a criticism. No book can be all things to all readers. Had the authors attempted to craft the book in such a way that it aided the reader in learning the fundamentals of the law of armed conflict, there would have been little space for their in-depth critiques of DoD's positions. Indeed, the authors are up-front about the book's intended audience: "[m]ilitary lawyers, commanders, specialists in military doctrine, military staff colleges, ministry and military policy staffs, academics," and those with an interest or professional involvement in the subject. Although this list may be a bit broad, given the nuanced legal arguments covered throughout the book, the authors are correct in identifying the need for previous experience in the subject matter.

In truth, the study of international law applicable to military operations can be a vexing enterprise. In addition to treaties that often vary in interpretation and applicability, international law places heavy reliance on legal custom—that is, the combination of state practice and that state's understanding of when its actions are constrained or required, as the case may be, by legal obligations. Therefore, it is unsurprising that widely divergent views on the law of armed conflict exist. The book is at its best when it identifies where the position stated in the DoD manual is inconsistent with some—or even most—other states' interpretations. The authors also perform an excellent service in

pointing out when DoD's position is either vague or inadequately sourced.

An example of the strength of *The Law of War* is the discussion of the proportionality rule as it applies to conducting military attacks. The authors correctly point out the differences between the manual's definition of the rule and that of Additional Protocol I to the Geneva Conventions (API). Although the United States is not a party to API, the majority of its allies and partners are. Additionally, the United States does hold that API's targeting provisions generally constitute customary law binding on the United States. Thus, any study of the rule limited to examining DoD's definition and interpretation would be deficient in any academic review. By using *The Law of War* alongside the manual, researchers easily can avoid such mistakes.

If any criticism of the book is valid, it is that the work occasionally displays the same opaqueness and repetitiveness for which it criticizes the DoD manual. The authors seem to take such pains to present a balanced review of the manual that it becomes difficult to ascertain the precise parameters of their criticism. Additionally, much of their criticism appears to stem from a desire that the DoD manual be something it is not. The DoD manual is not an academic treatise; it is a U.S. practitioner's guide to advising on military operations. The DoD manual continually references U.S. policy documents that, while perhaps not relevant to a purely academic view of the law, are vital to a practitioner looking to place the law in context.

*The Law of War* is an invaluable contribution to scholarship in the field. The next move of any researcher studying the DoD manual's position on any topic should be to review *The Law of War* for analysis regarding where the



manual is lacking or what additional views exist. For this herculean effort, the authors should be commended.

JEFFREY BILLER



*Soldiers and Civilization: How the Profession of Arms Thought and Fought the Modern World into Existence*, by Reed Robert Bonadonna. Annapolis, MD: Naval Institute Press, 2017. 336 pages. \$35.

A former Marine colonel with a PhD from Boston University and the retired director of the ethics and character development program at the U.S. Merchant Marine Academy, Reed Bonadonna makes the daring assertion that the profession of arms and the culture of Western civilization are inextricably bound together in a symbiosis of mutual influence. The subtitle wittingly captures the central thesis of his book: how the profession of arms thought and fought the modern world into existence. Although it may seem contradictory to suggest that military service and civilization are in any way constitutive of each other in an interdependent relationship, Bonadonna carefully illustrates how warriors can be destroyers yet, ironically, guardians of civilization as agents of both continuity and change. Once the book has been read, Bonadonna's daring assertion seems less daring and quite reasonable, given the skillfully presented historical evidence. In this respect, Bonadonna successfully defends his thought-provoking thesis and achieves a balance of overarching generalization and sufficient detail to deliver a compelling examination of the role of the military in the development of Western civilization.

Whereas Bonadonna furnishes in the main body of his work a historical narrative delineating the advance of the profession of arms, in the conclusion he ventures to offer strategies for emerging trends in the twenty-first century. One among the several fascinating topics explored is the issue of humanitarian assistance (HA). At the 2005 World Summit, the United Nations adopted the doctrine of "responsibility to protect" as a moral imperative for multinational forces to intervene in countries where humanitarian crises are egregious, thus in effect amending the nation-state sovereignty established by the Treaty of Westphalia in 1648. Bonadonna observes that HA operations have become increasingly important initiatives for addressing global problems of hunger, genocide, and disease in the twenty-first century.

While the need for HA seems apparent, Bonadonna rightly highlights the complications of intervention: the threat of imperialistic encroachments on the territorial sovereignty of nation-states by "helping" neighboring states; the resentment of local authorities to the intrusion of outside aid; the disruption of the existing, albeit fragile, order; and miscalculations, as a result of misinformation, that prompt violent resistance. Bonadonna cites the relief campaign in Somalia as an HA operation that backfired and achieved the opposite of the intended results, pointing to the Black Hawk helicopter incident in the battle of Mogadishu in 1993. Since that time, a number of military leaders have come to believe that other government organizations and nongovernment organizations can take the lead more effectively on such campaigns, with limited military support.

Bonadonna also cautions that humanitarian interventions require subtlety in the conduct of nonkinetic operations. Whatever the multinational solutions are to the humanitarian crisis, coalition forces must treat the endemic political and social causes, not only the outward symptoms of human suffering. Furthermore, transnational forces should be sensitive to the anthropological customs and sociological systems that have cultural meaning and historical value for the indigenous society being helped.

With those caveats articulated, Bonadonna expresses the viewpoint that the military will continue HA operations because of its organic medical and security capabilities and the mobile and mission-ready assets it has available for rapid deployment. Bonadonna concludes that humanitarian operations at their best exemplify the central goals of the military profession through the maintenance of global stability and the protection of human rights. The altruistic ethics of HA underscores the eminent value of nonkinetic missions that foster and protect the common dignity of every man, woman, and child, befitting the highest standards of human flourishing.

Although *Soldiers and Civilization* may be criticized for what is not included in this ambitious historical undertaking, the reader undoubtedly will be enriched by this intellectual journey from classical antiquity to postmodernity. Warfighter and policy maker alike will encounter the larger-than-life personae of legendary heroes such as Ulysses, Alexander the Great, and Charlemagne—to name only a few—accompanied by a keen analysis of their strategies, operations, and tactics. For example, the game of chess may seem like a harmless pursuit passed benignly

from one generation to the next, but Bonadonna reveals how the game that once embodied medieval strategy and feudal society eventually evolved into the Prussian *Kriegsspiel* (war game) in the nineteenth century for the Prussian general staff. Here and in many other places, Bonadonna introduces profound insights worthy of serious consideration, and in so doing distinguishes himself as an exceptional historian, military strategist, and ethicist. The coverage of military history and civilization in the East would prove an excellent sequel to this outstanding overview of military professionalism in Western civilization. Suffice it to say, *Soldiers and Civilization* is a significant addition to the study of war fighting as the basis for the literature, culture, and politics of Western civilization.

EDWARD ERWIN



*Selling War: A Critical Look at the Military's PR Machine*, by Steven J. Alvarez. Lincoln, NE: Potomac Books, 2016. 384 pages. \$34.95.

*Selling War* is a mixed bag. Like the proverbial description of the North Platte River, it is simultaneously “too thick to drink and too thin to plow.” Steven Alvarez, an experienced former Army public affairs officer (PAO), suggests as much when he describes his work as “part memoir, part public relations handbook, part after-action review, part white paper, part catharsis, and a firsthand account of [his] yearlong mobilization” in Iraq from 2004 to 2005 (p. xxi). The result does partial justice to each of these perspectives, but full justice to none.

Alvarez is a severe critic of Army public affairs. He convincingly appraises the

public affairs efforts of both the military and the Coalition Provisional Authority in Iraq as colossal failures. These failures are all the more painful given that Alvarez was able to produce limited successes that pointed to what might have been. For example, the authorities' refusal to engage the Arab press, most notably Al Jazeera, created lost opportunities; in contrast, Alvarez's work with the Saudi television channel Al Arabiya was so successful that insurgents killed its personnel when they presented factual stories pointing out coalition successes.

*Selling War* is indeed part memoir and, clearly, part catharsis. Alvarez, a former enlisted soldier and then a commissioned line officer, is painfully aware of the difference between the lifestyle he experienced and that of frontline soldiers and Marines. His writing indicates a personal level of conflict when he contemplates not only how much easier his life was than theirs but also the even easier lives of other Army personnel and their civilian counterparts assigned to duties in Baghdad's Green Zone. Further, Alvarez does not shy away from telling of actions that place him in a less-than-flattering light. He takes responsibility for programs that went wrong and ideas that went astray. He admits to participating behind the scenes to get an immediate superior removed.

However, even as he often holds himself accountable for failure, he is equally or more scathing when looking at the failings of others. Alvarez's assignment involved working extensively with Iraqi officials, and he details the frustration of working within a system pervaded by nepotism and corruption. Yet Alvarez also is very sensitive to the plight of Iraqis who sincerely worked to better the country and the lives of its citizens.

Alvarez's account raises the very real question whether the shortcomings of the Iraqi government were so great as to prevent the United States from achieving its victory objectives. In Alvarez's experience, the rare Iraqi individual who worked for the greater good was so massively outnumbered by those who worked only for themselves that failure to reach the Iraqi ideal was guaranteed.

Alvarez served as General David Petraeus's PAO, and contends that the general understood, better than many, the value of communication in counterinsurgency operations. Alvarez praises Petraeus as a natural PAO and gifted communicator. He assiduously refrains from claiming credit for Petraeus's ideas on communication and counterinsurgency; however, Alvarez points out that he was developing and putting into effect many of the practices that Petraeus eventually turned into policy and doctrine.

From his service with Petraeus, Alvarez is able to provide a unique view of the man. Alvarez also discusses his interaction with noteworthy journalists, ranging from Christiane Amanpour, Dan Rather, and Peter Jennings to Geraldo Rivera. Somewhat surprisingly, the senior representatives of the fourth estate come off well, especially in the case of Rivera. As Alvarez tells stories of his personal experiences with these journalistic legends, he mounts a passionate argument that dealing with reporters in an openhanded way will serve the military far better than keeping them at arm's length and treating them as little better than the enemy.

This is not a scholarly work, nor is it intended to be, and there are issues pertaining to style and tone. Words and phrasing are as much Alvarez's tools as the plumber's pipe wrench or the

mathematician's calculator. Word choice is deliberate and made with intent. Thus, when Alvarez lavishly employs profanity, obscenity, and testosterone-laden invective, it is natural to ask why and to what desired effect. The author is no longer a salty sergeant or a junior officer of limited erudition and expression; to the contrary, he is a professional wordsmith, valued for his ability to paint a picture and explain an idea with words. One presumes the intent was for the reader to perceive the author as a fighting man with a pen, but the practice detracts from a persona as a coolly analytical observer and participant whose recommendations are rooted in rationality.

Perhaps this dichotomy reflects the actual experience of the U.S. communication effort in Iraq. Alvarez clearly cared about succeeding there. He employed creative methods and pursued avidly those that produced positive results. At the same time, he encountered organizational timidity, a lack of professionalism in his field, venality and indifference from many of his counterparts, and failure. Perhaps, under such conditions, frustration and invective are all that ever remains.

RICHARD J. NORTON

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#### OUR REVIEWERS

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*William S. Murray* is a professor and the director of the Halsey Bravo research effort at the Naval War College. He graduated from the State University of New York at Buffalo with a bachelor of science in electrical engineering, and he earned a master of arts degree from the Naval War College. Professor Murray served on and qualified to command nuclear-powered submarines in the U.S. Navy, retiring in 2003. He served on the operations staff at the U.S. Strategic Command and as a member of the faculty of the Naval War College's Strategic Research Department.

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*Nicholas Evan Sarantakes* is an associate professor of strategy and policy at the Naval War College. He earned a BA from the University of Texas, an MA from the University of Kentucky, and a PhD from the University of Southern California, all in history. He is the author of five published books and is currently writing books on the battle of Manila and the home front in World War II.

*Lars Saunes* retired as a rear admiral from the position of chief of the Royal Norwegian Navy in August 2017 and is now a CNO Distinguished International Fellow at the Naval War College. Among other schools, he is a graduate of the Royal Norwegian Naval Academy, the Naval War College, and the Norwegian National Defense College. He is a submariner by trade and held command positions on *Kobben*- and *Ula*-class submarines, as well as many other commands.

*Sam J. Tangredi* is the director of the Institute for Future Warfare Studies and a professor of national, naval, and maritime strategy at the Center for Naval Warfare Studies, Naval War College. He is the author of *Anti-Access Warfare: Countering A2/AD Strategies* (Naval Institute Press, 2013) and two earlier books on the future security environment.

## REFLECTIONS ON READING

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

In each article in this series, we have attempted to encourage sailors at all levels to develop a habit of reading books related to their profession as maritime warriors and related to their greater role as informed citizens of our great republic. The CNO's Professional Reading Program identifies over 140 great titles to consider. Reading any one of them will enrich your life.

We also would like to commend to you a “one-stop” menu of books: *The Leader's Bookshelf*, published in 2017 by the U.S. Naval Institute. It can serve as a gateway to over fifty superb volumes that can help make each reader a better leader. On its website ([www.usni.org](http://www.usni.org)), the publisher describes the book as follows:

Adm. James Stavridis and his co-author, R. Manning Ancell, have surveyed over two hundred active and retired four-star military officers about their reading habits and favorite books, asking each for a list of titles that strongly influenced their leadership skills and provided them with special insights that helped propel them to success in spite of the many demanding challenges they faced. *The Leader's Bookshelf* synthesizes their responses to identify the top fifty that can help virtually anyone become a better leader. Each of the works—novels, memoirs, biographies, autobiographies, management publications—are summarized and the key leadership lessons extracted and presented. Whether individuals work their way through the entire list and read each book cover to cover, or read the summaries provided to determine which appeal to them most, *The Leader's Bookshelf* will provide a roadmap to better leadership.

Highlighting the value of reading in both a philosophical and a practical sense, *The Leader's Bookshelf* provides sound advice on how to build an extensive library, lists other books worth reading to improve leadership skills, and analyzes how leaders use what they read to achieve their goals. An efficient way to sample some of literature's greatest works and to determine which ones can help individuals climb the ladder of success, *The Leader's Bookshelf* is for anyone who wants to improve his or her ability to lead—whether in family life, professional endeavors, or within society and civic organizations.

This book is a true treasure. I hope it will kindle a thirst for reading, writing, and learning that will be unquenchable. It includes an interview with former Marine Corps general James Mattis (now the Secretary of Defense), in which he discusses his personal library of over six thousand volumes and how they traveled with him from duty station to duty station during his active-duty career (p. 249). He advises as follows:

So as you think through how to put together a personal library, remember that it is an intensely personal adventure. You may be entranced with the ability to hold a book in your hands, scribble in the margins, show the volume to friends who are visiting. Or you may want an entirely electronic library that resides remotely in the Cloud, available in a moment over your smart phone, tablet, or home computer.

Your personal library may be seven books you deeply value or seven thousand, and it may be beautifully organized and alphabetized or simply arranged by the color of the book's cover. What matters is that it is *your* library, invested with your intellectual capital, and serves as a garden of the mind to which you can return again and again.

No matter how busy you may be, finding time to read will pay great dividends.

JOHN E. JACKSON