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Cover

USS Laboon (DDG-58) on Port Visit Toulon, France #2, *by Commander Monica Allen Perin, USNR, watercolor on paper, 2004, Navy Art Collection, 2004-101-4. The* Arleigh Burke*–class guided-missile destroyer* Laboon *enters Toulon after operations in the Mediterranean in support of Operation* IRAQI FREEDOM*. Commander Perin, who served on active duty as a Supply Corps officer for twelve years, today paints, exhibits, and teaches in France and Italy. She has produced numerous paintings for the U.S. Navy's Combat Art Program and the Navy Art Collection since being recalled in 1995 for duty in Zagreb, Croatia. Courtesy of the Navy Art Collection.*

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Fundamentals of Strategy

Each generation must educate leaders for modern high command, creating an intellectual organization for the study of strategy and an environment conducive to original, valid, and valuable strategic insights. There are few better starting points than the pioneering contributions of the U.S. Naval War College in the age of Admiral Henry E. Eccles.

Book Reviews

FROM THE EDITORS

Over the last several months, the strategic environment has been profoundly altered by the financial crisis that has engulfed Wall Street and continues to spread throughout the American as well as the global economy. The implications of this crisis for the defense strategy and programs of the United States under the new administration of President Barack Obama remain unclear, but it seems increasingly obvious that they will be substantial, and in some respects perhaps game changing. Secretary of Defense Robert M. Gates has warned of leaner budget times ahead and indicated that all major defense programs will be subject to challenge in the course of this year's accelerated Quadrennial Defense Review (now due to be completed by August). He has also made it clear that he plans to take a personal interest in fixing the defense acquisition process. This larger context needs to be kept in mind as we wrestle with the question of the future force structure of the U.S. Navy. In our lead article in this issue, "The Navy's Changing Force Paradigm," Robert C. Rubel, dean of the Naval War College's Center for Naval Warfare Studies, attempts to advance the discussion of this vital issue in the light of the Navy's recently promulgated maritime strategy document as well as the evolving strategic and technological landscape. Rubel suggests that we have entered a period of transition from the carrier-centric navy of World War II and the Cold War to a new era of more distributed and diversified naval platforms, critically supported by a new global command-and-control architecture.

But the Navy's ability to operate effectively in the world of today and tomorrow will depend not only on its platforms and weaponry. The conflicts in which this country has been continuously engaged for over seven years have demonstrated the importance of cultivating a generation of naval officers fully proficient in joint, interagency, and combined operations; further, the Navy's new maritime strategy has emphasized the vital role of international security cooperation at sea. In the view of Admiral James Stavridis, currently commander of the U.S. Southern Command, and Captain Mark Hagerott of the U.S. Naval Academy, the emerging requirements levied on naval officers call for a broad rethinking of the system of officer education, assignment, and promotion. In their article "The Heart of an Officer: Joint, Interagency, and International Operations and Navy Career Development," Stavridis and Hagerott argue that it is

time to move beyond the current model of a single line-officer career toward a more diversified model that makes greater room for the preparation demanded by these new operational requirements.

"Gunboats for China's New 'Grand Canals'? Probing the Intersection of Beijing's Naval and Oil Security Policies" is the latest contribution of the Naval War College's China Maritime Studies Institute to understanding evolving Chinese views concerning naval and maritime security. Professors Andrew Erickson and Lyle Goldstein examine the geostrategic context for China's current oil security–related actions and the role of oil in China's recent turn to the sea; analyze Chinese perceptions of the roles of China's sea lines of communication (SLOCs) and potential threats to them; explore the implications of a more assertive Chinese naval presence driven by oil-security concerns; and examine Chinese arguments in favor of international SLOC security cooperation. They find reason to conclude that cooperation may triumph over the possibility of conflict, given the common interests the Chinese share with the United States and other maritime powers. This has been starkly demonstrated in recent weeks as China has—for the first time—deployed naval forces in distant waters, to help counter the growing threat of piracy off the coasts of Somalia.

Two historical pieces round out this issue. In his "The Naval Battle of Paris," Professor Jerry W. Jones tells the little-known story of the contentious diplomacy between representatives of the United States (including President Woodrow Wilson himself) and Great Britain over naval and maritime issues at the Paris Peace Conference of 1919. This is an instructive example of how differing national perspectives on naval power, if not sensitively managed, can jeopardize relationships even among close allies, and it underscores the need to keep such perspectives firmly in mind today as we seek to build an expanded regime of maritime security cooperation in the face of current global challenges. Finally, in a look at some of our own institutional history, Professor Scott A. Boorman revisits the thought of Henry D. Eccles, a distinguished naval officer in the Pacific War who left a strong imprint on the Naval War College through his incisive views on strategy and, especially, the importance of logistics to naval warfare.

OUR NEWEST NEWPORT PAPERS

Newport Paper 32, *Major Naval Operations,* by Milan Vego, of the Naval War College's Joint Military Operations faculty, is available both in print and on our website. Professor Vego has published widely on the history of German and Soviet military doctrine; he is also the author of *Operational Art,* an authoritative textbook. This new work looks back to the richly instructive experience of the U.S. Navy in World War II (as well as in more recent operations during the Korean

and Vietnam wars and in the Persian Gulf) to develop a taxonomy of naval operational art that can help inform the thinking of the Navy as a whole today.

U.S. Naval Strategy in the 1980s: Selected Documents, edited by John B. Hattendorf (the College's Ernest J. King Professor of Maritime History) and Peter M. Swartz (of CNA), is also available, both in print and on our website; it is Newport Paper 33. It is the latest in the series wherein Professor Hattendorf has collected and annotated the U.S. Navy's key strategic documents of recent decades. The series also includes, to date, Newport Papers 27 (the 1990s) and 30 (the 1970s); Newport Paper 19 collected writings relating specifically to the Maritime Strategy of 1986.

OUR WEBSITE AND E-MAIL ADDRESSES

In fall 2008 the Naval War College was granted permission to transfer from the "mil" electronic domain to the "edu." That change has now been implemented, with immediate and beneficial effects. For the Press, the practical impact is in electronic addresses—see page ii for our new website and staff contact addresses (the old "mil" addresses will continue to work, indefinitely). The change is by no means cosmetic: for instance, it puts the College in a close and potentially fruitful electronic relationship with major northeastern civilian universities. For the Press, release from the security and space constraints of the "mil" domain has made our website dramatically more accessible than it was in the last two years and now allows us to post articles individually once again. The site (in fact, the College's entire Web presence) is in transition, but we're optimistic that it will be a convenient and useful resource for readers, students, and researchers.

RECEIVING THE *REVIEW*

The journal can be mailed to any address convenient to you, whether office or home. The editors sometimes hear of structural difficulties or delays in delivering mail to an address we've been given. If changing to a home address or to an office address, as the case may be, would help, please let our circulation manager know.

*Rear Admiral James "Phil" Wisecup became the fifty-second President of the U.S. Naval War College on November 2008. He most recently served as Commander, Carrier Strike Group 7 (*Ronald Reagan *Strike Group), returning from deployment in October 2008.*

A 1977 graduate of the U.S. Naval Academy, Rear Admiral Wisecup earned his master's degree in international relations from the University of Southern California, graduated from the Naval War College in 1998, and also earned a degree from the University of Strasbourg, France, as an Olmsted Scholar, in 1982.

At sea, he served as executive officer of USS Valley Forge *(CG 50) during Operation DESERT STORM. As Commanding Officer, USS* Callaghan *(DDG 994), he was awarded the Vice Admiral James Stockdale Award for Inspirational Leadership. He served as Commander, Destroyer Squadron 21 during Operation ENDURING FREEDOM after 9/11.*

Ashore, he was assigned to NATO Headquarters in Brussels, Belgium; served as Force Planner and Ship Scheduler for Commander, U.S. Naval Surface Forces, Pacific; and served as action officer for Navy Headquarters Plans/Policy Staff. He served as a fellow on the Chief of Naval Operations Strategic Studies Group; as Director, White House Situation Room; and as Commander, U.S. Naval Forces Korea.

Rear Admiral Wisecup's awards include the Defense Superior Service Medal, Legion of Merit, Bronze Star, and various unit, service, and campaign awards.

PRESIDENT'S FORUM

Challenge!

THIS IS MY FIRST APPEARANCE in the pages of the *Review* as the fifty-second President of the Naval War College, and I'm writing this at the ninetieth day of my service to this fine institution, so I intend to keep this brief and simply devote my remarks to the personal sense of mission and commitment I bring to this challenging new position.

Each of the professional military education schools has a purpose and a relationship with its parent service and officer corps. Some focus on producing capable staff officers, others on creating effective advocates for their services' capabilities. The Naval War College has—historically—been a catalyst for new thinking within the Navy. Its ability to perform this role today is absolutely vital. No great institution can afford to become static. In an era of growing responsibilities and diminishing resources, I consider it imperative for the Naval War College to be a dynamic, responsive, innovative center of creative scholarship and thought.[1] If this sounds familiar, it was Admiral Stansfield Turner's opening paragraph to his first column (in a department that later became the "President's Forum") in the fall of 1972, which has certainly stood the test of time and provides a pretty good "true north" for the compass of the Naval War College.

When he wrote these words, there were 188 students in the College of Naval Warfare (Senior Course) and 232 in the College of Command and Staff (Junior Course), as well as forty-six international officers, representing thirty-five navies—a total of 466 students. There are today 609 students on campus, which includes eighty international officers from forty-eight different countries, and there are many more in our extensive fleet seminars and distance education programs.

In 1972 family housing had just been built on Fort Adams, and Spruance Hall was nearing completion. The student body that year was hand selected, rigorously screened, and smaller than normal. Most important, Admiral Turner made radical improvements in the curriculum, based on his experience at Oxford. In fact, this change, with its emphasis on academic freedom and, above all, excellence in scholarship, placed high demands on the faculty and students. He told the students that "if you are inclined to shy away from a challenge, you are not the kind of officer we want here." Admiral Turner also said that these changes actually represented a "return to our great traditions." He was right on both counts.

If you look at the early days of the Naval War College and the rising U.S. Navy of the early twentieth century, you will find that some of our greatest officers were also prolific writers. Not content to stand on the sidelines, some—like Alfred Thayer Mahan—made significant contributions to the analysis of naval history and advanced the strategic thinking of the day. There were also the tactical and operational studies of men like William Sims, Raymond Spruance, and Kelly Turner.[2] These men were no courtiers—for example, Bradley Fiske's writings about vulnerabilities of the battleship years before Pearl Harbor was to cost him eventually; their common thread was a deep sense of integrity, purpose, and caring about their navy and their country, placing these considerations above their personal prospects.

We are well into the twenty-first century now and are fast approaching the 125th anniversary of the Naval War College. The tapestry of issues arrayed before us is vast and complex, and all the questions are hard ones, with no "school solutions." It's now about how adaptable we are and how much brainpower we can bring to bear on behalf of the Navy and the nation, here at the U.S. Navy's "home of thought."

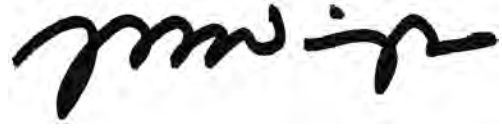
Think about some of the challenges facing a new U.S. administration and the U.S. Navy. In no particular order, off the top of my head: the Arctic, piracy, levels of warfare, future naval forces, naval warfare, the global economic slump, environmental and energy security and open sea lines of communication, joint and interagency issues, avian flu, officer career development, significant domestic and international legal issues, regional tensions (and in some cases open conflict), command and control, cyber issues, the changing character of war, diplomacy, ballistic-missile defense, terrorism, nuclear deterrence, and proliferation of weapons of mass destruction—all on top of two wars in progress. This list sounds exactly like the kinds of challenges the Naval War College is designed for, and for which it stands ready to prepare its students and future leaders to tackle. The leadership of the Navy and the nation awaits your recommendations.[3]

This issue of the *Naval War College Review* deals with some of these issues, and I would like to thank the authors for their timely contributions.

Every generation thinks its situation is unique and that its problems are the most insurmountable; ours is probably no exception. That said, the dizzying speed with which information flows around the world today gives a sense of acceleration of change, and our ability as leaders to cut through the chaff to the really important issues becomes more and more critical, and more difficult. What the teaching and research faculty do here in Newport is serious scholarship—but not for its own sake. They are working to stay ahead of the trends, anticipating the nation's concerns, and providing a context to our students (and, we hope, to the Navy and the nation for issues like these)—as well as the tools for analyzing and critically thinking about them. So it is time to roll up your sleeves and get at it. If anyone thinks that we have it especially difficult now, take a look at life in the fourteenth century—I recommend Barbara Tuchman's *A Distant Mirror*.[4]

Soon, many members of our senior class will most likely be thrust into major staff positions and forced to analyze these complex issues and provide recommendations to people in a position actually to *do* something about them. The War College is a place where officers can come to think deeply about the issues of the day. The College provides in Newport a unique opportunity to read broadly, to ask questions of expert faculty, nationally known guest speakers, and officers just returning from combat in your seminars; to listen to the views of officers from many countries; and also to take some time looking out the window on the Narragansett Bay to think about all of this—then write. In plain English. I promised the CNO when I took charge here that we would try to help the Navy speak the truth to itself. This is my challenge to the naval officers in the student body. I have urged them to just do it.

Shortly after my arrival here, someone asked me how many of our students have what it would have taken to carry on a serious strategic conversation with Ernest King or Chester Nimitz. I told them I was too new here to know but that I would make it my business to find out—and there is not a moment to lose. I hope that our students will let me know when they feel ready for that assignment.



JAMES P. WISECUP
Rear Admiral, U.S. Navy
President, Naval War College

NOTES

1. Stansfield Turner, "Challenge!" *Naval War College Review* 25, no. 1 (September–October 1972), pp. 1–2.
2. William Sims won the Pulitzer Prize for his book *Victory in Europe,* an account of his operations in the First World War. He had previously published frequently in the U.S. Naval Institute *Proceedings,* but most interesting was a pamphlet entitled *The Practical Nature of the Naval War College,* which he published in 1912 and distributed to all officers in the U.S. Navy at his own expense —you can read it online at www.usnwc.edu/about/documents/SimsDoc.pdf. Rear Adm. Albert Gleaves, for example, was the biographer of James Lawrence as well as of Stephen Luce, among other books. Commodore William Ledyard Rogers (President, Naval War College, 1911–13) was the recognized historian of ancient naval warfare under oars.
3. I would commend to your reading two articles: first, Secretary Gates's article "A Balanced Strategy," *Foreign Affairs* 88, no. 1 (January/February 2009); and Dr. Patrick Cronin (of National Defense University), "Barack Obama Faces 8 Global National Security Challenges," *U.S. News & World Report,* 15 December 2008.
4. Barbara W. Tuchman, *A Distant Mirror: The Calamitous 14th Century* (New York: Ballantine Books, 1978).

Professor Rubel is Dean of Naval Warfare Studies at the Naval War College. Before retiring from the U.S. Navy in the grade of captain, he was an aviator, participating in operations connected with the 1973 Yom Kippur War, the 1980 Iranian hostage crisis, and DESERT SHIELD. *He commanded Strike Fighter Squadron 131 and served as the inspector general of U.S. Southern Command. He attended the Spanish Naval War College and the U.S. Naval War College, where he served on the faculty and as chairman of the War Gaming Department, in the Center for Naval Warfare Studies, before his present appointment. He has a BS degree from the University of Illinois, an MS in management from Salve Regina University in Newport, Rhode Island, and an MA in national security and strategic studies from the Naval War College (1986).*

THE NAVY'S CHANGING FORCE PARADIGM

Robert C. Rubel

The recently issued *Cooperative Strategy for 21st Century Seapower* reflects an institutional response to America's changed strategic circumstances and embodies a logic that suggests a significant change to the Navy's force structure paradigm.[1] However, because the document is broadly worded, the service still has a lot of work to do to achieve an internal consensus on the implications of this logic for its future force structure. There is considerable intellectual "churn" associated with this shift, and the Navy has yet to come fully to grips with its implications for force structure. This article will attempt to describe the broad outlines of the paradigm shift and assess some of the programmatic implications, including the need for additional numbers of general-purpose surface combatants.

A naval force paradigm is a theory of how various types of ships and weapons available to a navy should be organized for warfare. The paradigm is governed by the characteristics of the principal naval weapons of the day and by the maritime strategy a nation pursues. In this nation's early days, the principal weapon was the naval cannon, which could hurl a twenty-four-pound shot about half a mile with effectiveness. The strategy of early administrations not to be drawn into European wars, coupled with their determination to protect American merchant shipping, produced a force paradigm of a small fleet of highly capable frigates, operating independently or in small squadrons. At the dawn of the twentieth century, as the United States elected to widen its strategic perspective and become a player on the world stage, its force paradigm shifted to a battleship-centric fleet, reflecting the governing weapon of the day, the large-caliber naval gun.

With the advent of the airplane and the impetus of the Japanese attack on Pearl Harbor, the battle-line paradigm shifted to one of circular formations centered on fast aircraft carriers. In all of these paradigms there was a central ship type that supported the principal weapon. Other ship types supported the central type or performed such collateral, systemic duties as convoy escort, amphibious operations, or minesweeping. As the Navy built budgets for submission to Congress, each type of ship, as well as its characteristics and numbers, could be justified based on its role in the existing force paradigm.

Of late, the Navy has come under fire from Congress and various pundits and think tanks for its inability to provide adequate justification for the proposed "DDG-1000" advanced destroyer, as well as for its decision to cut production of that type to three ships. Much blame is laid at the feet of current Navy leadership, especially as this issue is regarded as symptomatic of a larger problem with the service's shipbuilding plans. The call for a 313-ship navy by the Chief of Naval Operations (CNO), Admiral Gary Roughead, is regarded in some quarters as unaffordable and in others as based upon a number, be it too high or too low, that is supported by insufficient analysis. Part of the Navy's current difficulty with programmatics may indeed be institutional and procedural, consisting, in various degrees, of failures in concept development, cost estimation, and program management. However, the perceived credibility problem also stems from the fact that the Navy is in the initial stages of a fundamental naval force paradigm shift, one with implications for force structure that are not unlike the shift from a battleship-centric force to an aircraft carrier–centric force. Today, the increasing effectiveness of antiship missiles, along with the increasing lethality of antiaircraft defenses, is about to make necessary a shift from a force centered on "big deck" aviation platforms to one that is more distributed and oriented around missile-firing platforms—most prominently, submarines and surface combatants. In the process, the Navy will shift from a force paradigm it adopted in 1942 and has employed in a refined version since the end of the Cold War.

THE ". . . FROM THE SEA" ERA

In September 1992 the Navy issued ". . . From the Sea," a white paper that responded to the radical alteration in global strategic conditions caused by the collapse of the Soviet Union.[2] With its only competition on the high seas gone, the U.S. Navy faced the prospect of losing its justification for being. As Samuel Huntington pointed out in 1954, a military service requires a viable strategic concept in order to generate the public support needed to secure funding for it.[3] ". . . From the Sea" represented that new concept: the Navy and Marine Corps would focus on projecting power ashore in support of joint operations. In a post–Soviet navy era, the United States was left as sovereign of the seas,

and its navy, as the white paper asserted, "can afford to deemphasize some efforts in some naval warfare areas."[4]

The area that was deemphasized was sea control. Gradually, over the course of the next fifteen years, the Navy structured itself in alignment with the logic embedded in ". . . From the Sea" and its two successors.[5] However, this realignment was rather easy, as the forces in existence at that time, especially the Navy's aircraft carrier and amphibious forces, were, by and large, suitable for the execution of joint warfare in an uncontested littoral. The force drawdown of the 1990s consisted mostly of disposing of various classes of sea control–focused surface combatants; the force settled upon a set of carrier strike groups (CSGs) and expeditionary strike groups (ESGs), oriented around big-deck aviation platforms. The transition was made all the easier because the Navy's dominant community at the time, carrier-based aviation, remained at the center of the new paradigm.

During the succeeding fifteen years, nearly to the present, the Navy could concentrate geographically as well as functionally. Deployments gradually narrowed to two focal areas, the Persian Gulf and Northeast Asia, where "rogue states" might commit conventional aggression against U.S. allies. The lack of serious naval threat and the emergence of precision-strike munitions in time allowed the Navy and Marine Corps to establish the idea of a "sea base" (a concept that has since been raised to a quasi-paradigm status), whereby American operations ashore in hostile or undeveloped areas would be supported from the sea, without the need for much infrastructure on land. Perhaps the apotheosis of this concept was Operation ENDURING FREEDOM, whose initial phase was supported almost entirely by a naval task force some seven hundred miles from the landlocked scene of operations in Afghanistan. Starting in the late 1990s, advocates of network-centric warfare (NCW) added momentum to the Navy's littoral focus by claims that dispersed, networked forces could generate higher levels of combat effectiveness with smaller, cheaper platforms. Vice Admiral Arthur K. Cebrowski, a key oracle of NCW, promoted "Streetfighter," a small, fast, networked ship that eventually emerged as the Littoral Combat Ship (LCS). This was only part of the transformation. DDG-1000, starting life conceptually as an "arsenal ship," was to be a survivable platform, mounting a high-tech gun, that would provide significant naval gunfire support to forces deep inland. As "The Navy Operational Concept: Forward . . . From the Sea" said in 1997: "We will be able to deliver a large volume of firepower through new ways of achieving very high aircraft sortie rates and new weapons and platforms for delivering joint fires."[6]

However, even as the Navy adopted this new force paradigm and aligned itself institutionally to focus on joint warfare in the littorals, factors were emerging—technological, economic, and political—that would eventually force it to reconsider. Among the factors most relevant for the present discussion were the

progressive development and proliferation of ballistic-missile technology, potentially including antiship capability; the ability of American cruisers and destroyers to conduct midcourse intercept of some kinds of ballistic missiles; the emergence of China as an economic power and its construction of a capable navy; the terrorist attacks of 9/11 and their downstream effects; and the resurgence of an economically viable and potentially hostile Russia. As these factors progressively manifested themselves, Navy admirals became increasingly uncomfortable with their service's institutional vector. This discomfort culminated in 2006 with then-CNO Michael Mullen's call for the development of a new maritime strategy. When it appeared in October 2007, the new strategy, while perhaps overly terse and virtually silent on the particulars of force design, contained a new logic that ran counter to the force paradigm set by the ". . . From the Sea" series of white papers.

The new strategy calls for "combat credible" forces (to be concentrated in Northeast Asia and the Persian Gulf regions), "globally distributed, mission-tailored forces," and a global maritime-security network—all welded together to prevent or limit regional conflict, render disaster relief, and provide other services necessary to foster and defend commerce and security. Viewed in the context of emerging blue-water navies, terrorists bent on smuggling weapons of mass destruction into the United States and allied nations, increasing exploitation of ocean resources, and interregional ballistic-missile threats, this new strategy strongly suggests a navy very unlike the one that has emerged since the Cold War.

A NEW FORCE PARADIGM

It is, therefore, as a result of a changed strategic environment and a new but broadly worded strategy that the Navy is now attempting to accommodate a fundamental force-paradigm shift. In the past, years and much experimentation with ship types have been required to make the transition. There have been blind alleys. Whether battle cruisers or small aircraft carriers, these blind alleys were functions of conceptual uncertainty as to what the new governing weapon would be. That same uncertainty exists today; the Navy is struggling to find ways to make its current force more secure against missile and submarine attacks while at the same time its analyses are finding that a different approach may be necessary. In order to make sense of what is occurring and to develop a level of institutional confidence in its new direction, the Navy has reinstituted "Title X" war gaming, an arena it abandoned in 2001, and has developed a new strategic planning process meant to provide guidance to programmatic processes.[7]

As has been the case for the past 120-plus years, the service has turned to its war college to help think through the problem. Studies conducted at the Naval

War College in Newport, Rhode Island, over the past few years have concluded that the combination of emergent weapons technology, political realignments, and economic trends points to a fleet that should possess different characteristics from the one in the water today—different even from some planned designs, like DDG-1000. These studies suggest that Navy forces should adopt a different style of war fighting, one that is more dispersed and flowing, not oriented to defensive bastions around sea bases of CSGs or ESGs. Moreover, the access-denial problem is fundamentally different in the Persian Gulf from what it is in Northeast Asia, suggesting that the Navy should tailor its force by region and mission area. Further, studies suggest, the Navy does not necessarily need to design every ship for integration into a battle group. These findings are based, in some cases, on more than five years of continuous, iterative, and highly detailed war gaming, but even so they are still preliminary and must be subjected to additional gaming and analysis.

One kind of force paradigm that can be inferred from the results of these studies is a navy that consists of four principal segments. The first segment, an "access generation" force, would focus on employing missiles. The targets for these missiles would principally be opposing access-denial forces, whether ships, submarines, aircraft, or ballistic-missile sites on the shore. Given the difficulty of defending against modern missiles, this force would adopt a highly dispersed and covert posture in order to prevent the enemy from targeting it and to maintain combat credibility even in the most difficult crisis and brink-of-war situations. The exact constitution and operational doctrine of this force would be different in Northeast Asia from what it would in the Persian Gulf, due to the fundamentally different natures of the opposing forces and the maritime terrains. Generally speaking, this force would be centered on submarines, especially the converted *Ohio*-class SSGNs (formerly SSBNs) and surface ships such as the *Arleigh Burke* (DDG 51) class of guided-missile destroyers and the Littoral Combat Ship. The key will be generating targeting data for the missiles these platforms carry, but that is a better combat problem to have to solve than the defense of a carrier battle group.

Currently, the Navy relies on carrier-based strike fighter aircraft to perform the bulk of its sea-control and power-projection missions. The Chinese and others understand this and are working on ways to neutralize U.S. carriers and their embarked tactical aviation. To date, the Navy's response has been to focus on developing better defenses for carriers against submarines and cruise missiles. Such an approach, while logical and understandable, has always been problematic. History has shown that tactical defense is the most disadvantageous type of sea fight. If the Chinese are able to perfect an antiship ballistic missile, the problem could get worse. One solution is to disperse striking power among greater

numbers of platforms that are hard to find and hit. The SSGN, with its ability to house 155 strike missiles, is a promising candidate. A strategy employing a "grid" populated with DDGs, submarines, and LCSs and using advanced missiles for both sea control and land attack might negate and neutralize investments in carrier-killing systems. Such an approach would make an overall naval operation more robust, as there would be no key ship type, the loss of one or two of which would unhinge the overall operation. Such an approach would also increase opportunities for deception, instilling doubt in the minds of potential opponents. This would be especially valuable in crisis situations. Concentrated and vulnerable naval forces can quickly turn into political liabilities, removing instead of adding to options. A hard-to-target force packing lethal missiles would be much more likely to provide the necessary deterrence and influence.

The second force segment would be the "power projection" force, which would look much like what the Navy has today: CSGs and ESGs centered on big-deck aviation ships. However, instead of being the ubiquitous arbiter of naval power they are today, they would become a specialized role-playing force, not unlike the U.S. Seventh Fleet in World War II, which in effect constituted General Douglas MacArthur's "sea base" in his campaign up the Solomons and New Guinea toward the Philippines. That force was capable of anything but confronting the main Japanese fleet. The new power-projection force would generally operate in permissive environments but could support the access-generation force in certain instances.

The third force segment would be the "maritime security" force. Frequently supported by elements of the first two segments, this force would have specialized units conduct patrols for terrorists and criminals and help to catalyze a global maritime security partnership through extensive engagement. Other units, such as hospital ships, high-speed vessels, and others, would conduct systematic operations to establish a stable political and economic environment throughout the oceans and in the littorals. A recent Global War Game at the Naval War College that involved international naval officers as players revealed that our potential partner navies, especially those in Africa, regard any kind of grey-hulled ship as threatening. Therefore, new (and cheaper) types of vessels should be considered for global maritime partnership missions. Another insight gained from that game was that a broad cross section of international navies consider their principal mission to be law enforcement. This might seem a U.S. Coast Guard function, but because of severe limitations on the Coast Guard's size and because these partner services are navies as such, with defense missions in addition to law enforcement responsibilities, the U.S. Navy will have to find ways to engage in this arena. Therefore, this force segment is as much characterized by the sailors who man it as by the nature of its platforms.

The fourth force segment would be the series of maritime operations centers (MOCs) that is now being established around the world. These centers represent a force element in themselves, not simply command-and-control "overhead" for afloat forces; they will carry out various kinds of information operations that are critical to maritime security, power projection, and the screening of access-generation forces. In today's networked and media-saturated world, information is a weapon, much more than it was in the past. Obtaining and denying information are central operational capabilities, as is the ability to process and assess the meaning and significance of the avalanche of information available to naval forces. It is no longer sufficient for naval staffs to generate plans and issue orders; they must function as information clearinghouses and as operational units in their own rights. As an indication of this changing warfare environment, the Navy is contemplating embedding task force commanders within the MOC and standardizing its task force structure on a global basis to make networked and interconnected staff operations more coherent. Another indication is the establishment of a maritime staff operators' course to train the personnel who will operate the MOCs.

CALCULATING FORCE SIZE

Traditionally, the overall size of the Navy has been determined principally by calculating the forces needed to fight the major theater wars that could most likely occur (Iraq, Iran, Korea, etc.), with some additional forces for "presence." Multipliers for maintenance and training cycles were added to arrive at the total force. However, this force is focused on the Middle East and East Asia. Its ability to generate engagement, humanitarian assistance, and disaster relief as well as ballistic-missile defense in other areas is marginal. However, the new maritime strategy is supposed to provide for the defense of global commerce and security on a continuous basis. Therefore, force-size calculations must now shift to a different basis. Some writers have discussed "high/low" mixes and different "modes." Under the new force paradigm, some traditional ship types, such as amphibious ships and aircraft carriers, will be employed at various times in operations undertaken by the access-generation and maritime-security elements. Thus it is neither accurate nor useful to talk about high- and low-end operations. The real question in terms of programmatics under the new paradigm will be how much capacity is needed in each element of the force. To use an old paradigm as an easy example, the Navy would not have wanted to overspend on battleships if it was to be able to buy enough cruisers and destroyers necessary for screening the battleships, let alone the logistic forces necessary for the fleet's successful forward operation. Moreover, there would have been a point of diminishing returns at which the incremental naval power generated by the

next new battleship would not be worth its marginal cost. In this new paradigm, a careful calculation must be made of how much access-generation, power-projection, missile-defense, engagement, and disaster-relief capacity is needed worldwide. Clearly, the traditional major combat scenarios (major combat operations, or MCOs) will figure in the calculation of access-generation forces, but the Navy will have to establish a defendable criterion for force sizing outside this framework if the new force paradigm is to be achieved.

The new maritime strategy contains potentially useful logic for capacity calculations, even if that logic is as much implicit as articulated. The fundamental premise is that defense of the global system under current strategic conditions depends more than ever on the collective and cooperative action of nations and their navies. In order to catalyze and capitalize on this cooperation, the Navy must have at its disposal certain capabilities—such as ballistic-missile defense, disaster relief, and partner capacity building—in all regions of the world. Each region's exact requirements would be a bit different from those of the others, but the steady-state peacetime defense scenario in each would be treated like an MCO for force planning purposes. If we assume that a transformed access-generation force will require fewer power-projection capabilities for MCO purposes, trade-offs can be made that would shape the force without much, if any, total growth in the overall tonnage, or at least overall cost, of the U.S. Navy.

To some this may sound like the Navy would be blunting its sword, but in an age of antiship missiles and advanced surface-to-air missiles, its current principal ship type, the *Nimitz*-class aircraft carrier, and its principal weapon, the tactical strike fighter, may not constitute as sharp an edge as they used to. The cost of keeping this ship type viable as an access-generation tool is probably all out of proportion to investments by others in threatening it. Recognizing the shift to the missile age is as difficult today for some officers as many officers in the 1930s found it to recognize that the airplane had superseded the large-caliber gun. But the last thing the Navy or the nation needs is a naval defeat like Pearl Harbor or the sinking of HMS *Repulse* and *Prince of Wales* in 1941 to bring home the lesson that times have changed.

THE CENTRALITY OF DDG 51

One potential connecting link among the elements of the new force paradigm is the guided-missile destroyer. There are a number of reasons why the future Navy should be populated with a relatively large number of these warships. First, neutralizing ballistic missiles, whether they are aimed at shore or sea targets, is a critical function worldwide. This notion is supported by increasing Navy component commanders' calls for the stationing of ships with this capability in areas outside normal naval-presence hubs. Since sea-based ballistic-missile defense is

a proven capability, the Navy should procure enough ships that can do it, not only to defend and support CSGs and ESGs but also to establish a viable ballistic-missile defense posture in virtually every region of the world. The key is to have enough of them to provide theater commanders flexibility in responding to emergent situations, including timeliness of response. For various tactical and technical reasons, they should operate in this role in pairs. *Arleigh Burke* guided-missile destroyers are also useful for signaling and other forms of naval diplomacy, as recently illustrated by the dispatch of USS *McFaul* (DDG 74) to deliver humanitarian supplies to Georgia. The logic of the move, as delineated by a Stratfor.com analyst, reveals the utility of the ship type:

> It is interesting, therefore, that a U.S. warship delivered humanitarian supplies to the Georgians. The ship did not use the port of Poti, which the Russians have effectively blocked, but Batumi, to the south. That the ship was a destroyer is important. It demonstrates that the Americans have a force available that is inherently superior to anything the Russians have: the U.S. Navy. A Navy deployment in the Black Sea could well be an effective counter, threatening Russian sea lanes.
>
> While it was a warship, however, it was only a destroyer—so it is a gesture, but not a threat.[8]

One of the key aspects of U.S. maritime strategy since the end of the Second World War has been the maintenance of naval forces forward, so as to keep them available to support American interests quickly. Timeliness of response has been a factor in a number of situations, ranging from the invasion of South Korea by the North in 1950 to the arrival of aircraft carriers in the Red Sea and the northern Arabian Sea in response to the Iraqi invasion of Kuwait in 1990. Significant lag times in arrival of naval forces can lead potential aggressors to think in terms of a "window of opportunity."[9] There is evidence that in 1982 the Argentine junta made its final decision for invasion of the Falklands on the basis of a report that the British nuclear submarine HMS *Conqueror* had just been dispatched from the Mediterranean to the South Atlantic. Once it arrived, the junta felt, nothing would be possible; therefore, it calculated, the interval between the ship's departure and its estimated arrival on the scene represented a window of opportunity, one that could not be wasted.[10] This logic suggests that U.S. naval forces be positioned such that no potential aggressor can perceive an operationally useful interim before they can be on station. This kind of responsiveness defines the necessary capacity—that is, the numbers of ships—the Navy should possess. Given the ship-by-ship superiority of U.S. Navy forces over their potential opponents, be they sea or shore based, the United States does not need to dispatch a fleet or battle group; in many cases a small, tailored squadron, even a single DDG 51, would suffice.

In today's world, inherently peaceful operations like humanitarian assistance may be threatened by cruise missiles. The fact that Hezbollah was able to surprise and hit an Israeli patrol boat with an Iranian-provided C802 coastal-defense cruise missile should be a warning flare to all nations with navies that such weapons can be obtained by nonstate actors and secretly positioned almost anywhere. Thus, nonmilitary or auxiliary ships sent for peace operations may require missile-defense escorts, at least until the security of the operations area can be assured.

Assuming that the capabilities of DDGs would be useful enough in every region for theater commanders to want at least two continuously available, and also that most cruisers would be assigned to group defense, a minimum of seventy-five DDGs would be needed for battle-group support, ballistic-missile defense, and independent missions. The Navy has programmed sixty-two; a force growth of thirteen would be feasible. However, the total number needed may grow even more if the Navy adopts the new force paradigm outlined above in order to overcome the increasingly formidable antiaccess force the Chinese are building.

The general tone of thinking laid out in this article has, in part, I believe, caused senior Navy officers to revise their positions on DDG-1000 and the DDG 51 class. This sea change in the Navy indicates the early stages of a paradigm shift away from a force centered on big-deck aviation platforms. Although assault ships (LHDs) and nuclear-powered aircraft carriers (CVNs) will continue to constitute a critical power-projection capability for the United States into the foreseeable future, the Navy will increasingly shift to dispersed but integrated surface and subsurface operations to constitute the credible combat power required by its new maritime strategy.

CNO has justified DDG-1000 as a technology demonstrator, and this corresponds well with the decision to build only three of them. Despite the current advantages of *Arleigh Burke* in system configuration and cost, and its projected utility, it is still a gas-turbine-powered destroyer that employs chemical-based weapons. As the technologies of rail guns, electromagnetic-discharge defenses, and electric drive develop, there will come a time when a new class of vessel is needed to take full advantage of them. DDG-1000s will provide the Navy and defense industry with valuable education in how to take some of these technologies to sea. In the meantime, the *Burke* class and the LCS will help make the paradigm shift for the U.S. Navy.

FIGHTING FOR INFORMATION

The new naval force paradigm will also feature a doctrine of fighting first for information. Not only must it be able to overcome opposition to get information

(that is, to conduct "opposed ISR"),* but it must be able to fight to deny information to the enemy. Future sea fights for information will not be localized (the Chinese doctrine of "localized and limited wars under informatized conditions" holds that although the direct combat space of wars will be limited, the "related war space" will be expanded), and they will begin well before any overt outbreak of traditional hostilities.[11] The protective covertness that surface fleets have traditionally enjoyed is being threatened by new combinational arrays of ISR technologies including satellites, unmanned systems, over-the-horizon radars, the Internet, etc. The reach of these systems and networks will be global, so the information fight will be global, even if the "kinetic arena" is geographically constrained. An indicator that the Navy is starting to understand this can be seen in its initiative, mentioned above, to establish a network of interconnected maritime operations centers that will be capable of coordinating the information fight on a global scale. Under the new force paradigm, the MOCs will be a "screen" for naval forces. Given the immense advantages in range and endurance of unmanned aerial vehicles (UAVs), it is quite possible that aircraft carriers also will be part of the protective screen for distributed surface and subsurface forces, launching from safe distances arrays of UAVs that will scout, relay, deceive, and even strike to help the subsurface and surface grid deliver its killing missile power.

The information fight will affect all three elements of the new naval force. Beyond its effects on the access-generation force as just discussed, the information fight is central to global maritime security. Maritime forces around the globe, from all nations, must have information on what and who is out there—on, over, and under the seas—in order to prevent terrorism, drug running, human trafficking, and poaching. Although current efforts are encountering political obstacles, eventually a global maritime picture will emerge. Here again, the centrality of the Navy maritime operations centers becomes evident as they become clearinghouses for maritime situational awareness. When functioning as staffs for joint force maritime component commanders, the MOCs will play a key role in the information fight associated with joint power projection. Thus the MOC represents a distinct element in the new naval force paradigm.

The new force paradigm described here is not a technological fantasy. It is most fundamentally a conceptual shift, one that will be useful in steering experimentation and investment along more affordable, and ultimately more useful, lines. We have in place a maritime strategy that can be used to establish a defensible basis for force-capacity calculations. The Navy has at its disposal, as it did in

* ISR: intelligence, surveillance, and reconnaissance.

1992, forces that can be readily adapted to the new paradigm, and it has already begun changing its command-and-control structure to accommodate the full range of operations called for in the new strategy. What remains is for the Navy to make the intellectual and emotional shifts to the new force paradigm.

NOTES

1. Reprinted in *Naval War College Review* 61, no. 1 (Winter 2008), pp. 7–19; also available at www.navy.mil/maritime/MaritimeStrategy.pdf.
2. U.S. Navy Dept., ". . . From the Sea: Preparing the Naval Service for the 21st Century." For the publishing history of this white paper and the various sources posting or reprinting it, see John B. Hattendorf, ed., *U.S. Naval Strategy in the 1990s: Selected Documents,* Newport Paper 27 (Newport, R.I.: Naval War College Press, 2006) [hereafter Newport Paper 27], pp. 87–88 and notes, available at www.usnwc.edu/press/newportpapers/documents/NP27.pdf.
3. Samuel P. Huntington, "National Policy and the Transoceanic Navy," U.S. Naval Institute *Proceedings* 80, no. 5 (May 1954), p. 483.
4. U.S. Navy Dept., ". . . From the Sea," p. 1.
5. See Newport Paper 27.
6. See Newport Paper 27, pp. 159–60 and notes. The quote appears on page 12 as originally issued.
7. So named for Title X of the U.S. Code, which establishes the legal basis for the roles and missions of the services. See "President's Forum," *Naval War College Review* 61, no. 3 (Summer 2008), pp. 7–11.
8. *Strategic Forecasting Geopolitical Diary: U.S. Aid to Georgia Raises a Question for Russia,* 25 August 2008, Stratfor.com, www.stratfor.com/geopolitical_diary.
9. Margaret Thatcher, *The Downing Street Years* (New York: HarperCollins, 1993), p. 174. Thatcher clearly understands the logic of this when she says, concerning British decision making prior to the Argentine invasion of the Falklands, "Most important perhaps is that nothing would have more reliably precipitated a full scale invasion, if something less had been planned, than if we had started military preparations on the scale required to send an effective deterrent."
10. Lawrence Freedman and Virginia Gamba-Stonehouse, *Signals of War* (Princeton, N.J.: Princeton Univ. Press, 1991), pp. 65–78.
11. For Chinese doctrine, Peng Guangqian and Yao Youzhi, eds., *The Science of Military Strategy* (Beijing: Military Publishing House, 2005), pp. 415–17.

Admiral James Stavridis assumed command of the U.S. Southern Command on 19 October 2006. A Surface Warfare Officer, Admiral Stavridis commanded the destroyer USS Barry *(DDG 52) from 1993 to 1995. In 1998, he commanded Destroyer Squadron 21. From 2002 to 2004, Admiral Stavridis commanded the* Enterprise *Carrier Strike Group. Ashore, Admiral Stavridis has served as a strategic and long-range planner on the staffs of the Chief of Naval Operations and the Chairman of the Joint Chiefs of Staff, as the director of the Navy Operations Group, "Deep Blue," and as executive assistant to the Secretary of the Navy and the senior military assistant to the Secretary of Defense. Admiral Stavridis earned in 1984 a doctorate in international relations from the Fletcher School of Law and Diplomacy at Tufts University. He is also a distinguished graduate of both the National and Naval war colleges. He is author or coauthor of several books on naval ship handling and leadership, including* Command at Sea *and* Destroyer Captain.

Captain Mark Hagerott, a Surface Warfare Officer, served on five ships and in multiple fleet and Pentagon staffs. He served in the U.S. Department of Justice as a White House fellow and as a military assistant to the Deputy Secretary of Defense. He commanded USS Kauffman *(FFG 59) from 2001 to 2003 and is a naval nuclear engineer. He attended the U.S. Military Academy at West Point and earned degrees from the U.S. Naval Academy, the University of Maryland, and Oxford University, where he studied as a Rhodes Scholar. He holds a PhD in the field of science, technology, and military history. He is a military professor on the faculty of the U.S. Naval Academy in Annapolis, Maryland.*

THE HEART OF AN OFFICER

Joint, Interagency, and International Operations and Navy Career Development

Admiral James Stavridis, U.S. Navy, and
Captain Mark Hagerott, U.S. Navy

The attacks of 9/11 and the continuing conflicts with terrorists in Afghanistan, Iraq, and around the world stand as stark evidence that military commanders today face a changing world and an emerging set of challenges. Beyond the conflicts with extremist organizations, the broad security challenges of the twenty-first century are far more diverse—from counternarcotics to cyber warfare—all of which will unfold in an unforgiving 24/7 global news cycle. Because the extant challenges are transnational and nontraditional, the joint commander of today needs to be able to integrate the efforts of a wider and more disparate set of organizations than ever before—from national intelligence services to charitable giving organizations.

To develop this integrative capacity, the commander must be more knowledgeable in joint, interagency, and international operations. Additionally, in this age of globalization, an effective joint commander must be especially adept at strategic communications and ideally speaks at least one foreign language.

Producing such leaders with the requisite skills in the joint, interagency, and international arenas, however, will not be easy. Within the U.S. Navy, the segment of the officer corps responsible for mastering such duties—the Unrestricted Line community—is already, through sheer task saturation, approaching the limits of what current career patterns permit. Today, line officers must master platform operational skills, develop expertise in technical fields, and gain at least a nascent knowledge of joint operations.

If Navy line officers are expected to develop greater expertise in joint, interagency, and international operations, to include strategic communications and ideally skill in a foreign language, something in the career path must give. In light of the new requirements levied on today's commanders, it may be time for the Navy to reevaluate how it educates, assigns, selects, and promotes future leaders. A reevaluation of the officer education, assignment, and promotion system—from "midshipman to admiral"—is in order.

THE NEED

As 9/11 and the 2003 invasion of Iraq fade from our immediate memory, the deeper meaning of these events is coming into better focus. It appears that the nature and range of war and conflict has changed: it has become broader and even more complex. Older modes of war have not been dis-invented, but new modes are upon us. In scenarios now deemed the most likely to face our nation, our forces will operate in different ways and places: what has been termed "irregular warfare" is on the rise. At the same time, however, the possibility of traditional, high-end, state-on-state conflict cannot be discarded. This means that while our military leaders must still be able to operate and command sophisticated combat platforms in all dimensions of conflict, there is an increasing demand for leaders who can win in the unconventional and societal domains of action—where the people are.

Warfare is not an "on/off" proposition. It is more like a rheostat. Given the likely threats of the immediate future, the rheostat needs to be capable of dialing between high levels of traditional conflict and the more likely, lower-end, transnational and irregular threats.

Simply put, the geographical and dimensional locations of war and conflict have shifted in many scenarios. Much of war has moved to the "hearts and minds" of countries and areas we have long neglected. Consequently, American officers will be required to operate in geographical regions different from those for which they have traditionally prepared. For the Navy, the change in location of war has been particularly dramatic, as conflict has moved from the "blue water" into the coastal and littoral regions of Iraq, Afghanistan, the Horn of Africa, and other locations.

The challenge confronting the line community is more complicated yet. Naval officers are doing more than reporting to new, exotic naval commands or sailing in new and shallower waters. Evidence points to a future world wherein naval officers will find themselves in a wide range of significant joint assignments that have not traditionally been filled by the sea service. Naval officers and naval institutions played early and important roles in the establishment of Africa Command, with the assignment of Vice Admiral Bob Moeller as deputy for

military operations. In recent years naval officers have also been called upon to lead combatant commands that were once in the traditional purviews of different services—for example, Admiral Fox Fallon at Central Command and Admiral Jim Stavridis at Southern Command. The requirement for such geographical agility is not limited to just the senior commanders but has extended well down the ranks, to field-grade officers. The recent requirement for naval officers on the ground in landlocked countries (e.g., with Afghanistan provincial reconstruction teams) illustrates this point. The expanded geographical and mission sets naval officers are expected to fill require different skills of up-and-coming leaders.

SOCIAL/CULTURAL OPERATOR AND STRATEGIST

International, joint, and interagency assignments require an understanding of language, culture, and the deep social terrain and environment of an increasingly complex world. Additionally, some proportion of our officers should be capable of effective strategic-level communications in one of the dominant languages in a given area of focus.

The cultural and social terrains of some of the most challenging theaters are, however, decidedly non-Western. In such places the "normal" cultural and linguistic experience of most U.S. officers is of relatively little value. In addition, social, cultural, and linguistic skill requirements apply not just to the senior commanders but, as noted, to field-grade officers. Staff assignments across the spectrum of the joint world, as well as demanding interagency work—from sailing the hospital ship *Comfort* through the Caribbean and Latin America to manning the Africa Partnership Station in the Gulf of Guinea—have pointed to the need for social and cultural and linguistic knowledge.

Such a joint leader will also serve as a participant, even as a "change agent," to ensure that the larger U.S. military and interagency realms can better work together. Today the unified combatant commands, for example, are parts of coalitions made up of nontraditional entities (e.g., interagency, international organizations, informal international coalitions, corporate). Central to success in this emerging environment is relationship-building leadership. The joint leader is expected to be part of the combined efforts of disparate organizations in conditions that could be characterized as highly demanding. These "mega-communities," as one author has called them, have complex characteristics.[1]

What kind of leader can best support the efforts of such a wide range of organizations? The answer seems obvious: an officer who understands and has served in or around these organizations, an officer who literally or figuratively speaks their languages. Most personnel managers would agree that a career path with more joint, interagency, and international experience makes an officer a

better joint leader. However, officers seeking such experience in their career paths have run into roadblock. The roadblock is an officer education and career model that has been slow to adapt to the new operational environment.

A ROADBLOCK ON THE PATH TO CHANGE?

The system of naval officer development we have today is fundamentally a product of the Cold War, with a very strong emphasis on technical education and a career pattern dominated by platform-related assignments. In a career chockfull of requirements, "wickets" to be hit, those officers who in the past have received rigorous preparation for joint or interagency command did so more by their own force of will than by the design of the Navy's personnel system. The Navy's current generation of joint leaders has risen to joint command despite an educational and career system that has seldom been conducive to their acquisition of joint and regional knowledge or development of strategic communication skills.

Competing demands on naval officers' time, education, and career assignments have made it increasingly difficult to prepare these officers to be joint leaders in an international and interagency setting. To be sure, since the end of the Second World War the Navy has supported an expansion of several joint educational and assignment initiatives (attendance at the war college, completion of a joint tour, etc.). However, in parallel with the Navy's acknowledgment of the need for more joint education has come an increased requirement for officers to gain technical education, earn technical subspecialties, and take platform-related duty assignments.

With the Navy career already packed in order to meet such demands, one may ask how a larger number of Navy officers can find time for more rigorous joint, interagency, and international preparation. It is doubtful that officers can attain additional joint, interagency, or international preparation without hazarding their technical and platform expertise. It is in that sense that the current Navy career model may have reached its limit. It is increasingly inefficient and stressed by attempts to accommodate the emerging joint, interagency, and international requirements. But to transform the career model from "roadblock" to a "bridge" that leads to a more adaptive officer corps will not be easy. A first step in the task is to understand where the roadblock came from, who built it, and why.

DEEP ROOTS IN THE UNIQUE CIRCUMSTANCES OF THE COLD WAR

The naval service has long confronted the question of how to balance competing demands on its officer corps. At the root of the balancing act is the competing demand, on one hand, for specialized technical knowledge required for

platforms of high-tech weapons and, on the other, for an ability to integrate the larger whole in an increasingly joint, interagency, and international environment.

As early as 1944, seasoned aircraft carrier commanders argued that naval officers must begin to train early to understand and eventually command joint operations. Admiral William F. Halsey observed in that year, "From the beginning . . . there should be a broader education for the aspirants of all the services with a view of inculcating into the youngsters the general understanding of the uses and limitations of all weapons and services. This broader education in the maintenance of peace and prosecution of war should begin at the service academies."[2] Halsey was not alone in his advocacy of joint and integrative education. As late as 1959, the Navy's personnel manual made clear the importance of a wide understanding of joint operations and strategy: "Every experienced naval officer should possess . . . a thorough grounding in the principles and methods of naval strategy and tactics and of joint operations with other branches of the armed forces."[3]

For almost two decades following the Second World War, Navy career policy and detailing practices more or less conformed to Halsey's ideas, reflected in the guidance found in the personnel manuals of the day. For example, every midshipman of the U.S. Naval Academy in Annapolis, Maryland, was at one time educated in a foreign language, and large numbers of midshipmen participated in joint training exercises with Army cadets in the 1940s and '50s. Perhaps most significantly, a majority of officers who rose to flag rank had attended one or more war colleges.[4]

FIGURE 1

Admiral William F. Halsey commanded one of the largest combined military forces the world has seen. His training and education were broad; they included service on surface ships, aviation training, and command of a carrier. Halsey attended both the Naval and Army war colleges, and he served in overseas naval attaché assignments before rising to high rank.

U.S. Navy

But attaining Halsey's vision of a joint leader became increasingly difficult in the 1960s, due to the presumed implications of more technically complex platforms and their shore infrastructures. To ensure that the officer corps could support proliferating technical systems, the Bureau of Personnel endorsed a career path whereby most

line officers were expected to gain a technical subspecialty. Even at the outset, however, Navy leaders realized the difficulty of a triple demand—that the combination of a technical subspecialty and traditional seagoing duty would make it all but impossible for an officer to meet a third requirement, gaining adequate joint operational knowledge. One solution may have been to produce more engineering specialists to fill the growing number of technical billets, but the Engineering Duty community was simultaneously facing major reductions.[5] When the line community confronted this seemingly impossible triple task, influential leaders decided to emphasize the platform and technical subspecialties over the attainment of wider joint knowledge.

Admiral Hyman G. Rickover, the father of the nuclear navy, was perhaps the most influential leader in this period. A brilliant engineer and a long-serving, adroit bureaucratic operator with allies in Congress, Rickover remade more than the hardware of the submarine fleet. Rickover inspired changes to line-officer education and assignment patterns. More than any other single officer, he was responsible for the increased emphasis on technical education and technical specialization for line officers. Rickover pushed the line community to develop deeper, more specialized expertise on a singular platform—for example, the traditional practice of assigning submarine officers to surface ships was eventually discarded. Rickover also championed the cause of rigorous technical education at the expense of broader education that line officers had been receiving at Annapolis and the war colleges.[6] In the depths of the Cold War, the emphasis on platform and technology was probably warranted. The nuclear reactor was "cutting edge" and dangerous, and it therefore required officers more focused on its safe operation. With regard to the operational environment, in many cases the Navy operated independently in this period, as evidenced by many covert submarine operations and the "blue water" scenarios envisioned with the Soviet fleet. Thus the low priority placed on joint knowledge did not unduly compromise the nation's security.

THE COLD WAR CAREER MODEL BECOMES PERMANENT

But the Cold War's influence on the officer career model persisted for over a generation, and patterns it mandated took hold and deeply embedded themselves into the system of officer development. For example, in the early 1960s the Annapolis curriculum became significantly more technical; the requirement that all academy graduates learn a foreign language was terminated. Career paths became increasingly technical and platform-specialized, with less time for war college education and joint training.[7] This Cold War model did not incorporate the lessons of the Second World War (Halsey's emphasis on joint and integrated knowledge) but instead placed greatest emphasis on producing expert

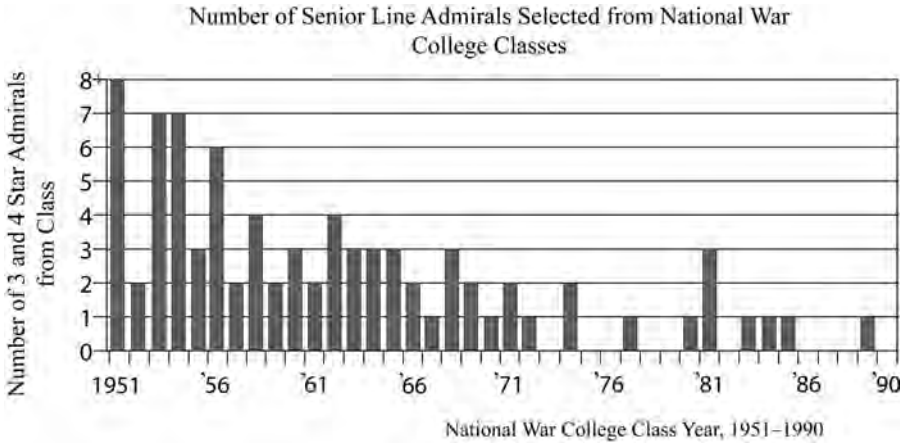
line officers who spent the vast majority of their time in either single-platform or technical assignments, or at best a combination of the two.

One cost was an officer corps with relatively little joint and international education or experience and almost no knowledge of interagency operations. To produce the few joint leaders it needed, the Navy relied on chance, the hope that a small number of officers would push themselves to gain proficiency in nontechnical subspecialties and foreign languages. The Navy also relied on the likelihood that some of these officers would volunteer to serve in remote, non-career-enhancing joint and international billets overseas and interagency posts ashore.[8]

Also lost was a focus on the ability to perform effective strategic communications. In the Cold War model, foreign-language education for Unrestricted Line (URL) officers was dramatically reduced. In addition, fewer officers destined for higher rank followed the exhortation of Admirals Ernest J. King and Chester W. Nimitz, who were frequent contributors to U.S. Naval Institute *Proceedings,* to "think, read, and write" as naval professionals. The officer corps became more expert and skilled in particular technologies but in the process became less joint, international, linguistically agile, and professionally communicative across platform communities. One metric that illustrates this change was the generational decline in the numbers of high-ranking officers educated at a senior joint war college (see figure 2). Yet just as a platform-centric and techno-centric model was producing fewer joint-educated flag officers, American political leaders were coming to expect all the services to be joint and integrated. Congressional legislation, notably the Goldwater-Nichols Department of Defense Reorganization Act of 1986, increasingly compelled the services to produce more joint and integrative officers. The Navy's career model was finding itself out of step with the new requirements, and for twenty-five years its leaders went repeatedly before Congress to attain waivers.

Today the Navy acknowledges the need for officers to be joint and integrative. However, it has by and large embraced "jointness" by simply *adding* to Cold War career requirements; little if anything substantive has been cut from the preexisting career path. For example, our academy leaders are told to prepare midshipmen to be experts in engineering but *also* to produce a core of linguistically capable officers. Our personnel managers are dual-tasked to make more officers joint and *at the same time* more technically expert, all the while ensuring that they are not too long away from their platform communities. The officer has insufficient time to master traditional Navy war-fighting skills (e.g., maritime operations), gain more technical expertise, and, at the same time, acquire the joint, interagency, and international experience necessary to

FIGURE 2
NUMBER OF THREE AND FOUR-STAR ADMIRALS WHO HAD GRADUATED FROM THE NATIONAL WAR COLLEGE (CORRESPONDING TO YEAR OF WAR COLLEGE GRADUATION)



Source: Data drawn from 2003 Alumni Register for National War College. The data from the alumni register were recorded in 2003. National War College alumni promoted to three or four stars *after* 2003 are thus not included in the data. The relative dearth of officers with war college education is not confined only to senior admirals. Data contained in the Navy's *Graduate Education Review Board Report* of May 2002 indicates that, when compared to the other military services, Navy officers at the grade of O-6 continued to lag significantly in their attainment of joint education. While between 65 and 95 percent of senior Army, Air Force, and Marine Corps officers attended a war college, the share of senior Navy officers who attended a war college approximated 30 percent. See page 7 of May 2002 report.

serve as a joint commander. We must face the fact: there just is not time in the URL career to "do it all."

In simplest terms, we have arrived at the limits of the current system.

SO, WHAT DO WE DO FIRST?

We should consider changes in our officer career paths to further enhance joint, international, and interagency skills, while preserving traditional war-fighting skills and a core of officers with advanced technical expertise. Some reforms are already under way. The strategy adopted by the Chief of Naval Operations, Admiral Gary Roughead, for the enhancement of regional knowledge has pointed the Navy in the right direction. But additional steps should be taken.

Two possible courses of action might help. One would be to lengthen the career of line officers so that they have more time to master all three fields of knowledge: the technical arena, general maritime operations, and joint/interagency operations. With longer careers, officers might be able to master a foreign language at the same time they are educated to be an expert engineer; master the art of three-dimensional maritime operations while they master the technical complexities of their machines; and master the intricacies of the interagency and regional combatant commander while at the same time preserving time to serve in at least some of the Navy's technical divisions. However, this

approach has drawbacks. It is not altogether clear that an adequate number of officers can master all three fields, no matter how long they serve in uniform. Furthermore, allowing officers to serve longer on active duty will necessarily cause an aging of the line, which in turn will slow promotion for younger officers and may give rise to problems of the kind associated with slow promotions in the early twentieth century. In addition, it is possible that as the officer corps grows older it may lose some of its capacity for innovation and new thinking. The Navy has flourished with a relatively youthful officer corps and should adopt a longer career only after careful study and reflection.

An alternative would be to restructure the officer career in a way that does not "age" the officer corps in an attempt to become expert in all three fields. It is possible to structure the line community so as to accommodate new expertise we need now, make the line more adaptive to unexpected changes we know the future will hold, and at the same time preserve core competencies in the platform communities. Specifically, the line could be restructured into three career "tracks" that complement but cut across the existing platform communities; we call them the *Joint/Interagency Operations* track, the *Technical* track, and the *General Operations* track.

The three-track career construct for the Unrestricted Line explicitly acknowledges that its officers are currently expected to do too much in the time allotted. The three-track system recognizes that a growing number of officers need to develop expertise going beyond the platform. The three-track system would point line officers earlier in their careers to paths that would prepare some for joint/interagency operational careers (language, culture, regional knowledge, interagency activities), some for technically oriented careers, and some for more general and maritime operational careers. The modified system would, however, preserve both core platform competencies and the Navy's culture of "command at sea."

Joint/Interagency Operations. This career track would emphasize not only joint but also international and interagency operations. It would qualify an officer for command at sea but would also include education and assignments that prepare for increased responsibility in joint and interagency staffs, culminating ultimately in joint command and staff assignments at very senior levels. In preparation for command of complex international and interagency operations, for example, officers would receive several years of cultural and linguistic (and comparatively less technical) education at the undergraduate and graduate levels. This preparatory education would be followed by rigorous sea duty (including command), a majority of shore and staff assignments in their areas of interest, and a minimum of one joint assignment in the United States.

Technical. These officers could also attain command at sea but would receive rigorous technical and scientific educations early in their careers. This kind of officer would command our nuclear-powered ships and fill the ranks of our more technical corps (e.g., Information Professionals, Acquisition Professionals, Engineering Duty Officers, and Air Engineering Duty Officers), so necessary to the functioning of such a complex technical organization as the U.S. Navy. These officers would rise to command as "type" commanders and "system" commanders.[9] If assigned in the joint world, they would seem well suited for billets in places like U.S. Strategic Command or Transportation Command, and some could rise to the command of functional (nongeographical) combatant commands like these.

General Operations. This career path harkens back to the pre–Cold War traditions of Halsey, King, and Nimitz, and it would help bridge the gap between the more technical and joint/interagency tracks. This type of officer would receive a more general education that included a substantial exposure to engineering and science, and perhaps foreign languages as well. To facilitate a more integrated knowledge of the maritime operational art, the General Operations–track officers would ideally serve in at least two platform communities (for instance, on a surface ship before going to flight school or nuclear-power school), though they would ultimately specialize in one of them (earning aviator's wings, submariner's dolphins, or a Surface Warfare designation). These officers would constitute the "surge volume" of Navy officers, who would command at sea but would retain more flexibility than those in the other tracks and so could be redirected to meet changing personnel needs of the officer corps. The General Operations track would typically fill key Navy staff and numbered-fleet commands.

The Chief of Naval Operations and Vice Chief of Naval Operations could be selected out of any of the three tracks, and a balance would ideally be maintained within senior Navy leadership.

Key questions would be: How many of each type of officer would be needed? When would such specialization begin in the career path? What, specifically, would the educational requirements be in each specialty? Determining the answers to these questions would obviously require much more thought and analysis, as part of an evaluation of this idea.

Undergraduate Education

Producing the three variants of line officers requires reform of officer commissioning programs. The Naval Academy, the most technically demanding of the undergraduate programs, currently graduates all midshipmen with a bachelor of science degree and places an especially heavy emphasis on

specialized, accredited technical credentials. However, an understanding of the origin of the academy's heavy emphasis on rigorous technical degrees may warrant reconsideration of this priority. The academy's core curriculum became more technically rigorous as a result of the unique conditions of the Cold War, in particular, the building of what many thought would be an all-nuclear fleet. In 1973, when the basic structure of the current curriculum was put in place, the Naval Academy's dean explained the heavy emphasis on technical subjects: "With the increased dependency on nuclear power plant systems, every major must include enough math, science, and engineering that *any midshipman, regardless of his academic major, qualifies for selection to the nuclear power program.*"[10]

The Joint/Interagency Operations undergraduate track would constitute a significant break from the techno-centric curriculum, and it would probably have a predominantly international humanities focus—history, language, culture, economics—with few courses in engineering. While a shift to a less technical undergraduate degree might produce marginally fewer midshipmen eligible for nuclear-power training, such a shift would not appear to hazard an officer's ability to command at sea. (A recent Navy-funded study found little or no correlation between officers' undergraduate degrees, either technical or nontechnical, and their performance in command.)[11] In addition to a less technical curriculum, midshipmen in the Joint/Interagency track would enjoy broader experiences outside the Navy, to include one semester of their four years in an academy exchange program (with the Military Academy at West Point, New York; the U.S. Air Force Academy, at Colorado Springs, Colorado; or the Coast Guard Academy, at New London, Connecticut). Moreover, one semester would be spent abroad in a foreign college corresponding with their chosen regional specialty languages.

Midshipmen in the Technical track would pursue degrees, accredited by the Accreditation Board for Engineering and Technology, that would prepare them for future assignments in highly technical billets, such as command of nuclear-powered ships or duty on technically focused shore staffs. These officers would also become the source of most lateral transfers to the various engineering specialized communities of the Navy officer corps. Typically, these midshipmen would not study languages, but they would still have a minimal core of courses in the humanities, as they do today.

The remaining, probably the majority, of midshipmen would be in the more flexible track—the General Operations track. This progression would prepare them to become the type of officer traditionally known as the "General Line Officer," reminiscent of what the Naval Academy produced until the mid-1960s. To create this type of officer, the more specialized requirements of some degree programs might be relaxed so as to allow midshipmen to broaden their

education, perhaps by taking additional language, humanities, or social science courses. The current academy programs for math/science and the social sciences/humanities might fit well into the General Operations track.

In this General Operations track, midshipmen would seek to establish their foundations of professional knowledge so important to their futures as operators of Navy platforms in the maritime domain. At the same time they would build the academic foundations that could facilitate later flexibility, perhaps a lateral transfer into a Joint/Interagency or Technical career progression.

Inevitably, changes to officer career tracks and education will involve a discussion of numbers. For instance, how many midshipmen would populate each career track? In-depth study would be needed, of course, to refine these percentages, but the general idea of proportionally more General Operations, fewer Technical and Joint/Interagency, would seem warranted. While the number of officers following the Joint/Interagency career path would be relatively modest, the need for such officers is real and growing.

In the post-9/11 period, the Navy's inventory of platforms (the number of ships, submarines, and manned aircraft) appears to have leveled out and is not expected to increase appreciably in the near future. At the same time nontraditional, irregular-warfare, interagency, and joint assignments have grown. An informal count reveals that in 2008 almost 350 general and flag officers held joint/interagency billets, of which 150 were in unified combatant commands and fifty on the Joint Staff.[12] Given such a large and growing demand for experienced joint officers, it would seem prudent to modify the educational experience of midshipmen to prepare more of them for these duties. While there would probably be more of the General Operations than of either the Technical or Joint/Interagency variety, the relative share could also be adjusted every several years to meet changing circumstances.

Of course, the commissioning programs based upon the Naval Reserve Officer Training Corps (NROTC, with units at some 160 colleges and universities) and the Officer Candidate School (OCS, in Newport, Rhode Island) would be part of the pool of analysis to determine the right mix of the three officer core specialties discussed above.

Graduate Education and Professional Military Education

The Navy is already taking steps to increase regional knowledge and professional education at the graduate level, and these improvements should be continued and enhanced. Officers on the Joint/Interagency Operations track would have first preference for overseas study and joint war colleges. Opportunities for graduate education at the nation's best internationally oriented universities should be expanded to serve better the cadre of officers seeking advanced

regional and cultural credentials. Naval officers pursuing the General Operations track would attend a war college, but more likely the Naval War College (in Newport, Rhode Island) than the National Defense University, in Washington, D.C.

A potential hurdle facing the Technical-track officers would be the congressional requirement that *all* line officers complete Joint Professional Military Education (JPME, a formal, phased program mandated by the Joint Staff) in order to be eligible for flag selection. Given the rigors of technical education and specialized nature of many technical assignments, personnel managers would need to study carefully how Technical-track officers would meet the joint requirements. However, one part of the solution might already be in place. Those officers in the Technical career path who attended the Naval Postgraduate School, in Monterey, California, would have the opportunity to earn at least JPME Phase I as part of their program (though waivers might be necessary in special cases).

These proposals for graduate education, like those for undergraduate reforms, constitute only a point of departure and would require more study. What seems clear, however, is the need for closer cooperation, coordination, and even integration of the efforts of the various levels of Navy education—the academy, NROTC, the Naval Postgraduate School, and the war colleges.

Assignment Policy

Sea duty can serve to reinforce either technical skills or operational and joint experience. Along with General Operations–track officers, the Joint/Interagency Operations officers would typically be assigned to "topside" (non-engineering) billets at sea—for instance, as the traditional "Ops Boss," or equivalent, of ships and aviation squadrons. Given their exposure to general science and engineering as undergraduates, the General Operations group could also fill technical billets, thus providing additional flexibility for detailers. Technical-track officers, however, would fill most at-sea technical billets, such as engineering or combat-systems posts.

In the past, shore duty was an "unavoidable evil," and one of the key aims in detailing was to keep officers' shore assignments close to their platform communities. In our proposal, Joint/Interagency-track officers would be assigned early in their careers to joint or regional duty, as interns on the Joint Staff in Washington or in regional combatant commands, for example. Refresher tours in languages would be scheduled into their careers much as technical proficiency is maintained in the aviation and nuclear career paths today. The Technical-track officers would be assigned to rigorous technical assignments early in their careers, and during this first shore tour some would transition to one of the technical corps of the Navy. Again, General Operations officers would retain the flexibility to fill assignments in either of these broad categories.

Promotion and Selection and Assignment to Command

The reform of the Navy's officer corps along these lines will be effective only if the new vision is translated into positive results in promotion and selection boards. In the past few decades, since the demise of the "generalist" officer, however, the platform communities have largely determined who will be the Navy's leaders. Naturally, the platform communities advocate promotion of their best performers; such "platform-centrism" typically offers little support for officers who have spent much of their careers in joint/interagency assignments or education. To effect a lasting transformation, the Navy should change the center of gravity in promotion and selection boards.

THE NEW NAVAL OFFICER?

The current senior generation of officers has answered the nation's call. It has both staffed and commanded more operations involving joint and interagency activity than any other since the Second World War. But many of these officers were "self-made" or "trained on the job," gaining the necessary credentials, experience, and foreign-language skills through their own initiative. Just as the Navy formalized the creation of superb pilots and elite nuclear engineers, so should it enhance its formal mechanisms to create the new naval officer, with the ability to work in the joint, international, and interagency arenas.

One important point—at the end of the day, the heart of a naval officer is not defined by training tracts or career patterns, for these will eventually pass away and be replaced, as they always have.

What lies at the heart of this profession are the core beliefs of our lives: the courage, honor, and commitment to duty we must each find within ourselves. Yet beyond those vital and central elements, there lies the terrain of education, training, and experience. Those elements can and must be shaped to best advantage in this emerging and unruly twenty-first century.

A sense of historical perspective may inspire us to action. In 1919, Ernest J. King, then a captain, reflected on the events of the First World War. Though the U.S. officer corps appeared to have acquitted itself in battle and had emerged victorious against the German U-boat, King knew it could have done better. He recognized that though the Navy had helped "win" the war, the old officer development system and "prewar career patterns had been overtaken by events."[13]

King and his generation profoundly reformed the Navy officer corps in the years after 1919 and laid the foundation for the creation of the officer corps that would lead the Navy to victory in the Second World War. Today we face similar challenges; our officer corps model has been "overtaken by events" and is in need of reform.

NOTES

1. Mark Gerencser et al., *Megacommunities* (New York: Palgrave Macmillan, 2008).
2. W. F. Halsey [Adm., USN], "Future National Policy for the Composition, Command, Training, and Maintenance of the US Armed Forces" (formerly TS), memorandum to Adm. J. O. Richardson, USN (Ret.), 10 December 1944, National Archives and Records Administration, record group 428-370-43-01, 2-3, box 4 (filed in Secretary of the Navy Sullivan personal papers).
3. U.S. Navy Dept., *Bureau of Personnel Manual* (Washington, D.C.: U.S. Government Printing Office, 1959) [hereafter *BUPERS Manual*].
4. B. J. Semmes, Jr. [Vice Adm., USN], "Policy on Education for Unrestricted Line Officers," memorandum from Chief of Naval Personnel to all Unrestricted Line flag officers, 9 February 1966. Semmes's memo indicates that in 1966 almost 88 percent of all URL flag officers had been educated at a war college.
5. W. B. Franke [Under Secretary of the Navy], *Report of the Committee on Organization of the Department of the Navy, 1958–59* (Washington, D.C.: U.S. Navy Dept., 1959); R. T. S. Keith [Rear Adm., USNR], *Billet and Post-graduate Educational Requirements in the Specialty Areas in the Line of the Navy: Report of Board* (Washington, D.C.: U.S. Navy Dept., 1 October 1959).
6. Hyman G. Rickover, *Education and Freedom* (New York: E. P. Dutton, 1959), p. 19. See also Francis Duncan, *Rickover and the Nuclear Navy* (Annapolis, Md.: Naval Institute Press, 1990), pp. 84, 86. Interestingly, Rickover was himself broadly educated and experienced. He served on both surface ships and submarines, applied twice for flight school (though he was rejected), and read widely. He also translated the World War I German U-boat manual into English.
7. See Mark R. Hagerott, "Commanding Men and Machines: Admiralship, Technology, and Ideology in the 20th Century U.S. Navy" (dissertation, University of Maryland, College Park, 2008). The best evidence of the changing career patterns is found in successive editions of the *BUPERS Manual,* and *The Naval Officer's Guide,* 1951–83.
8. An example of the Navy's approach can be found in the relatively small number of line officers who have been educated in, and are experienced in, Middle East security studies. Based on December 2006 data provided in a Bureau of Personnel inventory of subspecialties, of the approximately nineteen thousand URL officers queried, fewer than fifty were considered qualified in the National Security–Middle East subspecialty (code 2101p). "Proven" subspecialists, officers who followed up their education with assignments in the region, were even fewer, numbering in the low teens.
9. That is, commanding organizations charged with the readiness (formal training and maintenance) of particular categories of ships, or other platforms, and their personnel, or for the development and support of various groupings of combat and engineering systems.
10. Bruce M. Davidson, "The Academic Dean Looks at the Academy," *Shipmate,* no. 3 (March 1973), p. 26 [emphasis supplied]. Davidson was the academic dean of the U.S. Naval Academy.
11. David M. Rodney et al., *Report: Developing an Education Strategy for URL Officers,* CRM D0017231.A2/Final (Alexandria, Va.: Center for Naval Analyses, March 2008).
12. Approximate count derived from unified combatant command and Joint Staff directories in fall 2008. These numbers are inexact and change on almost a daily basis, but they provide a general order of magnitude of the significant number of joint/interagency billets that are now required to be filled.
13. T. B. Buell, *Master of Sea Power: A Biography of Fleet Admiral Ernest J. King* (Boston: Little, Brown, 1980), p. 55.

GUNBOATS FOR CHINA'S NEW "GRAND CANALS"?

Probing the Intersection of Beijing's Naval and Oil Security Policies

Andrew Erickson and Lyle Goldstein

Over a millennium ago, a waterway known as the Grand Canal, connecting the seaport of Hangzhou with Beijing in the north, became a critical artery for the dynamic growth of Chinese civilization. In the last decade, the sea lines of communication (SLOCs) connecting China to the Middle East and Africa have assumed a similarly vital role as a major "center of gravity" for Chinese economic development. With Chinese oil demand growing rapidly and seaborne oil imports constituting more than 80 percent of total oil imports, China's new "Grand Canal" has also become a vital oil lifeline. In 2007, approximately 85 percent of Chinese oil imports passed through the Strait of Malacca; Chinese writings commonly refer to this critical vulnerability as the "Malacca Dilemma" (马六甲困局). Given these developments, along with the 26 December 2008 deployment of two destroyers and one supply vessel from the People's Liberation Army Navy (PLAN) to support counter-piracy operations in the Gulf of Aden, it is time to consider seriously the prospect of future PLAN missions to defend Chinese interests not only in East Asia but also beyond.

Against this strategic backdrop, it is not surprising that some Chinese naval and maritime affairs analysts believe that China needs the military capacity to protect its long and increasingly vital maritime oil supply lines.[1] Defense of oil SLOCs may become a driver in future PLAN evolution;[2] this would be particularly the case if the Taiwan issue were to become a lesser concern to the People's Republic of China (PRC).[3] Indeed, a major U.S. government report states that "as China's economy grows, dependence on secure access to markets and natural resources,

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particularly metals and fossil fuels, is becoming a more significant factor shaping China's strategic behavior."[4] A shift in naval-mission focus from consolidating control of China's maritime periphery to pursuing SLOC security would represent a major reconceptualization of Chinese national security, one with wide-ranging international implications. Examining the Indian case, moreover, illustrates that promotion of blue-water naval capabilities in China is not unusual for a developing major power.[5]

The possible interaction between China's developing oil security and naval strategies poses important questions. Gunboats were once used to invade China in the name of protecting international commerce. Now China is itself acquiring powerful warships, but its precise reasons for doing so remain unclear. What relationships do Chinese civilian and military leaders envision between maritime commerce, oil availability, and the use of force in international affairs? Such questions appear to be largely undecided in China. They perplex the U.S. Department of Defense, which stated in 2008 that "the extent to which Beijing's concerns over the security of its access to oil supplies shapes China's defense policy and force planning is not known."[6] But they are questions that China will increasingly confront in the future, as its role on the global stage, including both economic and military aspects, continues to increase.

The maritime dimensions of China's emerging oil security strategy have received considerable attention from analysts, both inside and outside the nation.[7] But to date, few scholars have attempted to analyze comprehensively oil security–related writings in Chinese naval and maritime publications. This article will therefore offer possible answers to these questions and attempt to fill an important gap in the existing literature by surveying the maritime oil security discussions conducted by Chinese naval and energy specialists.

China's dominant domestic oil players are, first, the national oil companies and, second, the State Council, with its National Development and Reform Commission (NDRC)—not the security establishment.[8] Yet maritime oil security is generally not addressed in documents published by these entities, a fact that raises questions as to how oil security is conceptualized by China's leadership, which, by default, would likely handle such issues.[9]

Chinese maritime writings, by contrast, have proliferated in recent years.[10] At least five PRC professional publications concerned with naval development have appeared, as well as a plethora of books discussing the direction of Chinese naval modernization.[11] Few other Chinese publications analyze maritime oil security in detail.[12] A survey of China's official naval journal, 当代海军 *(Modern Navy),* from 2003 to 2006 reveals relatively few articles devoted to maritime oil security issues. Nevertheless, these articles cite China's perceived naval weakness as a key cause of oil insecurity.[13] The tenor of these discussions suggests a strong

disinclination by Chinese naval strategists to accept American or Western control over Beijing's "oil lifeline" (石油生命线).[14] This unease may well help to fuel China's ongoing naval buildup. However, one principal finding of this article is that some Chinese naval and maritime affairs analysts are pragmatic and advocate cooperation with other oil-consuming great powers, including the United States, in order to secure stability of the oil and gas supply.

This analysis has eight sections. The first establishes a geostrategic context for China's current naval and oil security–related actions and explores the role of oil in China's recent turn to the sea. The second and third sections explore Chinese perceptions of the roles of SLOCs and potential threats to them, respectively. A fourth section discusses People's Liberation Army (PLA) doctrinal writings relevant to SLOC protection missions. The fifth explores future naval implications of a more assertive Chinese naval presence driven by oil security concerns. Section six offers potential leading indicators of Chinese development of a navy capable of long-range SLOC protection. The seventh section examines Chinese arguments in favor of international SLOC security cooperation. The final section summarizes the findings and offers reason to believe that U.S.-China energy cooperation is quite possible in the maritime sphere.

THE CONTEXT FOR NAVAL AND OIL SECURITY STRATEGY DEVELOPMENT

In comparison to those of Japan or Taiwan, mainland China's overall energy imports are low.[15] Domestic energy production remains centered on coal (about 70 percent of total supply), of which China has the world's third-largest reserves, after the United States and Russia. China is the only northeast Asian country to have these advantages. However, the country's oil use and oil import dependence have been rising rapidly since China became a net oil importer in 1993. While still a very significant oil producer, China now imports half of its crude oil needs of more than 7.7 million barrels per day. Oil security has become a hot discussion topic, because although oil occupies a minority share in the overall national energy balance, it currently has no large-scale substitutes as a transport fuel. Without adequate oil supplies, China's economy would grind to a halt as fuel shortages shut down trucks, ships, aircraft, and much of the rail system.[16]

For these reasons, as well as the Chinese Communist Party's more general imperative to orchestrate rapid economic development, resource acquisition appears to have become a major focus of Beijing's pragmatic foreign policy. This features sophisticated diplomacy, commercial initiatives, a flexible approach to problem solving that prioritizes economic and social progress over governance standards or individual human rights, and a new willingness to assume international responsibilities (e.g., peacekeeping and anti-piracy operations).

China's emphasis on resource supply security is driven fundamentally by internal development requirements, but against the backdrop of China's impressive naval modernization over the past decade, concerns about potential Chinese naval development trajectories do arise. China has been building four classes of submarines simultaneously. It is also improving its amphibious warfare, air defense, and antiship missile capabilities. Furthermore, whereas old military and strategic debates focused on Taiwan contingencies, the new strategic questions concern what may be wider regional, and potentially global, ambitions emerging in Beijing.[17] Yet at this point, in the assessment of the U.S. Defense Department, China "is neither capable of using military power to secure its foreign energy investments nor of defending critical sea lanes against disruption."[18]

"Our economic development generates the need of overseas resources and markets, and there are hidden dangers in the security of our development."

To address these questions, it is critical to understand China's debate over energy strategy. Chinese oil security writings are increasingly numerous, reflecting a vigorous national debate among civilian experts and scholars. "Free marketeers" believe that markets are the best tool to ensure a secure supply of imported oil. Beijing University's Zha Daojiong, for instance, argues that China's path to oil security lies in greater integration with the existing global oil market.[19] Some analysts believe that transnational and nonhuman threats to maritime oil security are as important as, or more important than, interstate threats.[20] There are pragmatists at Chinese naval institutions who believe that oil security can be achieved through diplomacy.[21]

But there are also mercantilists, who take a darker view based on the zero-sum premise that dwindling oil supplies compel each consumer to fight for exclusive control of resources. They believe that China must control its foreign oil supplies from wellhead to gas pump and are typically more inclined than others toward using military power to guarantee oil-supply security. For instance, Zhang Wenmu, of Beijing University of Aeronautics and Astronautics, a major public intellectual, writes that China must control its sea-based oil supplies: "We must build up our navy as quickly as possible. . . . Otherwise, China may lose everything it has gathered in normal international economic activities, including its oil interests, in a military defeat."[22] While Zhang's writing appears to have attracted a limited following, it is conspicuous for its apparent lack of calculation of costs or of potential balancing reaction by others, or any clear estimate or plan about exactly what kind of naval capabilities China would need for what kind of scenarios. There is a wide and sophisticated array of viewpoints even in China's naval studies community.

THE ROLE OF OIL RESOURCE PROTECTION IN CHINA'S MARITIME DEVELOPMENT

Despite its largely insular, continental history, China appears to be turning decisively to the sea as its trade relationships blossom and resource demand grows. In 2006, maritime industries accounted for $270 billion in economic output (nearly 10 percent of GDP).[23] Extensive foreign oil resources are required to sustain China's growth, and some Chinese analysts appear to assume that there will be an unrelenting, zero-sum competition for access to them.[24] This justification has been present in the Chinese literature since the 1980s or early 1990s. In fact, it was in some ways more prevalent in those years (though not in connection with the Middle East/Malacca Straits but, rather, oil and resources in the South China Sea). The PLAN attempted to use these factors to justify budgets and modernization plans, because at the time the Taiwan and U.S. issues were less pressing.[25] One explanation for the content of maritime debates is the context of domestic bureaucratic and political wrangling for defense budget and procurement priority.

In the future, if tensions between China and the United States over Taiwan ease, maritime interests and SLOC security might reemerge as a basis for justifications of missions and modernization programs and budgets for the PLAN. Yet this may not be driven only by a perception of actual international interests and China's security environment; another driver may be a struggle by the PLAN to secure a greater portion of the PLA budget, particularly if it is able to improve its status vis-à-vis the PLA ground forces. This possibility is hardly far-fetched: China's 2008 Defense White Paper for the first time treats the ground forces as a distinct service equivalent to the Navy, Air Force, and Second Artillery, suggesting that they are becoming less dominant within the military and that the PLAN may grow correspondingly over time in funding and mission scope.[26]

Today, Beijing appears to believe that China's maritime commercial and oil interests might need increasing protection. At an expanded Central Military Commission conference on 24 December 2004, Chairman Hu Jintao introduced a new military policy that defined the four new missions of the PLA: first, to serve as an "important source of strength" for the Chinese Communist Party (CCP) to "consolidate its ruling position"; second, to "provide a solid security guarantee for sustaining the important period of strategic opportunity for national development";[27] third, to "provide a strong strategic support for safeguarding national interests"; and fourth, to "play an important role in maintaining world peace and promoting common development."[28]

The last two missions reflect new emphases for the PLA, and the fourth is unprecedented. According to a subsequent article in *Liberation Army Daily,* the third includes maritime rights and interests. Specifically, Hu requires the PLA

"to not only pay close attention to the interests of national survival, but also national development interests; not only safeguard the security of national territory, territorial waters, and airspace, but also safeguard electromagnetic space, outer space, the ocean, and other aspects of national security."[29] On 27 December 2006, in a speech to People's Liberation Army Navy officers attending a Communist Party meeting, Hu referred to China as "a great maritime power (海洋大国)" and declared that China's "navy force should be strengthened and modernized" and should continue moving toward "blue water" capabilities.[30] China's 2006 Defense White Paper further states that China's "navy aims at gradual extension of the strategic depth for offshore defensive operations and enhancing its capabilities in integrated maritime operations."[31]

China's 2008 Defense White Paper adds that "the Navy has been striving . . . to gradually develop its capabilities of conducting cooperation in distant waters." It arguably alludes to oil security in describing the present state of the world: "Struggles for strategic resources, strategic locations and strategic dominance have intensified."[32] But oil security is not mentioned directly in Hu's redefinition of PLA policy, raising the question of whether an oil security/SLOC mission is specifically sanctioned by China's leadership. This is hardly surprising, as Chinese leadership pronouncements tend to represent abstract distillations of high-level consensus, particularly concerning emerging issues for which specific policy has yet to be decided. Potential factors that could motivate expansion of PLAN activities include: first, a perceived need to protect Chinese shipping and resource supply lines and, second, to make sure that China can handle a Taiwan crisis and other regional contingencies; third, bureaucratic interests (e.g., of the navy and specific factions within it); and fourth, a desire within the leadership for a Chinese "Great White Fleet" for international prestige. It is likely that a combination of these factors provides the impetus behind China's naval modernization. However, oil supply security stands out as a clear national strategic interest that has the potential to unite factions within China in support of more assertive naval policies.

China's growing reliance on oil imports to power economic growth makes oil supply security a distinct national security interest. In an attempt to transform Hu's general guidance into more specific policy, articles in state and military media have argued that to safeguard China's economic growth, the PLA must go beyond its previous mission of safeguarding national "survival interests" (生存利益) to protecting national "development interests" (发展利益). "Our economic development generates the need of overseas resources and markets, and there are hidden dangers in the security of our development," explains a Nanjing Army Command College political commissar, Major General Tian Bingren. "With the deepening of economic globalization and increasingly frequent

flow of . . . energy sources, an outside local war or conflict will influence the development and construction of a country."[33] Writing in a PLA newspaper, the recently retired Major General Peng Guangqian—who has served as a research fellow at China's Academy of Military Sciences and who, as an adviser to China's powerful Central Military Commission (CMC) and Politburo Standing Committee, has enjoyed significant influence in the shaping of PLA strategy—warns that "some of the foreign hostile forces" may "control the transport hubs and important sea routes for China to keep contact with the outside, and curb the lifeline China needs to develop."[34] A major study advised by such influential policy makers as Dr. Qiu Yanping, deputy director of the Chinese Communist Party Central Committee's National Security Leading Small Group Office,[35] emphasizes the importance of securing China's sea lines of communication.[36] Writing in the official journal of the Central Committee, the PLAN commander, Wu Shengli, and Political Commissar Hu Yanlin state, "To maintain the safety of the oceanic transportation and the strategic passageway for energy and resources . . . we must build a powerful navy."[37] While this serves these individuals' bureaucratic interests, they must nevertheless coordinate their statements with PLA and CCP leadership; such naval advocacy would have been impermissible previously. Analysts writing in PLA publications label oil security a key area of concern and advocate measures, including expansion of strategic petroleum reserves and modernization of the PLA Navy and Air Force, as well as of the Second Artillery (the strategic missile force), in order to protect China's energy supplies and key infrastructure.[38]

"[China] must view things from the perspective of keeping the United States from cutting its oil supply lines. Concretely speaking, this entails making the United States not willing to cut China's oil supply lines, not daring to do so, and not able to do so."

A series of naval strategy books, published in Beijing during 2003 by a PLAN-affiliated press, under the overarching theme of "The Chinese Nation and the Ocean," suggests a relatively firm link between naval strategy and resource concerns among serious Chinese analysts. The introduction to one of these books, 蓝色方略 *(The Blue Strategy)*, explains that "in today's world, the population is growing as land-based resources are depleted. Conflict and competition over maritime rights and interests are intensifying with each passing day."[39] Another book in the series, 卫海强军 *(A Mighty Force to Protect the Sea)*, suggests that resource issues will greatly affect China's development trajectory. Resolving this issue in a manner that supports China's development strategy will require new "resource space" (资源空间) that can only be found in maritime domains.[40]

Alfred Thayer Mahan's dicta that commerce is vital to maritime power and that the best way to threaten and defend commerce is by engaging naval forces in

decisive battle are pervasive in Chinese writings.[41] They appear in a recent book, 海上力量与中华民族的伟大复兴 *(Sea Power and the Chinese Nation's Mighty Resurgence),* by two Chinese naval officers.[42] Published by China's National Defense University, the volume emphasizes the critical role of controlling sea-lanes for the purposes of developing sea power, as well as the nation's economy. Its authors contend that sea powers have generally enjoyed great geostrategic advantages over land powers—an argument with major implications for China's future development. Once again stressing the link between economic and naval power, the two naval officers note, "from an economic power standpoint, maritime civilizations . . . are far superior to continental civilizations." Of particular relevance to this discussion of oil security, the authors observe that continental powers have frequently been surrounded and blockaded with considerable strategic effect. They suggest that maritime threats to China are increasing and that its maritime resources are being plundered.

The recent actions of the United States have exerted an especially deep influence on Chinese analysts' oil security views. According to a 2004 article on oil security in China's foremost naval journal, *Modern Navy,* "The 9.11 events gave the United States an opportunity to assert greater control over the oil-rich Middle East. The wars in Afghanistan and Iraq ensured that Middle Eastern oil and gas was 'in the bag' for the United States." The author of this analysis argues: "The great powers compete for oil [because whichever state] controls the oil can also control the lifeblood of other countries' economic development, [but whichever state] controls the Middle East can control that of the [entire] world economy."[43] Such perceptions are important. If Chinese policy makers see the oil market as United States–controlled and unreliable and come to doubt Washington's willingness to keep critical oil SLOCs open impartially, they might push hard to create a blue-water navy. Such actions would mark a strategic tipping point in the Sino-American relationship and could set off a cascade effect of more assertive SLOC security policies by Japan and other major oil importers.

CHINESE VIEWS OF OIL SLOCS

Chinese defense policy intellectuals generally consider oil SLOC security to be a major issue, as suggested by an edited volume on SLOC and maritime oil security published by China Institute of Contemporary International Relations (CICIR).[44] In addition, the PLA's first English-language volume of its type, *The Science of Military Strategy,* emphasizes that SLOC security is vital to China's long-term development.[45] As discussed above, the authors of Chinese oil security works tend to fall into two primary camps: the "free marketeers," who see the global oil market as the best guarantor of oil supply security, and the "mercantilists," who see the global oil supply situation in zero-sum terms and favor

greater state involvement in securing energy supplies. Those who believe that greater reliance on the international oil market is the best path to oil supply security have gained strength over the past several years. However, based on assessment of Chinese-language analyses on oil supply security, it appears that the mercantilists still exert significant influence. More to the point, authors close to the military and to the party's top ranks appear to have strong mercantilist inclinations. Accordingly, that the mercantilists' articles occupy less print space relative to those of free marketeers does not necessarily mean that their policy influence is insignificant.

In fact, the upswing in Somali piracy in late 2008 and the pirates' capture and holding for three months of the supertanker *Sirius Star* have likely strengthened the hand of those favoring a more assertive naval presence along key maritime energy transit corridors. The PLA Navy's subsequent deployment of two destroyers and a supply ship to the Gulf of Aden is an unprecedented move that may presage a more active Chinese presence near global maritime energy routes. At the very least, it will make China's energy diplomacy much more credible, given that it demonstrates a capability to deploy military assets in areas of interest. The following section surveys Chinese strategic thinkers' views as to which regions are most crucial to Chinese energy security.

China's modern strategists envision their nation as having four strategic sealanes: east (from across the Pacific), south (from Australia and the Pacific islands), west (from the Middle East and East Africa through the Indian Ocean), and north (through Sea of Okhotsk and the Tsushima Strait). They worry that more than 75 percent of China's seaborne oil imports flow through a few key maritime arteries.[46] Chinese analysts and policy makers discuss possible ways to bypass these established routes, but thus far few of their plans appear likely to alter substantially China's dependence on established global oil shipping lanes.

Seaborne oil transport tends to be far less expensive than pipelines, for instance. In addition, the majority of China's oil imports come from the Middle East and Africa, where distance and geographic obstacles (oceans) make pipeline shipments economically and physically unfeasible. According to a map that appeared in the October 2006 issue of 现代舰船 *(Modern Ships)*, such alternative routes could ultimately include oil pipelines from Siberia, Pakistan, the Burmese port of Sittwe, and the just-completed Kazakhstan pipeline that carries oil into western China. The accompanying analysis, however, is skeptical that these pipelines could solve China's "Malacca Problem." Regarding Russia, for example, it is suggested that Moscow's evident distrust of China means that the Kremlin "will not accept putting its lifeline under the control of another great power."[47] Chinese analysts worry that Russia might suspend oil supplies during crisis; they realize that their Russian counterparts worry that in peacetime

China might import additional oil by sea and refuse Russian oil shipments unless it received lower prices. On the other hand, CICIR scholar Zhang Xuegang maintains optimistically that a proposed canal across Thailand's Isthmus of Kra "could . . . provide a strategic seaway to the Chinese navy" through which "fleets could . . . more easily protect the nearby sea-lanes and gain access to the Indian Ocean."[48]

It is generally held that land-based oil pipelines can displace a portion of future oil import growth and will help diversify China's oil import channels to some extent but that they cannot replace maritime oil transport.[49] Available overland supplies from Russia, Kazakhstan, and other areas are insufficient to reduce China's growing absolute and relative reliance on seaborne oil imports. Furthermore, off-loading seaborne crude in Burma or Pakistan seems problematic, given their great distances from China's coastal economic centers. Moreover, as a few Chinese sources recognize, pipelines have their own vulnerabilities—to substate actors and precision-guided munitions.[50] An article in 舰船知识 *(Naval and Merchant Ships)* states succinctly, "SLOC security is much more important than pipeline transport lines."[51] It is therefore reasonable to assume that China will continue to rely on the Indian Ocean sea-lanes, the Malacca and Hormuz straits, and the South and East China seas as its primary oil import channels.[52]

Chinese writers have dubbed the Strait of Hormuz the "Oil Strait" (石油海峡), because China obtains approximately 40–45 percent of its oil imports from the Middle East, the vast majority of which must flow through Hormuz.[53] Chinese scholars recognize the Middle East's instability, noting that since 1951 ten of the sixteen major global oil supply disruptions have originated in the region.[54] A recent PRC analysis notes that by 2020 China could be importing nearly four million barrels per day of oil from the Middle East (over twice the current average level of 1.5 million barrels per day).[55] Chinese experts note pointedly that "all oil that China imports from the Middle East and Africa has to go through the Straits of Hormuz and Malacca, but [these straits] are beyond the reach of the PLAN's power."[56]

The "Western SLOC" (西行航线), running from the Indian Ocean through the Malacca Strait, to the South China Sea, and finally to the Chinese mainland, has particular strategic value as "China's 'lifeline' of economic development."[57] It carries 80 percent of Chinese oil imports;[58] that figure includes virtually all of China's imports from the Middle East and Africa.[59] Chinese researchers fear that Malacca, which "has become the strategic throat of China's energy and economic security," is "extremely narrow, easy to blockade."[60] "Whoever controls the Strait of Malacca," therefore, "effectively grips China's strategic energy passage, and can threaten China's energy security at any time."[61]

Chinese specialists are therefore particularly sensitive to the growth of American influence in and around the Strait of Malacca. Chinese writings do mention piracy and terrorism as threats to the oil flow through Malacca, noting that "in 2001 alone, there were over 600 piracy incidents."[62] The foremost concern of many, however, is clearly the strong U.S. presence in the region, which has increased with the ongoing war on terror. There is little doubt that the situation in the contemporary Middle East has made an impression: whichever state "controls the Middle East can control . . . the [entire] world economy."[63] Chinese observers scrutinize what they regard as an American choke point control strategy, stating: "Everyone knows that the Malacca Strait is tightly linked to the South China Sea . . . and grips the throat of both the Pacific and the Indian Oceans."[64]

One PRC analysis asks whether the Malacca Strait will become yet another American forward military position in the Asia-Pacific.[65] Another asserts that the United States poses a "grave, hidden threat" to China's energy security.[66] PRC scholars have noted that in 1992 the Seventh Fleet's logistics agent, Commander, Logistics Group Western Pacific, was moved from Subic Bay in the Philippines to Singapore.[67] The United States has no military base there, only access to facilities like Changi Naval Base, but, it is suggested, "the area can be placed under the control of U.S. military power."[68] China is uneasy with growing U.S.-Singapore security cooperation and the notion that the United States appears to be cementing its regional strategic position under the guise of "combating terrorism."[69]

The South China Sea is another of China's critical oil transport zones, as China-bound oil flowing through Malacca must also transit this area on its way to southern and eastern China.[70] The South China Sea is, moreover, a vital transport corridor for liquefied natural gas (LNG), carrying two-thirds of the world's current LNG trade.[71] At present, Japan and South Korea are the region's primary LNG users, but the LNG transport security question is of increasing interest to China, which by 2020 may be importing more than thirty million tons per year.[72]

At the same time, China is keenly interested in producing oil and gas from beneath the South China Sea. Some Chinese observers claim that the South China Sea represents a "second Persian Gulf."[73] Two naval analysts assert that "oil and gas reserves [of the South China Sea] could reach 3.5 billion tons [or more than twenty-five billion barrels of oil equivalent] . . . [which would be] extremely important for China's economic development."[74] A PLA publication also claims that the South China Sea possesses "rich oil reserves equivalent to those of the Middle East."[75] Such assertions, however, are not supported by the limited oil yield from the South China Sea over thirty years of exploration and appear divorced from the far lower reserves that international oil companies believe to be

present there. Figure 1 lists the top global oil and gas reserve zones, according to a widely accepted industry benchmark.

If Chinese researchers' reserve estimates appear wildly optimistic, they do suggest that Beijing greatly values the South China Sea's oil and gas production potential. This could assume particular importance if China increases exploration and production activities there to reduce oil and gas import dependence, and thereby vulnerability to SLOC disruption. If Chinese national oil companies find oil or gas in the South China Sea, even outside China's territorial waters or exclusive economic zone, SLOC vulnerability would be reduced substantially by the shift of oil assets to be defended from the far reaches of the Indian Ocean to areas increasingly within range of China's air and naval bases. To date, the South China Sea appears to be yielding much more natural gas than oil. In collaboration with China National Offshore Oil Corporation (CNOOC), for instance, Hong Kong–based Husky Resources in 2006 made a world-class four-to-six-trillion-cubic-foot gas discovery 250 kilometers south of Hong Kong.[76]

Like the South China Sea, the East China Sea has attracted the interest of Chinese specialists because of its oil resources, the value of which they likewise seem to exaggerate. "The East China Sea's continental shelf could be one of the world's richest oil fields," declares a book by two PLAN officers. "The waters near the [disputed] Diaoyu [/Senkaku] Islands could become the 'Second Middle East.'"[77] The East China Sea is typically mentioned in the context of energy and territorial disputes with Japan, as opposed to SLOC security per se. Nevertheless, it contains some of China's most important ports, and, unlike the Malacca Strait and Indian Ocean oil lanes (but like the South China Sea), it lies

FIGURE 1
GLOBAL OIL AND GAS RESERVES BY REGION

Global Oil Reserves by Region		Global Gas Reserves by Region	
	% of Global Total		% of Global Total
North America	5.6	North America	4.5
Central and South America	9.0	Central and South America	4.4
Middle East	61.0	Middle East	41.3
Africa	9.5	Africa	8.2
Asia Pacific	3.3	Asia Pacific	8.2
Europe and Eurasia	11.6	Europe and Eurasia	33.5
Total	100.0	Total	100.0

Source: "Statistical Review of World Energy, June 2008," *British Petroleum,* www.bp.com.

near Chinese air and naval bases. The next section will explore which threats Chinese analysts fear most and under which scenarios they might arise.

PERCEIVED THREATS TO CHINA'S MAJOR OIL SLOC

It is often said that American naval supremacy is an excellent guarantor of global SLOC security and that Beijing actually benefits substantially from the stabilizing role that American naval hegemony plays.[78] This is perhaps especially true with respect to oil markets and the related question of sea-lane security.[79] But Chinese naval and maritime analysts tend to focus on what might happen to Chinese seaborne oil supplies during a conflict, and they generally perceive a substantial naval threat to China's oil SLOCs. One representative writing observes that oil and gas supply routes often become important military targets in wartime: "Japanese tankers became Allied targets and in 1944, Japanese oil imports were halved. By early 1945, Japanese oil imports had basically been stopped."[80] It should be noted that in assessing the threats to China's major oil SLOC, Chinese specialists contend that this threat does not emanate solely from Washington.

Despite the pathbreaking bilateral exercises with the Indian navy in 2005 and Hu Jintao's successful November 2006 visit to India, Chinese observers worry about India's dominant position astride China's most important oil SLOC. Chinese naval and maritime affairs publications keenly follow Indian naval development;[81] they are impressed by this development, especially in the realm of naval aviation, and fear that such capabilities could allow New Delhi to "effectively prevent any outside great power's Navy from entering the Indian Ocean."[82] Moreover, Chinese observers also note India's enhanced ability to project power to the east. Indeed, a 2004 article in *Modern Ships* reviews New Delhi's establishment over the past decade of a Far Eastern Fleet (远东舰队), its growing operational presence in the Andaman Sea and the Malacca Strait area, and increased exercises with the U.S. Navy.[83] Perceiving an emerging threat to a vital SLOC, one Chinese expert observes that the 75 percent of Chinese oil imports oil coming from Africa and the Middle East must pass through Indian navy–controlled seas.[84]

According to another Chinese observer, it is the fleets of the United States, Japan, and India that, together, "invariably constitute overwhelming pressure on China's oil supply."[85] In appraising Japan's newly evolving defense posture, Chinese researchers express concern that "Japan's defense scope has extended to the Taiwan Strait and could include the Malacca Strait. [Also,] Japan has used Singapore's air bases."[86] Other naval specialists have been critical of Japan's deployment to Iraq, arguing that this initiative has more to do with the geopolitics of oil than with any humanitarian motives.[87] This illustrates a larger concern

that the regional maritime oil security environment is being reshaped to Beijing's detriment.

Nevertheless, as a recent maritime oil security assessment in *Modern Ships* states, "For the foreseeable future, the U.S., Japan, and India are the three countries that have the capability to cut China's oil supply lines. However, cutting China's oil supply lines essentially means starting a war with China. . . . Only the U.S. has the power and the nerve to blockade China's oil transport routes." The same Chinese naval analysis suggests two possible scenarios wherein the United States might seek to embargo China's oil supplies. The first would be a Taiwan contingency. The second is less clear: "If China's rise is not of a peaceful character, or if the speed of the rise is too rapid . . . the U.S. could blockade China's maritime oil transport lines, thereby cutting short China's rise." It is argued that, in addition to the Malacca Strait, American forces could block China's energy SLOC at multiple points. This prospect is interpreted as a source of considerable leverage for the U.S. Navy vis-à-vis China.[88] Another analysis arrives at similarly stark conclusions, stating that the 1993 *Yinhe* incident (frequently invoked by Chinese analysts) could foreshadow American interception of China-bound oil shipping during a Taiwan crisis.[89]

"A big and powerful [Chinese] fleet will support a stable supply chain [from which] all oil trading nations benefit. Thus, in the era of globalization, a formidable navy is not only in our own country's security interest, but is actually a requirement of global security as well."

One of the most interesting naval strategy discussions regarding the threat to China's oil SLOC concerns Taiwan. Most PRC analyses of the Taiwan question tend to focus on the official line that Taiwan is fundamentally a sovereignty issue. By contrast, the book 戍海固边 *(Defend the Sea, Strengthen Frontiers)* focuses on the strategic value of the island for China. Its authors assert that the Taiwan issue is a matter of survival for China, because control of the island will enable mainland China to "project [naval power] upon the Pacific Ocean's critical strategic sea lanes." Its authors suggest that unfavorable geography, especially the enemy's position on Taiwan, has enabled adversaries to blockade China in the recent past. According to this analysis, Taiwan is critically positioned along the "oil route" from the Middle East to East Asia. It is suggested, moreover, that "if Taiwan fell under the control of a power hostile to China, not only would this mean that this great gate was closed but also that the Taiwan Strait Channel could be blocked."[90]

Chinese naval and maritime analysts are well aware that the U.S., Indian, and, especially, Japanese economies are also highly dependent on seaborne trade in oil and gas. One Chinese interlocutor has even suggested that at least in the

near term China's only viable naval response to the aforementioned embargo scenarios would be a strategy of retaliation—an effort to answer an embargo against China with "an eye for an eye."[91] The implication during the interview was that China could interrupt U.S. oil supplies if Washington attempted to blockade China, but no specific methods were mentioned.

PLAN REQUIREMENTS FOR PROTECTING MARITIME OIL SUPPLY ROUTES

As noted previously, Chinese writings that examine energy and oil supply security issues have become increasingly available in recent years. Still, very few publicly available sources contain detailed discussions of SLOC security missions and the tactics and platforms that such missions might require. It is useful to examine some of those that do.

战役理论学习指南 *(Campaign Theory Study Guide)*, a 2001 textbook written by Chinese National Defense University scholars, draws on a variety of high-quality doctrinal publications. Its authors believe that air and information superiority will be necessary to achieve sea control, using such offensive operations as "raids on enemy bases or harbors and other major coastal targets; operations to annihilate enemy force concentrations on the water; ocean blockades; operations to disrupt enemy ocean transportation; and operations to take islands or shoals," as well as defensive measures, including "defense of straits and waterways, protecting ocean transportation lines and counter blockade operations."[92] To safeguard its own ocean transport, the PLAN may have to "annihilate enemy heavy naval groups . . . and . . . destroy the enemy ocean transport and supply system." The range of the PLAN will be an important determinant of operational success: "Offshore combat stresses that the front lines of the first island chain is a primary battlefield for our offshore waters which should be seized and held to our advantage."

Should China implement a naval blockade, the authors acknowledge, international law will impose constraints, though they believe such targets as enemy offshore oil zones to be legitimate. To attack an enemy SLOC the authors recommend selecting an accessible section of the ones least protected but most frequently used. Distant enemy bases, which are heavily fortified but fixed, could be destroyed, preferably by a preemptive strike.

Regarding "coastal SLOC defense," the authors believe that China enjoys "numerous forms of superiority such as weather, topography, and a friendly population." Based on PLAN requirements, elements of the PLA and "sea militias, sea transport, and the fishing industry," they propose, should navigate in small groups "between islands and through maritime areas that are inconvenient for submarines and large surface vessels." Notwithstanding the high defensibility of

coastal waters, infrastructure improvements are making them less important to China's oil security. China is rapidly improving its domestic pipeline network for transporting crude oil and products and is thereby is becoming less reliant on coastal shipping to move petroleum from point to point.

Chinese strategists are rather more concerned that an enemy could interdict China-bound tankers far from PRC shores. As *Campaign Theory Study Guide* notes, "During deep-sea SLOC defense combat, the loss of superior coastal conditions and the presence of numerous disadvantageous factors mean that the threat from enemy transportation disrupting forces is great." Limitations include "relatively low integrated mobility, less desirable reconnaissance and early-warning capacity, and limited maritime control area, which make it difficult for us to discover the enemy's forces in a timely manner."

To make the best of a difficult situation, the PLAN should employ "large group concentrations" to attack enemy ships taking on fuel and supplies, transiting "narrow waterways," particularly during inclement weather, and "stick close to the coasts of friendly countries," perhaps aided by "diplomatic shortcuts." As in coastal SLOC defense, forces should operate in unexpected areas and prepare both "reserve" and "decoy" routes. In addition to "moderniz[ing] and refit[ing] destroyers, escorts, and conventional submarines," "outfitting transport vessels with certain weapons and helicopters and having them conduct necessary warning, anti-submarine, anti-vessel, and other self-defense combat has a certain technological superiority over the use of guard vessels." To improve deep-sea SLOC protection in the future, China should "endeavor to establish a contemporary, integrated and offensive, new, special mixed fleet with an aircraft carrier as core and missile destroyers (or cruisers) and nuclear attack submarines as backbone forces."

战役学 *(The Science of Campaigns),* an operationally and tactically focused doctrinal textbook, was also published by China's National Defense University.[93] The 2006 version devotes considerable focus to joint operations and the specific measures necessary to support offensive operations in order to deter other militaries from threatening China's SLOCs, or, failing that, to retaliate and compel them to retreat. Chapter 12, "Joint Blockade Campaign," emphasizes the need to achieve objectives rapidly in a complex battle environment by jointly implementing an air, maritime, and information blockade.[94] The last entails "actively destroy[ing] the enemy's important ground information installations, disrupt[ing] the enemy's satellite and radio channels, cut[ting] off the enemy's submarine cables and cable channels . . . [and] smashing the enemy's information warfare capability." In order to "achieve and maintain campaign sea control," the PLA should "establish an integrated air and sea monitoring and controlling system." China's "Air Force, conventional missile forces, submarine

forces and surface combat ship force" should implement "barrier" (e.g., sea mine), "firepower," and "armed force" blockades on the enemy's naval ports and bases.

This emerging doctrine's focus on how to ensure the security of the sea-lanes adjacent to China's coast in a conflict over Taiwan against the attempts of states to blockade China (as opposed to securing SLOCs in peacetime) seem to suggest that China would consider preemptive action to protect its sea-lanes and that it would not hesitate to escalate in order to protect maritime resource supply lines. These doctrinal writings also suggest present limitations in PLAN capabilities: they reveal an apparent need for improvised and stopgap measures to achieve such goals in actual combat conditions. Even after a decade of intensive naval modernization, many of the ideas suggested remain aspirational rather than operationally feasible. These statements need to be compared with those in other PLAN doctrinal writings as they become available outside China; nonetheless, it seems reasonable to conclude that Beijing nearly a decade ago was already carefully evaluating the consequences of, and potential countermeasures to, a maritime oil blockade. As new doctrine imposes new requirements, this will highlight capabilities and limitations, thereby clarifying further the extent and direction of the PLAN's SLOC security efforts.

NAVAL IMPLICATIONS: BEYOND TAIWAN?

China might also be pursuing the ability to project naval power further than would be necessary in a Taiwan contingency. Modern warships are capable of performing many missions. Hence, they are not restricted to a specific role in specific waters. Their political masters presumably find them useful to perform a variety of missions in a wide range of circumstances and locations (e.g., both a Taiwan context and deployments farther afield). One explanation for China's possible movement toward a blue-water navy that might transcend the Taiwan issue is found in its growing dependence on imported oil and other key economic inputs.

The PLAN's present inability to secure China's long-distance oil transport SLOCs, or to deter a U.S. blockade militarily, greatly concerns Chinese experts.[95] They are painfully aware of the U.S. Navy's superiority over the PLAN.[96] There is a clear sense of urgency: "Regarding the problems . . . of sea embargo or oil lanes being cut off . . . . China must . . . 'repair the house before it rains.'"[97]

One PRC naval analysis of maritime rights and resource security explains that China's navy is not sufficiently strong to undertake the oil-SLOC security mission, because of Beijing's longtime policy of "emphasizing land power over sea power" (重陆轻海).[98] This policy stems from the fact that for much of its history China faced land-based threats from what is now Central Asia and Mongolia, as

well as internal security concerns. Threats from the sea did not become a major issue until the arrival of European forces in the eighteenth and nineteenth centuries, and China did not come to depend significantly on seaborne natural resource imports until 1993, when it became a net oil importer.[99] Hinting at a possible redirection of PLAN strategy, as well as at potential rivalry among PLAN warfare communities, the above-mentioned analysis advocates shifting priorities from a submarine-centric navy to one with aircraft carriers as the "centerpiece."[100]

Such a shift would have major internal and international implications. Internally, it would mean that the PLAN would likely capture a much larger portion of the defense budget, especially as the carriers themselves would need a complement of aircraft and a dedicated fleet of escort vessels to be useful in actual combat conditions. Its internal clout would be further enhanced by the fact that aircraft carriers might rapidly become an important diplomatic instrument for projecting Chinese presence and influence in Asia, and perhaps (eventually) globally. Internationally, moving toward a carrier-centric navy could prompt other regional and global navies to upgrade their own forces in anticipation of China's taking a more assertive stance regarding naval power projection.

Despite any efforts both to channel China's maritime development in a peaceful direction and to portray it accordingly to the rest of the world, history suggests that any major military modernization program is likely to unnerve other powers. A move by Beijing from a "near sea" to a "blue water" naval strategy, even if conducted under the auspices of "commercial protection," may be no different. A recent article in 中国军事科学 *(China Military Science)* states that "[China's] navy must . . . unceasingly move toward [the posture of] a 'blue-water navy' [and] expand the scope of maritime strategic defense."[101] To accomplish this goal, one Chinese analyst asserts that Beijing requires long-range area-air-defense destroyers, helicopter carriers, diesel submarines with air-independent propulsion and cruise missiles, nuclear submarines capable of attacking enemy harbors and land targets, and advanced naval aircraft, such as the Su-30 Flanker.[102]

Proponents of energy/SLOC defense as a mission for the PLAN are not the only ones contributing to what seems to have become a robust debate within China. Some Chinese views acknowledge the costs and difficulty of building the power-projection capabilities necessary to carry out credible SLOC-defense missions (e.g., aircraft carriers), as well as the potential for balancing against China and the political costs that would likely occur in the event that China procured a carrier battle group. Many writers express similar or related reservations, either directly or indirectly. The presence of these views within China may help explain why the arguments for energy/SLOC-defense missions have not yet gained greater traction.

POTENTIAL INDICATORS OF A SHIFT TO OIL SECURITY AS A NAVAL DEVELOPMENT DRIVER

Chinese writings suggest a range of views on how to organize the PLAN for operations further afield. A sustained movement of assets to the South China Sea could imply a PLAN mission beyond Taiwan, in pursuit of genuine, if limited, SLOC protection capability. Indeed, a student at Beijing's influential Central Party School asserts that China has been overly cautious in its naval development and should instead pursue a navy capable of deterring SLOC attacks all the way to Malacca and of conducting combat operations beyond a thousand nautical miles from China.[103] Increased PLAN presence in key SLOC areas could also have a valuable "shaping" function, as it can "strengthen [China's] power of influence in key sea areas and straits" in peacetime and thereby decrease the chance of its interests being threatened in war. [104]

One of the most ambitious discussions of PLAN development in relation to energy SLOC security is found in a 2006 article from 舰载武器 *(Shipborne Weapons)*. This article proposes that in the twenty-first century, as China broadens its naval presence on the world's oceans, Beijing's North, East, and South Sea fleets should transform into a Northern Fleet, a Pacific Fleet, and an "Indian Ocean Fleet" (印度洋舰队). A systematic outline of the potential scope and mission of such notional Northern and Pacific fleets is beyond the parameters of the present article. Nonetheless, we can observe that the very idea of a Chinese Indian Ocean Fleet, while speculative, could suggest the potential for significant change in the PLAN's response to the SLOC security issue. According to this Chinese analysis, the core mission of the proposed Indian Ocean Fleet would be "to protect [Beijing's] interests in the South China Sea, while at the same time guarding the Indian Ocean navigation route and escorting Chinese oil tankers transiting the Malacca Strait." The analysis emphasizes the crucial role that aircraft carriers would play in such a fleet, particularly if they could coordinate effectively with China's new air defense destroyers.[105]

Were China to move toward a robust blue-water SLOC-defense capability, the evidence of its doing so would likely emerge, sequentially, in, first, adoption of the logic and the language of the proponents' arguments in major speeches; followed by, second, formal changes to published doctrines and published guidelines; third, in a shift in acquisitions and procurement; and fourth, a shift in such areas as deployment and training. A major speech might be made by a senior civilian leader (e.g., on the Politburo Standing Committee) that adopted some of the language outlined by some of the proponents described above. Adjustments to doctrine would likely be published prior to the actual acquisition of capabilities. This general PLA pattern is exemplified by Jiang Zemin's 1993 speech on "military strategic guidelines," which presaged later acquisitions and

changes to operational doctrine.[106] Of course, if the PLAN acquired certain capabilities for SLOC defense but doctrine and the majority of procurement, deployment, and training remained focused on other missions, then it would seem that a transition had still not occurred.

While logical in practice, however, this sequence might be difficult to monitor. Chinese doctrine and policy statements are often vague, and they might be deliberately obfuscated in order to minimize the scope for balancing behavior by other powers. Larger precipitating developments, such as a bureaucratic change that enhanced the PLAN's status or budgetary resources, might occur without foreshadowing obvious to the outside world. Even deployment and training can be ambiguous; PLA experts have recommended using missions other than war (e.g., anti-piracy efforts off Somalia) to develop war-fighting capabilities and interoperability.[107] Hardware acquisition and deployment, by contrast, is a useful indicator to monitor, because it is typically less ambiguous. With respect to force structure, indicators of a more ambitious Chinese naval presence, particularly in the area of SLOC protection, would likely include:

- Construction and deployment of additional nuclear attack submarines and other platforms with significant demonstrated antisubmarine warfare capabilities[108]
- Development of aircraft or helicopter carriers and related doctrine and training programs[109]
- Establishment of new, modern shipyards dedicated to military ship production or expansion of areas in coproduction yards that are dedicated to military ship production[110]
- Expansion of the PLAN auxiliary fleet, particularly long-range, high-speed oilers and replenishment ships
- Development of the ability to conduct sophisticated ship repairs remotely, either through tenders or overseas repair facilities[111]
- Steady deployment of PLAN forces to vulnerable portions of the sea-lanes to increase operational familiarity and readiness
- Maturation of advanced levels of PLA doctrine, training, and human capital.

Perhaps the most important indicator, however, would be Chinese acquisition of reliable overseas air and naval bases—a major shift from current foreign-policy doctrine. China is already bolstering its strategic position along Indian Ocean oil SLOCs. Writing in *China Military Science,* a PLAN senior captain details Chinese investments in Burmese and Pakistani port facilities (e.g., Gwadar) that would improve western and southwestern China's sea access and also

expand China's geostrategic influence.[112] Gwadar has been designed in part to "serve as an alternate port to handle Pakistani trade in case of blockade of existing ports," however, and Pakistan might be reluctant to grant the PLAN access during a conflict.[113]

Perhaps the PLA is making greater progress in Burma, where it has reportedly assisted in the construction of several naval facilities on the Bay of Bengal. A Chinese Southeast Asia expert notes that Sino-Burmese military and security relations have strengthened, with China assisting in the construction and modernization of Burmese naval bases by repairing and constructing radars and fuel facilities. Burma's leaders, he claims, have pledged to support China if it needs to defend its interests.[114]

Despite these reports, however, China appears far from having overseas naval bases of its own. An Indian naval officer, Commander Gurpreet Khurana, assesses, "China and the IOR [Indian Ocean Region] countries involved maintain that the transport infrastructure being built is purely for commercial use. There is no decisive evidence at this point to assert otherwise because these facilities are in nascent stages of development."[115] In the future, any bases that China did establish would have to be defended effectively in the event of conflict.

A RESPONSIBLE STAKEHOLDER?

It is perhaps not surprising that Chinese naval and maritime affairs analysts are looking to "blue water" missions beyond the strict confines of Taiwan contingencies. It is certainly in their bureaucratic interest to do so. Indeed, such bureaucratic interests have fueled previous naval rivalries. Of course, it is also possible that official approval of planning, budget, and forces for explicit SLOC security missions might promote factional disagreement because of the cost and the potential for negative international repercussions. China's national oil companies, which shape much of China's oil and gas policy, may prefer the status quo. The State Council and other bureaucratic organs are committed to vital domestic development priorities that include the foremost challenges confronting China's leadership (welfare, health care, urbanization, west and northeast development, and rural modernization). The army, air force, and Second Artillery may have different priorities for defense-spending allocation. Moreover, the foreign ministry and even top leaders share an understanding about the potential for balancing against China if Beijing appears too aggressive. Nevertheless, continued development of China's economy may make available sufficient resources to permit "logrolling," in which different organizations and policy factions acquiesce to the fulfillment of others' budgetary priorities in return for support for their own.[116] Continued substantial increases in the PLA budget as

a whole, and even improvements in the PLAN's ability to compete with China's other armed services, cannot be ruled out.

A more surprising finding is that a number of Chinese maritime and naval specialists support maritime cooperation with the other oil-consuming powers, particularly the United States. Some Chinese analysts recognize the potential costs to China of a balancing reaction, by neighbors and the United States, to a Chinese shift toward an extended SLOC-defense mission for the PLAN. Key strategic implications that could destabilize the Indian Ocean and western Pacific littoral regions might include regional naval power upgrades and alliance rebalancing to offset a more muscular and far-ranging Chinese naval presence. A unilateral approach is unnecessary, some write, and the costs would be very great. India, Japan, the United States, Indonesia, Malaysia, and Australia would almost certainly bolster their own naval forces and would also likely seek to create security architectures more explicitly designed to contain China.

A major study of China's SLOC security problem calls for emphasizing cooperation in international organizations and conventions and in laws and regulations concerning oil transport.[117] A 2004 survey in *Naval and Merchant Ships* reveals many nationalist themes on energy but concludes that China is "increasingly dependent on stability in the Middle East."[118] Of course, such language sounds entirely familiar to Western ears. An analysis from *Modern Ships* finds that "the energy crisis and maritime SLOC security are not problems that are just confronting China alone . . . but [rather] impact on international SLOC security and stability."[119] A more recent analysis from the same journal observes that Persian Gulf instability could harm China's interests significantly; it argues that China must cooperate closely with India, South Korea, and even Japan—which might otherwise join the United States against China in any conflict—in the energy sphere.[120] But the overarching requirement is to maintain good relations with Washington. There is little choice, according to this source, because "the U.S. could blockade energy shipments to China at any time." It is suggested, moreover, that present U.S.-China relations have stabilized to a large degree, despite the UNOCAL incident and other irritants.[121] It is also recognized that Washington is unlikely to act against the status quo. In fact, "if stability can be maintained in U.S.-China relations, then China's maritime oil transport will be basically secure."

On a similar note, CICIR scholar Zhao Hongtu writes that while oil security will continue to be a challenging and controversial issue, China cannot hope to compete with the United States in naval development and can best safeguard its interests by helping Southeast Asian states develop an indigenous capacity to address nonstate challenges. He asserts that the United States has promulgated a "String of Pearls Strategy" and also that the international community still

entertains a "China Energy Threat Theory." In the end, however, he concludes that while China's energy infrastructure (e.g., the country's nascent strategic petroleum reserve) is indeed vulnerable to attack, an oil blockade of China is both risky and "not likely at all," primarily because "the fate of the two countries have forged a community of destiny, [and therefore] war and military blockade will only cause both sides to suffer."[122] Zhao's view seems to be that while tankers and oil storage depots might be tempting military targets, the serious market disturbances resulting from attacks upon them would affect all global oil consumers, as would China's likely military response to any attack on its oil assets.

Even advocates of robust PLAN development do not foreswear cooperation. One researcher insists that "the building of a powerful Chinese navy is a necessary requirement to ensure China's oil security" because "if China is to become [equal] friends with Americans in the future, we must first become an opponent that the U.S. cannot defeat."[123] A variety of Chinese naval analysts further support the cooperation theme. Writing in *China Military Science,* two PLAN academics describe maritime oil security as a problem not of "SLOC security" but rather of "regional maritime stability."[124] Another allows that seaborne oil transport remains a security issue in specific instances but maintains that "international bilateral and multilateral security cooperation is the necessary trend."[125] A rather remarkable article on the energy issue in *Modern Navy* actually links a Chinese naval buildup to support a SLOC mission to the principle of "peaceful development." The analysis asserts that "a big and powerful [Chinese] fleet will support a stable supply chain," from which "all oil trading nations benefit. Thus, in the era of globalization, a formidable navy is not only in our own country's security interest, but is actually a requirement of global security as well." This analysis concludes that as long as China's navy continuously engages with the outside world, developing opportunities to partner with other countries, the world will come to accept, and even welcome, a strong Chinese navy.[126]

Nevertheless, a wide variety of Chinese analysts continue to worry that in a confrontation the United States would have a range of options for interrupting Chinese oil supplies. They are suspicious of U.S. exercises with other regional navies. While the United States must continue to pursue its core regional interests and support its allies, it may be able to counter Chinese arguments for a PLAN capable of energy/SLOC-security missions by persuading relevant individuals that it is a genuine guarantor of open SLOCs. The United States can enlarge common ground on energy and SLOC security by engaging China and the PLAN more through joint exercises (e.g., search and rescue, humanitarian assistance, and disaster relief) and strategic dialogue. In promoting constructive communications with Chinese interlocutors, it will be important to emphasize

that SLOC security is a problem for nations around the world (particularly in East Asia), not just for China.

THE DEPTH OF BEIJING'S INSECURITY

This article has found that discussion of oil SLOC protection within the voluminous naval and maritime affairs literature in contemporary China is not extensive, at least in comparison with, for example, undersea warfare or air-independent propulsion technology. Yet oil SLOC protection has the potential to emerge as a major bureaucratic sales point for acquisition of modern, blue-water platforms, as well as the training and doctrine needed to employ them effectively. Already, some Chinese naval and maritime analysts display pointed interest in energy issues, and many of these share a fairly distinct general viewpoint. The most critical theme that underlies this perspective is China's perceived current vulnerability to an oil embargo. As one might expect, Chinese analysts are reluctant to place their country's oil security in the hands of other great powers, especially the United States. If it does not already serve this role, then, the oil issue could offer a potent rationale for continuing or even further accelerating China's naval modernization, especially as Beijing's military planners begin to grapple seriously with scenarios beyond Taiwan. Perhaps somewhat more unexpected, given their tone of profound and immediate concern for China's maritime oil security, are the candid admissions of Chinese naval and maritime analysts that the PLAN's capabilities for protecting China's long oil SLOCs are minimal at present. Also, it is somewhat surprising that these specialists, while sounding a wide variety of themes, many quite nationalistic in character, seem in general to be guardedly open to multilateral oil security cooperation and appear to understand the importance of trying to preserve good relations with Washington.

Of the many Chinese naval analyses surveyed for this study, among the most sophisticated was a lengthy treatment of the oil security question in the October 2006 issue of *Modern Ships*. At the conclusion of that analysis, the author articulates a three-point strategy that may encapsulate the Chinese naval community's views on the oil security question: "[China] must view things from the perspective of keeping the United States from cutting its oil supply lines. Concretely speaking, this entails making the United States not willing to cut China's oil supply lines, not daring to do so, and not able to do so." Though the importance of this particular source should not be exaggerated in the absence of information concerning its provenance, this statement's succinct parallelism suggests that it might perhaps be influenced by (or even drawn from) some element of official internal policy. It further suggests that a web of self-interest would deter the United States from embargoing China and that adept diplomacy could

hinder any attempt by Washington to use this leverage. Most surprising, perhaps, is that this formulation calls not just for strengthened naval forces but also nuclear strategic forces as well.[127] This perceived need for additional deterrence capabilities, apparently driven by concern that the United States might attempt to sever Chinese SLOCs in the event of a Taiwan conflict, may truly illustrate the depth of Beijing's insecurity with respect to maritime oil access.

On the whole, however, means of safeguarding SLOC security remain under debate in China, perhaps offering other states an opportunity to influence Beijing's plans in a way that will support cooperative maritime security. Beijing and Washington in particular share a wide range of maritime oil security interests that could best be promoted through cooperation. The primary threat to seaborne oil supplies comes not from national navies but from well organized and increasingly capable nonstate actors, such as the pirates that are, at this writing, creating havoc in the waters off Somalia.

Cooperation to blunt nonstate threats to maritime oil shipments can help build trust and reduce the potential for state-on-state naval confrontations over energy-supply security. It can also be a showcase for how maritime powers like the United States can work to integrate China into a global security architecture, which will need modifications to accommodate the relative newcomer but offers an excellent starting framework. Both official and unofficial diplomacy can help build a foundation for a more extensive maritime energy security partnership in coming years.

NOTES

The views expressed in this essay are those of the authors alone, and do not represent those of the U.S. Navy or any other element of the U.S. government. An earlier, preliminary version of the present argument was presented at the China Maritime Studies Institute's second annual conference, "Maritime Implications of China's Energy Strategy," in December 2006 and appeared as "Chinese Naval Analysts Consider the Energy Question" in Gabriel Collins, Erickson, Goldstein, and William Murray, *China's Energy Strategy: The Impact on Beijing's Maritime Policies* (Annapolis, Md.: Naval Institute Press, 2008), pp. 299–335. The authors thank George Gilboy, James Holmes, Nan Li, William Murray, and Toshi Yoshihara for their significant contributions.

1. This article uses the term "naval analyst" to describe PLAN officers and researchers known to be attached to naval research institutes; all other scholars of naval affairs are referred to as "maritime affairs analysts."
2. This is similar to drivers and justifications put forth by other regional navies. See, for example, *Freedom to Use the Seas: India's Maritime Military Strategy* (New Delhi: Directorate of Strategy, Concepts and Transformation, Integrated Headquarters Ministry of Defence [Navy], May 2007). But a Chinese shift would be very important, in part precisely because others have similar claims.
3. Maj. Gen. Peng Guangqian, PLA (Ret.), for example, recently stated that danger of war over Taiwan has greatly declined. "彭光谦: 两岸军事冲突危险大减" [Peng

Guangqian: The Danger of Cross-Strait Military Conflict Has Greatly Decreased], *China Review News,* 24 December 2008, gb.chinareviewnews.com.

4. Office of the Secretary of Defense, *Military Power of the People's Republic of China 2008,* Annual Report to Congress (Washington, D.C.: 2008), p. 10, available at www.defenselink.mil/pubs/pdfs/China_Military_Report_08.pdf.

5. Many Indian writings reveal a vision for the Indian Ocean as India's Ocean, with India assuming "a pivotal position" (Kanwal Sibal [former Indian foreign secretary], "Safe on the High Seas: India Plays a Critical Role in Keeping Sea Trade Routes Secure," *Telegraph,* 12 March 2008, available at www.telegraphindia.com). One of India's two current strategic naval documents declares, "Geography has been kind to India, placing her in a favourable position to control the vital northern areas of the Indian Ocean" (*Indian Maritime Doctrine* INBR8 [New Delhi: Integrated Headquarters, Ministry of Defence (Navy), 2004]). Former prime minister Jawaharlal Nehru is credited with the philosophy that "to be secure on land, we must be supreme at sea" (Maitreya Buddha Samantaray, "Strengthening Ocean as a Substitute for India's Land Diplomacy," *Newstrack India,* 16 July 2008, available at www.newstrackindia.com). Prime Minister Manmohan Singh states that "India's growing international stature gives it strategic relevance to the area ranging from the Persian Gulf to the Strait of Malacca." India's navy formally pursues a SLOC security mission, because it is "in all respects, a maritime nation," and 90 percent of its oil arrives by sea or undersea pipeline (*India's Maritime Military Strategy,* pp. iii, 46, 49, 96). Admiral Sureesh Mehta, commander of India's navy, is said to envision "a truly blue-water navy with strategic reach to operate from Africa's eastern coast right up to Malacca Straits" (Rajat Pandit, "Blue-Water Navy Is the Aim," *Times of India,* 1 November 2006, available at timesofindia.indiatimes.com). In comparison, one might even argue that the Chinese debate remains relatively modest and restrained, and that it hews close to core interests rather than ambitious visions.

6. Office of the Secretary of Defense, *Military Power of the People's Republic of China,* p. 12.

7. See, for example, Bernard D. Cole, *Sea Lanes and Pipelines: Energy Security in East Asia* (Westport, Conn.: Praeger, 2008); Kenneth Lieberthal and Mikkal Herberg, "China's Search for Energy Security: Implications for U.S. Policy," *NBR Analysis* 17, no. 1 (April 2006), p. 23; Dan Blumenthal and Joseph Lin, "Oil Obsession: Energy Appetite Fuels Beijing's Plans to Protect Vital Sea Lines," *Armed Forces Journal* (June 2006), available at www.armedforcesjournal.com; Wu Lei and Shen Qinyu, "Will China Go to War over Oil?" *Far Eastern Economic Review* 169, no. 3 (April 2006), p. 38.

8. Erica S. Downs, "The Chinese Energy Security Debate," *China Quarterly* 177 (March 2004), pp. 21–41. See also Trevor Houser, "The Roots of Chinese Oil Investment Abroad," *Asia Policy,* no. 5 (January 2008), pp. 141–66.

9. Energy security discussions are not widespread in publicly available Chinese materials. There are three possible explanations. First, maritime and energy security issues appear to be integrated primarily at the top leadership level, not at the ministry level (where open reports might be issued). With the exception of three short periods, the PRC has lacked a central energy ministry with real authority over the many energy-sector players. (These include the NDRC, state oil and gas producers, and special high-level working groups, such as the National Energy Leading Group (国家能源领导小组), chaired by Premier Wen Jiabao since its establishment in 2005). There is also a State Energy Office, attached to NDRC's Energy Bureau, but it is staffed at less than a hundredth of the level of the U.S. Department of Energy (100 : 110,000), lacks formal authority over energy stakeholders, and is likely so overwhelmed with work that it can only react to events, not shape policy proactively. NDRC documents tend to focus on general aspects of national energy consumption and conservation, not maritime or military issues. See, for example, 能源发展'十一五'规划 [Eleventh Five-Year Program for Energy Development] (Beijing: 国家发展改革委 [National Development and Reform Commission], April 2007), available at www.ndrc.gov.cn. Second, there

appear to be few dedicated civilian experts who focus on both energy and maritime security issues, and those who do tend to focus on specific subjects (e.g., Southeast Asia experts study the Malacca Strait). The PLAN almost certainly pays close attention to energy security, but its views are difficult to track directly, because the PLA continues to lack transparency. A variety of institutions likely give inputs into PLAN strategy, including the Naval Studies Research Institute in Beijing, the Command and Staff College in Nanjing, and the Submarine Academy in Qingdao. Third, Chinese observers are apparently discouraged from publishing openly on certain sensitive topics. Naval and military analysts more often discuss technological developments than such potentially sensitive yet clearly important and widely recognized themes as maritime energy security. Still, this tendency reinforces the importance of reviewing those materials that do appear.

10. Chinese security-related writings may be divided into six major categories, of varying relevance to maritime energy security issues. Political-science and international-relations journals, such as 现代国际关系 *(Contemporary International Relations),* 国际问题研究 *(International Studies),* 国际政治研究 *(International Politics Quarterly),* 国际论坛 *(International Forum),* 国际政治科学 *(Quarterly Journal of International Politics),* 国际交流 *(International Understanding),* 和平与发展 *(Peace and Development),* 中国国际问题研究 *(China International Studies),* 当代亚太 *(Contemporary Asia-Pacific Studies),* and 太平洋学报 *(Pacific Journal),* rarely if ever have specific relevant content. Military intellectual and strategic publications, as exemplified by 中国军事科学 *(China Military Science),* offer broader insights but few specifics. Doctrinal publications—for instance, 战役学 *(Science of Campaigns)*—reveal potential strategic and operational approaches. Technical journals, such as 中国能源 *(China Energy),* 中国油气 *(China Oil and Gas),* 石油科学 *(Petroleum Science),* 石油学报 *(Acta Petrolei Sinica),* 海洋石油 *(Offshore Oil),* and 中国海上油气 *(China Offshore Oil and Gas),* normally offer some of the highest quality and most reliable research but do not address directly such a complex, interdisciplinary, strategic subject. For this particular topic, then, the sources with most direct coverage are military newspapers, like 人民海军 *(People's Navy),* and semitechnical/trade publications (e.g., 舰载武器 [*Shipborne Weapons*]), which describe technology and platforms in some detail and link them to larger strategic issues.

11. These include, at a minimum, 当代海军 *(Modern Navy),* 人民海军 *(People's Navy),* 舰船知识 *(Naval and Merchant Ships),* 舰载武器 *(Shipborne Weapons),* and 现代舰船 *(Modern Ships). Modern Navy* is a monthly magazine published by the official PLAN newspaper *People's Navy,* which is the daily newspaper published by the Political Department of China's navy. *Naval and Merchant Ships* is a semitechnical monthly publication of the Chinese Society of Naval Architecture and Marine Engineering. *Shipborne Weapons* and *Modern Ships* are monthly journals published by the state-owned China Shipbuilding Industry Corporation (CSIC), China's largest designer, manufacturer, and trader of military and civilian vessels and related engineering and equipment. In addition to these naval-oriented publications, Beijing's foremost military journal, 中国军事科学 *(China Military Science),* is published by the PLA's Academy of Military Science. Sea Tide Press (海潮出版社), located in Beijing, is affiliated with the PLAN Political Department. It publishes such officially sanctioned books as the 杨志本 [Yang Zhiben, ed.], 中国海军百科全书 [China Navy Encyclopedia], vols. 1 and 2 (Beijing: 海潮出版社 [Sea Tide], 1998).

12. Chinese doctrinal texts rarely, if ever, offer specific insights into Chinese maritime energy security. It is not helpful to dismiss Chinese maritime interest publications as "popular"; doing so narrows the scope of available literature to an impractical degree. Contemporary China is a highly technocratic and extremely nationalistic society where magazines devoted to military issues that are quite sophisticated also happen to make a profit. That the case is different in other countries does not automatically render the Chinese sources unreliable. Given the complexity and opacity of China's "defense intellectual complex," affiliations of authors in Chinese journals are often unknown. We may wish the case was different, but scholars of China need to learn to cope with such

ambiguities. Rejecting these viewpoints because backgrounds are unknown is not an option for serious scholars. It would also be excessively narrow to restrict all discussions regarding naval matters to identified uniformed personnel. Like the United States, China has a large number of research institutes that employ both civilians and uniformed naval personnel (and often many retirees as well). Anyone familiar with naval policy in China—and for that matter, in the United States—knows that the development of naval strategy and the socialization of related policies and ideas are interactive processes among civilian scientists and strategists, military personnel, and industrial interests, as well as civilian leaders. To draw an analogy, one might consider such figures in the United States as Norman Polmar or Ronald O'Rourke. The opinions of these non-uniformed "naval analysts" are at least as important as those of many senior U.S. Navy personnel in the formation of naval strategy. In the extremely technocratic contemporary PRC, civilian scientists and experts may strongly influence military opinion and strategy formation.

13. The few relatively recent examples include 顾祖华 [Gu Zuhua], "维护海上石油安全须有强大海上编队" [In Order to Safeguard Energy Security, a Massive Naval Fleet Is Necessary], 当代海军 [Modern Navy] (August 2004).

14. 陈安刚, 武明 [Chen Angang and Wu Ming], "马六甲: 美国觊觎的战略前哨" [Malacca Strait: The U.S. Covets a Strategic Outpost], 现代舰船 [Modern Ships] (December 2004), p. 13.

15. For a regionwide survey, see Cole, *Sea Lanes and Pipelines.*

16. China still has a window of opportunity to avoid the level of oil dependence and overall energy dependence that OECD countries experience (though it is closing fast). Also, it is by no means clear that recent trends in Chinese oil demand and car transport can or will be allowed to continue; this is reportedly the subject of major debate in Chinese policy circles.

17. For recent scholarship on this issue, see the proceedings of the conference "PLA Missions beyond Taiwan," 26–28 September 2008, U.S. Army War College Strategic Studies Institute, Carlisle, Pennsylvania.

18. U.S. Defense Dept., *Military Power of the People's Republic of China 2008,* p. 13.

19. See, for example, 查道炯 [Zha Daojiong], "相互依赖与中国的石油供应安全" [Interdependence and China's Oil Supply Security], 世界经济与政治 [World Economics and Politics], no. 6 (2005), pp. 15–22.

20. 赵宏图 [Zhao Hongtu] (China Institute of Contemporary International Relations), "'马六甲困局'与中国能源安全再思考" ["The "Malacca Dilemma" and Rethinking China's Energy Security], 现代国际关系 [Contemporary International Relations], no. 6 (2007), pp. 36–42.

21. 冯梁 [Feng Liang] (senior colonel and professor), 战略教研室 [Strategy Teaching and Research Section], and 段廷志 [Duan Tingzhi] (lieutenant colonel and associate professor, Naval Command College), 第二政治理论教研 [Second Political Affairs Teaching and Research Section, Naval Command College], "Characteristics of China's Sea Geostrategic Security and Sea Security Strategy in the New Century," 中国军事科学 [China Military Science] (January 2007), p. 27.

22. 张文木 [Zhang Wenmu], "China's Energy Security and Policy Choices," 世界经济与政治 [World Economics and Politics], no. 5 (May 2003), pp. 11–16, OSC CPP20030528000169.

23. "10% of GDP Now Comes from Sea, Says Report," *China Daily,* 10 April 2007, available at www.chinadaily.com.cn.

24. See, for example, Peng Guangqian and Yao Youzhi, eds., *The Science of Military Strategy* (Beijing: Military Science, 2005), p. 446.

25. For insights into possible PLAN efforts to influence Chinese policy and national budgeting, see M. Taylor Fravel and Alex Liebman, "Beyond the Moat: PLAN's Evolving Interests and Potential Influence" (unpublished manuscript cited with permission).

26. Information Office of the State Council, People's Republic of China, "China's National Defense in 2008," January 2009, available at www.fas.org/nuke/guide/china/doctrine/wp2006.html.

27. This entails continued military modernization to enhance the credibility of deterrence

against threats on China's periphery (e.g., the possibility of Taiwan independence). The resulting strategic stability ensures a peaceful external environment for economic development globalization and integration of China into the global economy at a time when China can benefit from diversion of U.S. attention to countering terrorism.

28. "Earnestly Step Up Ability Building within CPC Organizations of Armed Forces," 解放军报 [Liberation Army Daily], 13 December 2004, available at www.chinamil.com.cn; "三个提供, 一个发挥" [Three Provides and One Bring into Play], news.sina.com.cn.

29. 刘明福, 程钢, 孙学富 [Liu Mingfu, Cheng Gang, and Sun Xuefu], "人民军队历史使命的又一次与时俱进" [The Historical Mission of the People's Army Once Again Advances with the Times], 解放军报 [Liberation Army Daily], 8 December 2005, p. 6. See also 杨毅, 主编 [Yang Yi, chief editor], 国家安全战略研究 [Research on National Security Strategy] (Beijing: 国防大学出版社 [National Defense Univ. Press], 2007), p. 323.

30. For "great maritime power," 丁玉宝, 郭益科, 周根山 [Ding Yubao, Guo Yike, and Zhou Genshan], "胡锦涛在会见海军第一次党代表会代表时强调: 按照革命化现代化正规化相统一的规则, 锻造适应我军历史使命要求的强大人民海军" [When Hu Jintao Met with the Naval Delegates at the 10th Party Congress, He Emphasized Building a Powerful People's Navy That Meets the Requirements to Accomplish Historical Missions of Our Army in Accordance with the Principle of Unifying Revolutionization, Modernization, and Standardization], 人民海军 [People's Navy], 28 December 2006, p. 1. For "strengthened and modernized," "Chinese President Calls for Strengthened, Modernized Navy," *People's Daily,* 27 December 2006. For "blue water," "Chinese President Calls for Strong Navy," *VOA News,* 28 December 2006, available at voanews.com.

31. Information Office of the State Council, People's Republic of China, "China's National Defense in 2006," 29 December 2006, available at www.fas.org/nuke/guide/china/doctrine/wp2006.html.

32. For quotation, see "China's National Defense in 2008." The eighty-three-page 2006 white paper mentions the word "energy" only twice. Only one instance refers to a strategic, operational, or maritime context: "security issues related to energy, resources, finance, information and international shipping routes are mounting." This is in a general discussion of the international security environment, not specifically linked to China. "Oil" is mentioned only twice, both in internal bureaucratic contexts.

33. 田秉仁 [Maj. Gen. Tian Bingren], "新世纪阶段我军历史使命的科学拓展" [The Scientific Development of the Historical Mission of Our Army in the New Phase of the New Century], 中国军事科学 [China Military Science] (October 2007), pp. 21–27, OSC CPP20080123325001.

34. 彭光谦 [Peng Guangqian], "从着重维护生存利益到着重维护发展利益—对国家安全战略指导重心转变的一点思" [From the Focus on Safeguarding the Interests of Survival to the Focus on Safeguarding the Interests of Development], 中国国防报 [National Defense News], 17 January 2007, OSC CPP20070119710012.

35. A "leading small group" (LSG) is an ad hoc supra-ministerial body responsible for coordination and consultation in a specific issue area that does not formulate independently or implement concrete policies. This particular LSG manages national security policy for the Politburo and Secretariat and issues guiding principles for the general direction that bureaucratic activity should take. For more on LSGs, see David M. Lampton, "China's Foreign and National Security Policymaking Process: Is It Changing, and Does It Matter?" in *The Making of Chinese Foreign and Security Policy in the Era of Reform,* ed. David M. Lampton (Palo Alto, Calif.: Stanford Univ. Press, 2001), pp. 16–19.

36. Yang Yi, *Research on National Security Strategy,* pp. 274, 289, 323–24. For the importance to China of maritime development in general, see also pp. 276, 292, 294–95.

37. 吴胜利, 胡彦林 [Wu Shengli (PLAN commander) and Hu Yanlin (PLAN political commissar), edited by Wang Chuanzhi], "锻造适应我军历史使命要求的强大人民海军" [Building a Powerful People's Navy That Meets the Requirements of the Historical Mission for Our Army], 求事 [Seeking Truth], no. 14 (16 July 2007),

available at www.qsjournal.com.cn, OSC CPP20070716710027.

38. 胡博 [Hu Bo], "从资源安全说有备无患" [Concerning Resource Security, Preparation Averts Danger], 解放军报 [Liberation Army Daily], 27 May 2004. See also 候志平 [Hou Zhiping], "对维护我国石油安全的战略思考" [Reflections on Our Country's Oil Security Protection Strategy], 国防大学学报 [Journal of the National Defense University], no. 8 (2005), p. 87.

39. 周德华, 陈炎, and 陈良武 [Zhou Dehua, Chen Yan, and Chen Liangwu], 蓝色方略: 二十一世纪初的海洋和海军 [The Blue Strategy: Ocean and Navy at the Beginning of the 21st Century] (Beijing: Sea Tide, 2003), p. 3.

40. 曲令泉, 郭放 [Qu Lingquan and Guo Fang], 卫海强军: 新军事革命与中国海军 [A Mighty Force to Protect the Sea: The New Revolution in Military Affairs and China's Navy] (Beijing: Sea Tide, 2003), p. 46.

41. See, for example, A. T. 马汉 [A. T. Mahan, author], 安常容, 成忠勤 译 [An Changrong and Cheng Zhongqin, translators], 张志云, 卜允德 校 [Zhang Zhiyun and Bu Yunde, proofreaders], 海权对历史的影响, *1660–1783* [The Influence of Sea Power upon History, 1660–1783] (Beijing: 解放军出版社 [People's Liberation Army Press], 2006); 刘华清 [Liu Huaqing], 刘华清回忆录 [The Memoirs of Liu Huaqing] (Beijing: People's Liberation Army Press, 2004), pp. 432–33; 丁一平, 李洛荣, 龚连娣 [Ding Yiping, Li Luorong, and Gong Liandi], 世界海军史 [The History of World Navies from the Chinese Perspective] (Beijing: Sea Tide, 2000), pp. 309, 343–48; and 徐起 [Xu Qi], "21世纪初海上地缘战略与中国海军的发展" [Maritime Geostrategy and the Development of the Chinese Navy in the Early Twenty-first Century], 中国军事科学 [China Military Science] 17, no. 4 (2004), pp. 75–81; repr. in translation by Andrew Erickson and Lyle Goldstein, *Naval War College Review* 59, no. 4 (Autumn 2006), pp. 46–67. Also, 朗丹阳, 刘分良 [Lang Danyang and Liu Fenliang], "海陆之争的历史检视" [Historical Exploration into the Land-Sea Dispute], 中国军事科学 [China Military Science], no. 1 (2007), pp. 39–46.

42. Unless otherwise specified, all information in this and the following paragraph is derived from 郝廷兵 [Hao Tingbing, PLAN] and 杨志荣 [Yang Zhirong, PLAN], 海上力量与中华民族的伟大复兴 [Sea Power and the Chinese Nation's Mighty Resurgence] (Beijing: National Defense Univ. Press, 2005), pp. 2, 6, 32, 47, 52.

43. This entire paragraph is drawn from Gu Zuhua, "Massive Naval Fleet Is Necessary," p. 40.

44. 张运成 [Zhang Yuncheng], "能源安全与海上通道" [Energy Security and Sea Lanes], in 海上通道安全与国际合作 [Sea Lane Security and International Cooperation], 杨明杰 [Yang Mingjie, ed.] (Beijing: 时事出版社 [Current Affairs], 2005), p. 103.

45. Peng and Yao, *Science of Military Strategy,* p. 446.

46. Zhao Hongtu, "The 'Malacca Dilemma' and Rethinking China's Energy Security," pp. 38–39. This seemingly disproportionate concentration stems from the fact that even in the modern era, geography, prevailing winds, ocean currents, and weather patterns determine the safest, cheapest, and most efficient maritime shipping routes. But sailing around a particular strait is a real option, because the incremental cost of doing so is marginal on a dollar/barrel basis.

47. 凌云 [Ling Yun], "龙脉" [The Dragon's Arteries], 现代舰船 [Modern Ships] (October 2006), p. 17.

48. Zhang Xuegang, "Southeast Asia: Gateway to Stability," *China Security* 3, no. 2 (Spring 2007), p. 26.

49. Unless otherwise specified, this section is derived from Ling Yun, "Dragon's Arteries," p. 12.

50. Zhao Hongtu, "The 'Malacca Dilemma' and Rethinking China's Energy Security," p. 41.

51. 李杰 [Li Jie], "石油,中国需求与海道安全" [Oil, China's Requirements, and Sea Lane Security], 舰船知识 [Naval and Merchant Ships] (September 2004), p. 12.

52. For a detailed argument concerning why China's seaborne oil dependence will continue to grow despite efforts at land-based pipeline construction, see Andrew Erickson and Gabriel Collins, "China's Oil Security Pipe Dream," forthcoming manuscript.

53. Unless otherwise specified, data in this paragraph are derived from Zhang Yuncheng, "Energy Security and Sea Lanes," pp. 107, 108, 118.

54. 汪海 [Wang Hai], "构建避开霍尔木兹海峡的国际通道" [Creating an International Channel to Bypass the Strait of Hormuz], 世界经济与政治 [World Economics and Politics], no. 1 (2006), p. 49.

55. For the four-million-barrel figure, ibid., p. 48.

56. Zhang Yuncheng, "Energy Security and Sea Lanes," p. 118.

57. Ibid.

58. 达巍 [Da Wei], "中国的海洋安全战略" [China's Maritime Security Strategy], in 海上通道安全与国际合作 [Sea Lane Security and International Cooperation], 杨明杰 [Yang Mingjie, ed.] (Beijing: Current Affairs, 2005), pp. 361–62.

59. Zhang Yuncheng, "Energy Security and Sea Lanes," p. 118.

60. For "strategic throat," 李兵 [Li Bing], "国际战略通道研究" [International SLOC Research] (doctoral dissertation, 中共中央党校 [Chinese Communist Party Central Party School], 1 May 2005), p. 355. For "extremely narrow," Zhang Yuncheng, "Energy Security and Sea Lanes," p. 118.

61. 李小军 [Li Xiaojun], "论海权对中国石油安全的影响" [On the Influence of Sea Power upon China's Oil Security], 国际论坛 [International Forum] 6, no. 4 (July 2004), p. 18.

62. 章明 [Zhang Ming], "马六甲困局与中国海军的战略抉择" [The Malacca Strait Problem and the Future Strategic Choices of the Chinese Navy], 现代舰船 [Modern Ships] (October 2006), p. 21.

63. This entire paragraph is drawn from Gu Zuhua, "Massive Naval Fleet Is Necessary," p. 40.

64. Chen Angang and Wu Ming, "Malacca Strait," pp. 11–14.

65. Ibid., p. 11.

66. Ling Yun, "Dragon's Arteries," p. 15.

67. Zhang Yuncheng, "Energy Security and Sea Lanes," p. 111.

68. Ibid., p. 118.

69. Chen Angang and Wu Ming, "Malacca Strait," pp. 11–14.

70. 张玉坤, 张慧 [Zhang Yukun and Zhang Hui], 成海固边: 海上安全环境与海洋权益维护 [Defend the Sea, Strengthen Frontiers: The Maritime Security Environment and the Defense of Maritime Rights and Interests] (Beijing: Sea Tide, 2003), p. 50.

71. Zhang Yuncheng, "Energy Security and Sea Lanes," p. 107.

72. Scott C. Roberts, "China's LNG Program Turns a Corner," *Cambridge Energy Research Associates,* www.cera.com.

73. Chen Angang and Wu Ming, "Malacca Strait," p. 12.

74. Zhang Yukun and Zhang Hui, *Defend the Sea, Strengthen Frontiers,* p. 47.

75. Peng and Yao, *Science of Military Strategy,* p. 441.

76. "Husky Energy Announces Significant Gas Discovery in South China Sea," *Husky Energy Inc. News,* 14 June 2006, www.huskyenergy.com/news/.

77. Zhang Yukun and Zhang Hui, *Defend the Sea, Strengthen Frontiers,* p. 45.

78. We focus our discussion on military threats to Chinese energy SLOCs. This is because piracy and other nonstate threats affecting the Malacca Strait and other choke points tend to be more easily dealt with as law enforcement issues, as building local enforcement capacity tends to be more effective than using naval forces to suppress maritime criminal elements. The drop-off in reported pirate attacks in the Malacca Strait area over the past few years is a case in point, as better regional cooperation in the law enforcement arena has made it more difficult for pirates to operate.

79. Interview, Beijing, March 2007.

80. China Institute of Contemporary International Relations, *Global Energy Structure* (Beijing: Economic Security Study Center, 2005), p. 91.

81. See, for example, the series of very detailed reports in a long series that was initiated in the November 2005 issue of *Modern Navy.*

82. Zhang Yuncheng, "Energy Security and Sea Lanes," pp. 116–17.

83. Chen Angang and Wu Ming, "Malacca Strait," p. 14.

84. Zhang Yuncheng, "Energy Security and Sea Lanes," p. 120.

85. Ibid., p. 119.

86. Ibid., p. 120. Chinese concern regarding Japan and the Taiwan Strait has been heightened by U.S.-Japan Defense Guidelines revisions, which some interpret to authorize the extension of Self-Defense Force coverage to the Taiwan Strait area.

87. Gu Zuhua, "Massive Naval Fleet Is Necessary," p. 40.

88. Unless otherwise specified, this entire paragraph is drawn from Ling Yun, "Dragon's Arteries," p. 15.

89. Zhang Yuncheng, "Energy Security and Sea Lanes," p. 119. Prompted by concerns that *Yinhe* would deliver large amounts of precursors for mustard and sarin gas to Iran, the Clinton administration sent vessels to monitor the Chinese-flag containership in the Indian Ocean. A neutral inspection in Saudi Arabia confirmed that no chemicals were on board. This apparent intelligence failure seriously damaged U.S.-China relations for some time. For further details, see Patrick Tyler, *A Great Wall: Six Presidents and China: An Investigative History* (New York: Public Affairs, 1999), pp. 396–400.

90. This entire paragraph is drawn from Zhang Yukun and Zhang Hui, *Defend the Sea, Strengthen Frontiers,* pp. 22–24.

91. This was the position of one Chinese strategist interviewed by the authors in China, December 2005.

92. Unless otherwise specified, all quotations in this section come from 薛兴林 [Bi Xinglin], ed., 战役理论学习指南 [Campaign Theory Study Guide] (Beijing: National Defense Univ. Press, 2002), pp. 107, 228–56.

93. There are two editions, of 2000 and 2006; the latter appears significantly more sophisticated.

94. Unless otherwise specified, all quotations in this section are from Zhang Yuliang et al., 战役学 [Science of Campaigns] (Beijing: National Defense Univ. Press, 2006), pp. 297–303.

95. Ling Yun, "Dragon's Arteries," p. 16.

96. Ibid., p. 15.

97. Zhang Yuncheng, "Energy Security and Sea Lanes," p. 122.

98. 高月 [Gao Yue], "海权, 能源 与安全" [Maritime Rights, Resources, and Security], 现代舰船 [Modern Ships] (December 2004), p. 7.

99. For a comprehensive analysis of this issue, see Andrew Erickson, Lyle Goldstein, and Carnes Lord, *China Goes to Sea: Maritime Transformation in Comparative Historical Perspective* (Annapolis, Md.: Naval Institute Press, forthcoming 2009).

100. Gao Yue, "Maritime Rights, Resources, and Security," p. 7.

101. Xu Qi, "Maritime Geostrategy and the Development of the Chinese Navy," pp. 75–81.

102. Zhang Ming, "Malacca Strait Problem," p. 25.

103. Li Bing, "International SLOC Research," pp. 354–55.

104. Zhang Yuncheng, "Energy Security and Sea Lanes," p. 124.

105. This entire paragraph is drawn from 江风 [Jiang Feng], "21世纪中国海军三大舰队构想" [Prospects for the PLAN's Three Fleets in the 21st Century], 舰载武器 [Shipborne Weapons] (June 2006), pp. 19–22.

106. See David M. Finkelstein, "China's National Military Strategy: An Overview of the 'Military Strategic Guidelines,'" in *Right-Sizing the People's Liberation Army: Exploring the Contours of China's Military,* ed. Roy Kamphausen and Andrew Scobell (Carlisle, Pa.: U.S. Army War College, 2007), esp. pp. 69–79.

107. 张兆垠, 少将, 成都军区驻滇某集团军副军长 [Maj. Gen. Zhang Zhaoyin, deputy group army commander, Chengdu Military Region], "坚持不懈地加强我军核心军事能力建设" [Strengthen Unremittingly Our Army's Core Military Capacity Building], 解放军报 [Liberation Army Daily], 2 December 2008; "彭光谦: 中国海军赴索马里打击海盗完全有信心" [Maj. Gen. Peng Guangqian: Has Complete Confidence in China's Navy Going to Somalia to Attack Pirates], 新浪军事-东方网联合报道 [Joint Report by Sina .com Military Affairs and Oriental Network], 18 December 2008, available at www .chinareviewnews.com.

108. Because of their lower cost, smaller size, and potentially very quiet operation (e.g.,

under air-independent propulsion) if neither great speed nor range is required, diesel submarines are best for littoral operations. The superior speed and range of nuclear submarines (and relative stealth within these demanding performance parameters), together with their ability to support formidable antiship weapons systems, make them essential for blue-water SLOC defense. However, their still-high cost and their need for highly trained crews and sophisticated maintenance facilities make them worth acquiring in substantial numbers only if SLOC defense is prioritized. For detailed explanation of these points, see Andrew Erickson and Lyle Goldstein, "China's Future Nuclear Submarine Force: Insights from Chinese Writings," *Naval War College Review* 60, no. 1 (Winter 2007), pp. 54–79; and Andrew Erickson, Lyle Goldstein, William Murray, and Andrew Wilson, *China's Future Nuclear Submarine Force* (Annapolis, Md.: Naval Institute Press, 2007).

109. For a discussion of potential future steps in Chinese aircraft carrier development emphasizing the difficulties and opportunity costs that would likely be involved, see Andrew S. Erickson and Andrew R. Wilson, "China's Aircraft Carrier Dilemma," *Naval War College Review* 59, no. 4 (Autumn 2006), pp. 13–45. For more recent indications that China may have decided to devote more resources to deck aviation development, see 邓佑标 [Deng Youbiao], "海军大连舰艇学院首次招收飞行学员" [Dalian Naval Vessel Academy Recruits Flight Students for the First Time], 解放军报 [Liberation Army Daily], 5 September 2008, p. 5, available at www.chinamil.com.cn, or in English as "Dalian Naval Academy Recruits Pilot Cadets for the First Time," *Liberation Army Daily,* 5 September 2008, english.chinamil.com.cn.

110. For detailed analysis, see Gabriel Collins and Michael Grubb, *A Comprehensive Survey of China's Dynamic Shipbuilding Industry: Commercial Development and Strategic Implications,* China Maritime Study 1 (Newport, R.I.: Naval War College Press, 2008).

111. In the absence of tenders, a navy determined to conduct significant blue-water SLOC security missions would probably need either the ability to bring technicians along in some capacity, access to technologically sophisticated port facilities, or both.

112. Xu Qi, "Maritime Geostrategy and the Development of the Chinese Navy," pp. 75–81.

113. "Gwadar Port," *Gwadar News & Business Source,* www.gwadarnews.com/gwadar-port.asp.

114. 林锡星 [Li Xixing] (Jinan University Institute of Southeast Asian Studies), "中缅石油管道设计中的美印因素" [The Influence of the U.S. and India on the Sino-Myanmar Oil Pipeline Proposal], 东南亚研究 [Southeast Asian Studies], no. 5 (2007), p. 34. For a more skeptical assessment, see Andrew Selth, "Burma, China and the Myth of Military Bases," *Asian Security* 3, no. 3 (September 2007), pp. 279–307.

115. Gurpreet S. Khurana, "China's 'String of Pearls' in the Indian Ocean and Its Security Implications," *Strategic Analysis* 32, no. 1 (January 2008), p. 3.

116. For historical examples of this process in other countries, see Jack Snyder, *Myths of Empire: Domestic Politics and International Ambition* (Ithaca, N.Y.: Cornell Univ. Press, 1993).

117. Zhang Yuncheng, "Energy Security and Sea Lanes," p. 124.

118. Li Jie, "Oil, China's Requirements, and Sea Lane Security," p. 11.

119. Gao Yue, "Maritime Rights, Resources, and Security," p. 7.

120. Unless otherwise specified all data in this paragraph are derived from Ling Yun, "Dragon's Arteries," pp. 10–11, 14, 17.

121. In March 2005, the China National Offshore Oil Corporation attempted to purchase the Union Oil Company of California (UNOCAL). Based on concerns about impending Chinese control of strategic resources, as well as, probably, a growing fear of China's rising global political and economic influence, the U.S. House of Representatives resolved by 398–15 that the merger could "threaten to impair the national security of the United States" and called for a presidential review should it succeed. As a major study has also noted, there were other reasons for opposing the bid: "CNOOC's backing by the Chinese

government allowed it to outbid any competitive commercial company, and China's state-owned companies are not reciprocally open to foreign purchase." CNOOC withdrew its bid. Following a subsequent bid by Chevron Corporation, UNOCAL became its wholly owned subsidiary on 10 August 2005. "China's Thirst for Oil," *Crisis Group Asia Report no. 152,* 9 June 2008, p. 10, available at www.crisisgroup.org.

122. Zhao Hongtu, "The 'Malacca Dilemma' and Rethinking China's Energy Security," pp. 36–42. For further details on the strategic petroleum reserve, see Gabriel Collins, "China Fills First SPR Site, Faces Oil, Pipeline Issues," *Oil & Gas Journal* (20 August 2007), pp. 20–29.

123. Li Xiaojun, "Influence of Sea Power upon China's Oil Security," p. 18.

124. Feng and Duan, "Characteristics of China's Sea Geostrategic Security," p. 27.

125. 张炜 [Senior Colonel Zhang Wei] (Navy Research Institute researcher), "国家海上安全理论探要" [Exploring National Sea Security Theories], 中国军事科学 [China Military Science] (January 2007), p. 91.

126. This entire paragraph is drawn from Gu Zuhua, "Massive Naval Fleet Is Necessary," p. 40.

127. This entire paragraph is drawn from Ling Yun, "Dragon's Arteries," p. 19.

THE NAVAL BATTLE OF PARIS

Jerry W. Jones

It involved no fleet action, and only verbal salvos were exchanged, but the "naval battle of Paris" was a high-stakes diplomatic contest that threatened to poison the good relations between erstwhile allies Britain and the United States and that at one point disrupted the Paris Peace Conference of 1919. The common goal of defeating imperial Germany ensured Anglo-American cooperation while the war lasted, but as soon as an armistice appeared imminent, both powers began to maneuver to secure their postwar interests. Previously obscured by the common crusade against a common foe, the reality of conflicting war aims and interests now threatened the peace.

By 1918 President Woodrow Wilson had emerged as the most articulate proponent of a new era of international relations based upon law and international cooperation. Enshrined as it would be in the "Fourteen Points," a Wilsonian peace promised to end the kind of great-power rivalry that had led to the Great War. The most revolutionary part of Wilson's program was the establishment of a League of Nations—not only a forum for arbitration but a vehicle for collective security.

Despite Wilson's liberal internationalism and support for disarmament, however, during the conference he threatened a naval arms race with Great Britain. The challenge to British naval supremacy alarmed the British and nearly alienated the European partner most sympathetic to Wilson's vision of the peace. The United States and Britain, both great trading powers, had much to gain from cooperation and much to lose if attempts at collective security failed to halt a slide

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into renewed great-power rivalry. The failure to set aside their naval and commercial competition at Paris ultimately helped undermine Anglo-American hopes that together the two nations could forge a system of international cooperation to keep the peace and promote global trade. Wilson's conduct of the negotiations was most unwise. While the threat of a naval race gave Wilson leverage at the conference, coercion came at the cost of damaged relations with a vital ally.

Originally, as the Great War raged in Europe, Wilson had been determined to keep America out of the war while protecting its trading rights as a neutral power. In a situation not very different from the Napoleonic Wars, both Britain and Germany were violating the American notion of neutral rights in their attempts to deny U.S. trade to the other.[1] Germany's U-boat campaign was more brutal than Britain's blockade, and unrestricted submarine warfare was widely viewed as an atrocity against noncombatants and contrary to international law. Ultimately, of course, unrestricted submarine warfare would force Wilson to declare war on Germany and join the Entente powers. Nevertheless, Wilson fumed that the United States could not resist British restrictions on U.S. trade because of the supremacy of the Royal Navy. In September 1916 Wilson remarked to his closest adviser, Colonel Edward House, "Let us build a bigger navy than hers and do what we please!"[2] Wilson was beginning to see the U.S. Navy not only in its traditional role of providing security but as an instrument of diplomacy.[3] The result of Wilson's new appreciation of naval power and public enthusiasm for it was the unprecedented three-year naval building program of 1916.

The bill called for $300 million in appropriations—more than double those for the preceding year and six times the naval funding for the Spanish-American War.[4] Had American entry into the First World War not intervened, the program would have given the United States twenty-seven battleships, six battle cruisers, and over 350 smaller warships—approaching parity with the Royal Navy by 1921. In terms of modern capital ships, the U.S. Navy would have been superior. In the event, the danger that U-boat depredations might defeat Britain in the spring and summer of 1917 forced the reluctant Wilson administration to postpone dreadnought construction and concentrate on escort craft to defeat the U-boats. Wilson remained committed, however, to continuing the dreadnought program as soon as conditions permitted.[5]

If the United States was concerned in 1918 with neutral rights and the strength of the fleet, the British were worried that the end of the war might see naval and mercantile supremacy pass to the Americans. As vexing as the 1916 building program had been to the British, the dramatic growth of the U.S. merchant marine during the war was equally troubling. Would the United States capture markets Britain had formerly held? On 2 August 1918, as Allied armies

were beginning the series of offensives on the western front that would lead to the end of the war, the First Lord of the Admiralty, Sir Eric Geddes, presented a memorandum to the War Cabinet. He complained that while Britain had been maintaining a huge war fleet, the United States had produced very few warships for convoy escort duties, eleven a month, while building great numbers of merchantmen. He warned that Britain's position as the world's shipper and premier shipbuilding country was imperiled: "Are we to go on losing ships in our Allies' interest, and repairing ships for them while they overtake us in their Mercantile Marine?" The building of U.S. battleships was also resuming. Geddes insisted that the United States be induced to shift its priorities to destroyers so British yards could focus on merchantmen, to make up for Britain's great shipping losses during the war.[6] It soon became clear to the Admiralty, however, that it could not count on the use of any U.S. destroyers until 1919; Geddes now referred to the United States as "a naval liability" and a "tax on the alliance."[7]

During mid-October 1918, as Germany sought an armistice based on Wilson's Fourteen Points, the Navy Department and Admiralty were already contemplating how the naval section of the armistice terms might affect their relative positions.[8] The British pressed for harsh naval terms, including the surrender and destruction of the German surface fleet, leaving Germany with only a coastal defense force. Wilson and the Navy Department, in contrast, wanted lenient naval terms, because the destruction of the German fleet would leave Britain without a significant European rival, in which case the Royal Navy could "do with our new merchant marine as she saw fit."[9] The Admiralty, for its part, now began considering the implications of the second of Wilson's Fourteen Points: "freedom of the seas." That aspiration enshrined the traditional U.S. position on neutral rights in wartime—the very issue that had provoked American entry into the war. The Admiralty took alarm at the thought of placing restrictions on Britain's ability to conduct effective blockades. Was not the purpose of sea power to deny overseas communication to an enemy? The blockade was clearly an important factor in the approaching German defeat. The British Empire could not in future wars afford to trust its security to an untested international organization (Wilson's League) or surrender the bulwark of sea supremacy, which had never failed it.[10]

In its battle against freedom of the seas, the Admiralty had the unshakable support of Prime Minister David Lloyd George. Lloyd George insisted that Britain could not abandon its principal strategic weapon. In response, Wilson, resorting to "brinkmanship," instructed House to tell the Allies that they could either accept freedom of the seas or the United States would build "the strongest navy that our resources permit and as our people have so long desired." House amplified the president's message by pointing out the United States had more

resources and money than they—that if it came to a contest, Britain would lose. Lloyd George held his ground, retorting that Great Britain would "spend her last guinea to keep a navy superior to that of the United States or any other power."[11] However, anxious to avoid an open break over freedom of the seas yet determined not to surrender on the issue, Lloyd George offered to defer the matter to the peace conference; Wilson accepted that olive branch.

In any case, as would become clear, Wilson's broadening concept of the League of Nations made freedom of the seas moot—in a world without neutrals there would be no wars except between the League and outlaw states. Wilson ultimately abandoned his support for freedom of the seas, later explaining that it had been a "practical joke" on himself, since Point Fourteen ("a general association of nations") eliminated the need for Point Two.[12]

There remained the issue of the U.S. naval building program, which assumed even larger dimensions. In late October 1918 the Wilson administration raised the ante and asked Congress for a second three-year naval building program, a repeat of the 1916 program plus ten additional battleships and six battle cruisers. Wilson now had a bigger club, or bargaining chip, to use at the peace conference, as well as clear evidence for the American people that failure to endorse the League would mean expensive defense policies.[13] In his annual message to Congress on 2 December 1918, Wilson declared that he took it for granted Congress would continue the naval building program begun in 1916. He implied that the new program was simply a continuation of the long-term development of the Navy and insisted that the building program should continue: "It would clearly be unwise for us to attempt to adjust our programs to a future world policy as yet undetermined."[14]

Two days later Wilson boarded the transport ship *George Washington,* escorted by the battleship *Pennsylvania,* for Brest, in France, and the peace conference. Once in France Wilson became increasingly bitter about the motives of the Allied statesmen. At a dinner with a few Americans on 10 January, he opened his mind. He seethed with indignation that the French wanted rent for the use of their trenches and that the British were demanding payment for each American soldier transported in British ships to fight in their cause. He made a distinction between the people of Europe, who wanted a just peace, and the ruling classes, who cared only for their national rivalries.[15]

While the president was in France, Secretary of the Navy Josephus Daniels was energetically promoting the naval building program to the American public. In a lengthy press release Daniels explained the administration's motives and why it was imperative to support the program. Arguing in moralistic terms, Daniels said the country had no designs on the territory or trade of other nations but was "pledged to the protection of the weak wherever they may suffer

threats." The nation would have to be "strong in defense against aggressors and in offense against evil doers." Should the peace conference fail to create a "world police force" to keep peace in the new order, the United States would have to create "incomparably the greatest Navy in the world." Here indeed was not just justification for naval expansion but an expansive vision of the Wilson administration's internationalist agenda.[16] Clearly thinking of his negotiating position in the peace conference, Wilson sent a message to Secretary Daniels encouraging him to continue pushing for the new building program, which was "essential to our purpose here." He revealed that he was willing to accept a proviso in the pending naval legislation that if the peace conference adopted some agreement to reduce armaments (the fourth of the Fourteen Points, "national armaments would be reduced"), he could postpone building contracts pending consultation with Congress.[17]

In late January the American, British, and French naval leaders established a committee in Paris to consider the naval terms of the treaty. The American representative, Admiral William Benson, the Chief of Naval Operations and Wilson's technical adviser on naval affairs during the conference, soon clashed with the British First Sea Lord, Sir Rosslyn Wemyss, and the French Chief of Naval Staff, Ferdinand de Bon. The thorniest issue was the final disposition of the interned German fleet. Benson favored sinking the German ships, so they would not affect the postwar balance of naval power. Admiral de Bon wanted them distributed, so France could have compensation for its lack of naval construction during the war. Wemyss entertained destruction of the German ships, but only as part of an Anglo-American agreement on new naval construction. Benson's position found support in a lengthy memorandum by the U.S. Naval Advisory Staff in Paris.[18] Ignoring the inconsistency of calling for reduction of armaments while embarking on a major building program, the Advisory Staff argued that destruction of the German ships would "be a practical demonstration of the sincerity of the High Contracting Parties of the determination to reduce armaments." If distribution happened, the United States should abstain: "America is proud to claim that she came into this war with clean hands and will come out with empty hands." After evoking the specter of an Anglo-Japanese combination aimed at the United States, the document called for naval parity with Britain, concluding, "World interests demand that no single power may rule the sea against all comers."[19]

By early March the committee of naval leaders was deadlocked. Moreover, Admiral Benson's insistence on naval parity with Britain was increasingly at odds with the administration's diplomacy. Benson's biographer Mary Klachko writes, "House shared the president's conception of the building program as primarily a diplomatic bargaining chip, whereas Benson wanted to construct the

ships."[20] Meanwhile, the Admiralty was considering how best to respond to the American naval challenge. In a shrewd and insightful memorandum to the War Cabinet the Admiralty advised tact, caution, and restraint. The Admiralty noted the deep political divisions already apparent in the United States, where the Republican Party, hostile to the building program, controlled Congress. The Admiralty recognized that many in the United States would support equality with Britain but argued that any program to gain supremacy was certainly a bluff; most Americans, it believed, were not anti-British but jealous of American dominance in the Western Hemisphere. The paper warned that "any ill-judged action on our part might be fanned to produce among them such a wave of spread-eagleism as to force the government to carry through the biggest naval programme, even if the President does not really mean or wish to do so." Finally, the memorandum recognized the deep distrust between the two countries but dismissed the threat of war as "unthinkable."[21]

In late March Wilson returned to Paris after a month in the United States. Daniels too arrived in Paris, and it was shortly after Daniels's arrival that the most heated confrontation of the "naval battle of Paris" took place. The First Sea Lord, Wemyss, called on Daniels at his hotel, and the secretary sent word to Benson to join the discussions. Benson, when he arrived, was shocked to find his British counterpart pressing Daniels about the U.S. naval building program. Benson later reported that Wemyss demanded to know why the Wilson administration had undertaken its naval increase and to what extent the administration planned to carry it out. Indignant, Benson shook his finger at Wemyss, retorting, "By what authority do you presume to come over here and ask such a question from our Secretary?"[22] There is no complete account of what followed, but Daniels wrote in his memoirs that while the two admirals did not descend to cursing one another, they came close, and he had to intervene between them.[23]

The next day, 27 March, Daniels and Benson met with the First Lord of the Admiralty (the First Sea Lord's civilian senior), Walter Long. Wemyss was not at the meeting, presumably to avoid an altercation with Benson. Long told the Americans that Great Britain simply could not abide coming out of the war a second-rate naval and commercial power. After Long's explanation of Britain's need to maintain sea supremacy, Benson demanded to know whether Britain, simply because it had always been supreme, would try to remain supreme at all hazards. After reflection, Long replied, "Well, Admiral, that is about the size of it." Benson responded that if the British government continued policy along those lines it would mean "war between Great Britain and the United States." Daniels affirmed that Admiral Benson had not stated the case too strongly. Long responded, "In that case you had better talk to your President, and I will talk to my Prime Minister."[24]

From this point, political leaders intervened to resolve the impasse at Paris. When Daniels reported the naval discussions to Wilson, the president considered the reality that British support for the League of Nations depended on resolving the naval dispute. Wilson instructed Daniels, "Do not leave this matter in the hands of naval officers. Take it up with Lloyd George. You are both civilians and will understand the situation better than men who belong to the profession of arms."[25] If Wilson now considered Benson poorly suited to a role in the negotiations, he could have turned to other naval advisers who were on good terms with the British. For instance, William S. Sims, the administration's liaison with the Admiralty during the war, had established an excellent working relationship with the British and would have been a fine diplomat and able negotiator. Wilson, however, mistrusted Sims, probably because Sims had been the naval aide to his Republican rival in the 1912 election, Theodore Roosevelt.

On 1 April Daniels had a breakfast meeting with Lloyd George and Long. The prime minister suggested, "You ought to stop work on your cruisers and dreadnoughts if you really believe in the League of Nations." Daniels responded that limits to the U.S. program could not be invoked before the League was a reality. When the prime minister insisted the defense of the empire required naval supremacy, Daniels countered that the imperatives of the Monroe Doctrine demanded even greater U.S. naval forces, since American interests included not just the Western Hemisphere but Pacific possessions as well. Lloyd George exploded: "Do you mean to say that your country dominates Mexico, Central America, and all South America?" Lloyd George and Daniels were now at an impasse as intractable as the admirals' had been. With British support for the League dependent on U.S. acceptance of a subordinate position in naval strength, the negotiations were deadlocked. On 6 April, Wilson, in a dramatic step, prepared to leave the conference for the United States.[26] One gets the impression he was using the old salesman's trick of threatening to leave the negotiations simply to apply pressure.

If so, the ploy seems to have worked, for over the next few days Colonel House and Lord Robert Cecil, who was responsible for British negotiations on a League of Nations, worked to broker a compromise to save the conference and the League. Cecil had been an early advocate of the League and understood that Anglo-American cooperation would be critical to its success.[27] Happily, both men also understood that their respective nations would have to make concessions in their mutual interests. In his diary for 3 April, House recounted a visit from Benson that morning urging him to uphold the naval building program: "Benson is a little obsessed with this idea." House explained to the admiral that "if the League was to have a chance of life, it would not do to start its existence by increasing armaments instead of diminishing them."[28] House believed it was

sufficient to complete the 1916 program, but Benson and Daniels continued to press for naval parity with Britain. Wilson should have intervened to settle the dispute among his representatives. His failure to do so is likely explained by the fact he was by then consumed with his clash with Prime Minister Georges Clemenceau over French demands to detach the Rhineland from Germany.[29] Daniels would later disparage House for failing to gain both freedom of the seas and naval parity at the peace conference: "We never lowered our flag of equality."[30] At the same time, the Naval Advisory Staff in Paris produced another memorandum for Benson reinforcing the Navy Department's position. The staff argued that the crucial test for the League would be its ability to restrain its strongest member, Great Britain. The success of the League, then, would depend on naval equality between the United States and Britain. The paper warned darkly: "Every great commercial rival of the British Empire has eventually found itself at war with Great Britain and has been defeated."[31]

Meanwhile, Cecil was urging the prime minister to moderate his position. The crisis of the moment was Lloyd George's refusal to support a Monroe Doctrine amendment to the League covenant without an Anglo-American naval agreement. Cecil pressed Lloyd George to accept the amendment and thereby keep the question of the League separate from the thorny naval question. In Cecil's words, however, "the little man was obdurate." Finding him immovable, Cecil appealed directly to House. He reminded House that "to inaugurate the League of Nations by a competition in armaments between its two chief supporters would doom it to complete sterility or worse." He admitted that the position was being complicated by Britain's deep-seated popular sentiment about sea power but pointed out that Britain was more vulnerable to a naval blockade than any other power, while the United States could "laugh at any blockade." Cecil confided to House that were he the naval minister and saw Britain's sea security threatened, even by the United States, he would "have to recommend to my fellow countrymen to spend their last shilling in bringing our fleet up to the point which I was advised was necessary for safety." Cecil then suggested a compromise solution: Could the United States abandon or modify its new naval building program as soon as the treaty with the League covenant was signed? Cecil was confident his government would give corresponding assurances. The two nations might consult one another from year to year about their naval programs.[32] Here was a formula that "saved face" for both naval powers.

After gaining the president's approval, House responded on the next day. The United States could not alter the 1916 naval program but would readily abandon the 1918 program, which was not yet authorized. House conveyed Wilson's assurance that he understood Britain's "peculiar position as an Island Empire." This was not enough for Lloyd George, who still hoped for a formal naval

agreement that limited U.S. building, but further assurances on 10 April finally won over the prime minister. Wilson pledged the United States had no intention of entering a naval competition with Britain. Furthermore, ships from the 1916 program that had not yet been laid down would be postponed, pending an Anglo-American naval agreement.

The "naval battle of Paris" had at last ended.[33]

Josephus Daniels pronounced it a draw, as have most historians since. While Lloyd George failed to gain formal American recognition of British sea supremacy, he did avoid the enshrining of the American principle of freedom of the seas in the peace treaty. Belligerent rights in wartime remained intact. Moreover, the door was left open for further negotiations that would eventually lead to the Washington Conference of 1921. The Wilson administration secured British support for Wilson's peace program without acknowledging British sea supremacy, and Congress could in the future still authorize "a navy second to none."[34] But had the threat of a naval arms race been necessary to achieve Wilson's program? Seth Tillman sees no evidence that the threat of U.S. naval competition modified the fundamental British position.[35] In any case, Wilson's threat to Britain's naval supremacy, however artificial it may have been, proved counterproductive. Britain had manifested greater enthusiasm than any other European power for Wilson's ideals. The only significant disagreement was over freedom of the seas, which Wilson abandoned early in the game. Wilson could have taken British support for most of his program for granted had it not been for the naval competition he sponsored.

The "naval battle of Paris" demonstrates three lessons very well. One is that a cooperative approach in the negotiations, enlarging mutual interests and developing collaboration, would have been more productive in the end. Negotiation theorists have developed a number of principles that this historical case seems to support. Woodrow Wilson's and David Lloyd George's "hardball" negotiating styles, on the one hand, and House's and Cecil's search for mutually beneficial solutions, on the other, represent the two major paradigms of negotiation theory—bargaining and problem solving. While bargaining characterizes most negotiations, it implies a zero-sum dynamic. For example, diplomacy between Cold War rivals naturally took this form. Nevertheless, in an era of globalization where mutual dependence characterizes the system, problem solving may be the better approach. P. Terrence Hopmann insists that most research reveals that problem solving produces "more frequent, efficient, equitable, and durable agreements than bargaining does."[36] Most negotiations, however, are neither purely competitive nor collaborative but what negotiation theorists call "mixed motive" scenarios, involving both mutual dependence and conflict. In his classic theoretical work on negotiation, Thomas Schelling notes that

mutual dependence demands collaboration and mutual accommodation, although one party can exploit dependence for unilateral gain as Wilson attempted in 1919. Schelling also recognizes that threats (hard bargaining) can be used to coerce an ally as well as deter an enemy. The difference is one of degree: the degree of the threat must match the objective and be credible.[37] By this measure, Wilson's naval challenge to Britain was out of all proportion to his objectives at Paris. Furthermore, once it became apparent the Senate would not approve Wilson's 1918 naval construction program, the threat would be no longer credible. Although the 1916 program remained to cause the British anxiety, the immediate threat to British naval supremacy had passed.

Another element the "naval battle of Paris" illustrates is axiomatic: the character and personality of the negotiator matters a great deal, especially in an era of presidential diplomacy. Woodrow Wilson, more than any prior president and all but a few presidents since, personally directed diplomacy. Wilson became estranged from his only trusted emissary, House, as soon as he showed initiative beyond Wilson's skittish tolerance. His secretary of state, Robert Lansing, had had the temerity to disagree with his chief and was no longer a member of Wilson's councils. Historians have noted Wilson's arrogance and his inclination to surround himself with sycophants.[38] Margaret MacMillan, who has written the definitive account of the Paris Peace Conference, quotes the French ambassador to the United States as reporting that Wilson "does not have the slightest conception that he can ever be wrong."[39] Of course, other leaders have had these faults yet managed to govern well. But Wilson's arrogance made him unyielding, and that unsuited him for the give-and-take of diplomacy. Seth Tillman concludes that although the United States and Britain shared many common interests and objectives at the peace conference, the "alienation of temperaments" between Wilson and Lloyd George precluded close cooperation. He implies that Wilson was the more at fault, because of his limited capacity for concession and accommodation.[40] Perhaps Lloyd George summed up Wilson's qualities best, when he remembered Wilson as having embodied an "extraordinary mixture of real greatness thwarted by much littleness."[41]

Finally, the "naval battle of Paris" is instructive in that it took place in the context of failed attempts to establish a system of collective security and to restore global trade and prosperity. Two authors writing in this journal on the U.S. sea services' 2007 maritime strategy, Geoffrey Till and Robert Rubel, cite historian Niall Ferguson's thesis that the world was globalizing until the catastrophic Great War destroyed the international order.[42] The parallels with our own time are obvious—an international system is developing that makes multiple great powers mutually dependent on global trade. As in the era of the First World War, globalization today is fragile. Great-power rivalry and the growing power of

nonstate actors pose critical risks to the postmodern era of globalization. The risks to the system demand cooperative multilateralism. In a recent article in *Foreign Affairs,* Richard Haass predicts, "There will be a premium on consultation and coalition building and on a diplomacy that encourages cooperation when possible and shields such cooperation from the fallout of inevitable disagreements."[43]

National security strategy documents already signal a shift toward greater multilateralism. In language that harks back to Woodrow Wilson's rhetoric, *The National Strategy for Maritime Security* promises to strengthen international partnerships, advance global trade, and abide by the "principles of freedom of the seas."[44] Likewise, *A Cooperative Strategy for 21st Century Seapower* stresses the need to promote collective security and the rule of law.[45] While these documents recognize the need to maintain naval strength and war-fighting capability, they also assert that "preventing wars is as important as winning wars."[46] This implies a marriage of sea power and effective diplomacy. Furthermore, these strategies recognize that no single nation, not even the United States, has the resources to protect all the world's seas. With the global economy slowing and revealing its weaknesses, the truth of this maxim is all the more apparent. Interestingly, this same truth dawned on Great Britain in 1918–19, when the British recognized that their economy could no longer sustain the ruinous expenditures required by global naval superiority.

Woodrow Wilson's vision is perhaps more relevant than ever. Whether or not a single international organization is the right vehicle, as Wilson assumed it was, greater multilateral cooperation is imperative. Wilson's peace program failed to prevent a second Great War not because his vision of collective security was unreliable but because his diplomacy was flawed. National chauvinism was incompatible with Wilson's internationalist peace program. The Wilson administration created what Michael Simpson has called "an artificial naval rivalry" that continued for another decade and prevented close cooperation between the two great sea powers at a critical moment in history.[47] We are likely living in a similar epoch, and cooperation between sea powers could mean the difference between peace and stability or the collapse of globalization.

NOTES

1. Of course, there were other neutral powers whose trade suffered, such as Norway and the Netherlands, but the United States was by far the largest neutral shipper.

2. Michael Simpson, *Anglo-American Naval Relations* (London: Naval Records Society, 1991), p. 486.

3. Mary Klachko, "Anglo-American Naval Competition, 1918–1922" (PhD dissertation, Columbia University, 1962), p. 54.
4. Harold and Margaret Sprout, *The Rise of American Naval Power, 1776–1918,* 1966 ed. (Annapolis, Md.: Naval Institute Press, 1990), pp. 390–91.
5. Simpson, *Anglo-American Naval Relations,* pp. 479–82.
6. Eric Geddes, memorandum to War Council, 2 August 1918, ADM 116/1809, in Simpson, *Anglo-American Naval Relations,* p. 504.
7. Director of Plans, memorandum, September 1918, ADM 137/2710; and Notes for Conference with Navy Department, October 1918, ADM 116/1809; both in Simpson, *Anglo-American Naval Relations,* p. 525.
8. Wilson's famous Fourteen Points, which aspired to establish the end of the war (still ten months away) on a moral basis, were announced in a speech to Congress on 8 January 1918. For the text see World War I Document Archive, on the Brigham Young University Library website, at wwi.lib.byu.edu/.
9. Rear Adm. Sir S. Fremantle, memorandum, and comments by U.S. Naval Planning Section, October 1918, NSF/TX, in Simpson, *Anglo-American Naval Relations,* pp. 545–46.
10. Rosslyn Wemyss, memorandum, 17 October 1918, ADM 116/1810, in Simpson, *Anglo-American Naval Relations,* pp. 548–51. See also David Trask, *Captains and Cabinets: Anglo-American Naval Relations, 1917–1918* (Columbia: Univ. of Missouri Press, 1972), p. 320.
11. Klachko, "Naval Competition," p. 77.
12. Seth Tillman, *Anglo-American Relations at the Paris Peace Conference of 1919* (Princeton, N.J.: Princeton Univ. Press, 1961), p. 289.
13. Simpson, *Anglo-American Naval Relations,* p. 488.
14. Woodrow Wilson, State of the Union Message, 2 December 1918, in *The Papers of Woodrow Wilson,* ed. Arthur Link (Princeton, N.J.: Princeton Univ. Press, 1966–94) [hereafter *Wilson Papers*], vol. 53, p. 282.
15. Edith Benham, diary, 10 January 1919, in *Wilson Papers,* vol. 53, p. 707.
16. Josephus Daniels, press statement, 4 January 1919, in Simpson, *Anglo-American Naval Relations,* pp. 585–86.
17. Gilbert Fairchild Close [Wilson's secretary] to William Benson, 27 January 1919, in *Wilson Papers,* vol. 54, p. 303.
18. The Naval Advisory Staff supported Benson in his role as Wilson's chief technical adviser on naval affairs at Paris. The staff's memorandums were directed to Benson and sometimes forwarded to Daniels and Wilson.
19. U.S. Naval Advisory Staff, "Disposition of German and Austrian Vessels of War," memorandum, 13 March 1919, in *Wilson Papers,* vol. 55, pp. 515–21.
20. Mary Klachko, *Admiral William Shepherd Benson: First Chief of Naval Operations,* with David Trask (Annapolis, Md.: Naval Institute Press, 1987), p. 144.
21. Adm. Sir William Lowther Grant, "British Policy as Regards the American Naval Programme," memorandum for War Cabinet, 25 February 1919, ADM 116/1773, in Simpson, *Anglo-American Naval Relations,* pp. 590–94.
22. William Benson, memorandum on Anglo-American talks on naval building at the Paris Peace Conference, March 1919, 16 May 1921, Benson Papers, in Simpson, *Anglo-American Naval Relations,* pp. 597–99.
23. Josephus Daniels, *The Wilson Era: Years of War and After, 1917–1923* (Chapel Hill: Univ. of North Carolina Press, 1946), p. 396.
24. Benson memorandum, 16 May 1921.
25. Daniels, *Wilson Era,* p. 375.
26. Ibid., pp. 377–79; Josephus Daniels, diary, 1 April 1919, in *Wilson Papers,* vol. 56, pp. 518–19; and Tillman, *Anglo-American Relations,* p. 91.
27. "Robert Cecil: The Nobel Peace Prize 1937—Biography," Nobelprize.org.
28. Edward House, diary, 3 April 1919, in *Wilson Papers,* vol. 56, pp. 558–59.
29. The disagreement over the fate of the Rhineland also imperiled the conference and was, along with the naval question, one of the great stumbling blocks of the conference. See Margaret MacMillan, *Paris 1919: Six Months*

That Changed the World (New York: Random House, 2001), pp. 198–203.

30. Daniels, *Wilson Era,* pp. 381–88.
31. U.S. Naval Advisory Staff, memorandum, 7 April 1919, NSF/TX, in Simpson, *Anglo-American Naval Relations,* pp. 601–605.
32. Robert Cecil, diary, 8–10 April 1919; and Robert Cecil to Edward House, 8 April 1919; both in *Wilson Papers,* vol. 57, pp. 142–43.
33. Edward House to Robert Cecil, 9 April 1919; and Robert Cecil, memorandum to Edward House, 10 April 1919; both in *The Intimate Papers of Colonel House: The Ending of the War,* ed. Charles Seymour (New York: Houghton Mifflin, 1928), pp. 420–23. As it turned out, Wilson would soon be out of office, and it would be a Republican administration that negotiated an agreement at the Washington Conference of 1921.
34. Stephen Roskill, *Naval Policy between the Wars: The Period of Anglo-American Antagonism* (New York: Walker, 1976), p. 100.
35. Tillman, *Anglo-American Relations,* p. 294.
36. P. Terrence Hopmann, "Two Paradigms of Negotiation: Bargaining and Problem Solving," *Annals of the American Academy of Political and Social Science* 542 (November 1995), pp. 24–27.
37. Thomas Schelling, *The Strategy of Conflict,* 2nd ed. (Cambridge, Mass.: Harvard Univ. Press, 1980), pp. 11, 83–89.
38. See John Morton Blum, *Woodrow Wilson and the Politics of Morality* (Boston: Little, Brown, 1956); and Tillman, *Anglo-American Relations,* pp. 405–406.
39. MacMillan, *Paris 1919,* pp. 5, 149.
40. Tillman, *Anglo-American Relations,* pp. 405–406.
41. David Lloyd George, *Memoirs of the Peace Conference* (New Haven, Conn.: Yale Univ. Press, 1939), vol. 1, pp. 154–55.
42. Geoffrey Till, "New Directions in Maritime Strategy? Implications for the U.S. Navy," *Naval War College Review* 60, no. 4 (Autumn 2007), pp. 39–40; and Robert Rubel, "The New Maritime Strategy: The Rest of the Story," *Naval War College Review* 61, no. 2 (Spring 2008), pp. 74–75.
43. Richard Haass, "The Age of Nonpolarity," *Foreign Affairs* 87 (May/June 2008), pp. 51–56.
44. *The National Strategy for Maritime Security* (Washington, D.C.: White House, 20 September 2005), available at www.whitehouse.gov/.
45. *A Cooperative Strategy for 21st Century Seapower* (Washington, D.C.: October 2007), available at www.navy.mil/maritime/MaritimeStrategy.pdf, reprinted in *Naval War College Review* 61, no. 1 (Winter 2008), pp. 7–19.
46. Ibid.
47. Simpson, *Anglo-American Naval Relations,* p. 493.

FUNDAMENTALS OF STRATEGY

The Legacy of Henry Eccles

Scott A. Boorman

Many people have valuable insights regarding strategy. Much less widespread is a capability of generating fresh and important analytical insights at will or on command as new strategic situations and problems arise.

Here we aim to capture the active ingredients of precisely such a capability that took shape at the Naval War College shortly after World War II. Emanating from efforts of the Spruance-era College to integrate analytically, and to codify for the benefit of the United States in future conflicts, lessons learned from U.S. military successes in the Pacific in a time of maximum naval effort, this body of analytical thought and writing is exceedingly valuable. While much has changed, many of the most basic realities of how logistics permeates strategy remain as true now as then. Because this military and intellectual legacy is now at risk of being imperfectly remembered, when it is remembered at all, this article also aims to bring to current attention some important early post–World War II Naval War College writing on strategy.

The leader in these steps to codify relevant military lessons was then-Captain Henry E. Eccles, USN (he retired in 1952 as a rear admiral).[1] Starting during the Naval War College presidency of Admiral Raymond A. Spruance—victor of many Pacific War operations, culminating in the Okinawa campaign—Eccles served as founding head (1947–51) of the Department of Logistics (later renamed Department of Strategy and Logistics) at the College.[2] In part reflecting strands of Eccles's World War II experience in the Pacific, where he was eventually charged with planning

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coordination of all bases of all U.S. armed services for the planned invasion of Japan (projected to involve up to five million American military personnel), Eccles's written analytical work on war and logistics has a notably systematic quality and an eye for structural issues.[3] Eccles served at the heart of the Pacific War U.S. naval effort, one of the major success stories in world military history, and he knew in an unfiltered way the ingredients that made that success possible; the distinction between the militarily vital, the important, and the merely desirable; what is military reality versus arrows on a map or word pictures in smooth language. He had the insight, motivation, and tenacity to put this knowledge down on paper—in the blunt, unvarnished language of U.S. naval officers of his era, using few acronyms and without civilian jargon.

This work initially took shape in the form of numerous unpublished documents circulated in the Navy and beyond, augmented by extensive correspondence. Eventually, this military thought began to appear in journal articles and books by Eccles.[4] Supplemented at points by comments noting applications of Eccles's insights to twenty-first-century contexts, this article builds on research with the Eccles Papers held in the Naval Historical Collection at the Naval War College.[5]

Two key observations—one substantive, one methodological—anchor and orient the present inquiry. The first is that strategy, in both theory and practice, is permeated and shaped by three sets of forces: logistical, psychological (particularly centering on the psychological aspects of command), and bureaucratic.[6] In modern war each of these forces is always present and always important. Something of the complexity of the exercise of modern high command is suggested by the fact that the three sets of forces, viewed in dynamic systems terms, exhibit very different operating characteristics yet coexist (often in tightly coupled ways) in the concrete conflict situations that commanders must navigate.

The second observation is more Clausewitzian: while the application of strategic principles to particular situations is infinitely variable and at times subtle, the fundamentals of strategy are *relatively* few and simple. This means that it is feasible to create a concise but carefully structured statement of these fundamentals that can be drawn on as a conceptual aid, or template, to help craft strategic approaches as current strategic conditions mutate and fundamentally new situations arise.[7]

Inevitably such a template of theory can reach only so far, and its central use is creation of a sound starting point that more detailed analysis should develop further in any given concrete context. Inevitably too, practical use of theory can never be fully mechanized, and there is always a key element of interpretation—and therefore of intellectual craftsmanship—in moving from theory to application.

The analytical discussion below is structured in three parts. The first is a definition (or description) of the concept of strategy. The second places strategy in a larger context (an analytical activity that may also be conceived as exploring pertinent "boundary conditions" that shape strategy). The third elaborates, subject to space constraints in this article, upon three specific interlocking themes: logistics, control, and flexibility. This third part is particularly conceived in the spirit of helping strategists ask good questions and generate creative strategic ideas. It is not intended to illuminate all dimensions of this many-dimensional subject.

For analytic focus, our emphasis is primarily (though not exclusively) on political-military affairs, which are the traditional heart of strategic studies—though in an ever more complex and civilianized world it is increasingly clear that many twenty-first-century growing points of strategic theory and practice will bear little surface resemblance to twentieth-century war. Here again the legacy of the early post–World War II Naval War College shows its tough intellectual fiber to advantage, since the tripartite emphasis on approaching strategy from the perspectives of logistics, command psychology, and bureaucracy that took shape in that era is well suited to encouraging clear thinking about the conflict environments of the century we are now in.

WHAT STRATEGY IS

The roots of the present analysis lie in a terse memorandum, one of the best short writings on strategy ever penned, written in 1955 by Herbert Rosinski, a Nazi-era émigré German historian.[8] Central to this document is its theme of "strategy as control," which (as importantly further developed by Eccles with an eye to logistics) may be stated in shorthand form as follows:[9]

Strategy = the ***comprehensive*** ***direction*** of ***power*** to
control ***situations and areas*** to ***attain*** ***broad objectives.***

Given the game-theoretic focus that nowadays so often structures the discussion of issues deemed "strategic," it is important to note that the concept of strategy advanced here is essentially a substantive, *not* a mathematical, one.[10] This is as it should be, since actual strategic problems are typically far too complex to be reliably reduced to any single formalism. It is also important that the definition of strategy just given also combines well with further definitions of tactics and logistics.[11]

Each element of this definition—comprising the seven words or phrases listed below—deserves careful scrutiny and exegesis. It is useful to be alert to ways in which a particular word or phrase can be *mis*used or *mis*understood—thus illuminating roots of strategic *error* (a rich area for strategic analysis whose crucial

importance Clausewitz intuitively grasped and that much game theory tends to ignore or deemphasize).

Comprehensive orients one toward framing strategic calculation as broadly as possible, missing no "level." It is remarkable how often intelligent, educated people fail to grasp this and by so doing fall short of thinking strategically. Elaborating on "comprehensive" points to three broad classes of problems facing a strategist:[12]

- *Control of the external field of action,* whose central focus is the adversary or adversaries (but may also be expanded to include allies and neutrals).
- *Control of the internal field of action,* whose focus is the roots of power on which the strategist draws (e.g., political, public opinion, producer logistics, industrial base, and other "upstream" sources of power, at times extending to the family and social network of a leader or commander).
- *Control of the means of control.* In the modern era, such means widely pivot on the general staffs used to surmount cognitive and physical limitations on any commander, but also come to involve other bureaucracies, complex organizations, and social networks, many outside the traditional "defense establishment."[13] Control of the means of control is far more complex than it first appears, too commonly draining the creativity crucially needed for the other two problems. Twentieth-century experience suggests two basic insights: first, that there is a powerful dynamic by which machinery to exert such control tends to become ever more elaborate, so that its use requires more learning time and attention from commanders;[14] second, that such machinery is a breeding ground for organizational failures, perhaps multiple, at times of low visibility.[15]

Direction involves the standard sorts of "s/he thinks I think s/he thinks" calculations widely associated with "thinking strategically" in a world attuned to modern game theory. It *also* involves many other things, including (for example) less glamorous but exceedingly crucial logistics calculations as well as active use of diplomatic skill sets to navigate the outer boundaries of the authority a commander wields.

Power needs to be given very broad scope, subsuming many different species of power, military and civilian alike. The complexity of twenty-first-century societies invites imaginative identification of new species of power. Because of the universal dependence on some form of logistics support, the exercise of power in practice is often much more complex and more decentralized than is power in theory—which means that it is often productive to analyze particular types of power through the prism of their logistics requirements.[16]

In strategic environments where certain types of power are "off the table" at a given time (i.e., are not effectively usable to achieve given political ends), a basic challenge for strategists is developing intuition for when a particular type of power has moved, or is about to move, from an "effectively unusable" to an "effectively usable" category (or vice versa).[17] Note that the dynamics here, centering around qualitative change in a conflict situation, are frequently more psychological and at times bureaucratic than technical and accordingly may easily elude analyses based on rational-choice assumptions—with a concomitant potential for strategic surprise, such as when foes come from very different cultures.

Control—and focus on its implications and ramifications—is the active ingredient of Rosinski's seminal 1955 contribution; as control's antithesis he points to a "haphazard series of improvisations." Importantly, control is also a highly developed engineering concept, a fact that can be used to facilitate conveying strategic ideas to military officers and relevant civilians whose professional roots often lie in engineering and allied areas. One key advantage of conceptualizing "strategy as control" is the way it invites—as not all concepts of "strategy" do—exploration of a natural agenda of questions concerning temporal and other parameters of control (see below). In fact, the control that a strategist is able to exert often amounts to little more than a "patch" on more basic ongoing dynamics—for instance, political, economic, demographic, epidemiological.

The phrase *situations and areas* represents the contexts within which control is sought. Note that the present definition of strategy steps beyond the geopolitical, often deeply territorial focus of the world wars and much other warfare, giving flexibility to subsume, say, bureaucratic warfare, "inner court" factional politics, and other frequently bitter and protracted, yet *not* territorial, struggles.

Attaining objectives raises the challenge of defining the criteria of judgment underlying this concept—and in a surprising array of strategic problems such criteria are notably unclear.

Objectives refers to actual, not declaratory, strategy. In a world where public relations has become a function of command often no less important than the classic duties of a general staff, it is all too easy for strategists to let their declaratory strategies edit their real goals. In one limiting case of this kind of error, the "objective" is replaced by a mere slogan—which may be accepted with little analysis within an inner circle of high command as well as circulated among a wider public. High-level decision makers in totalitarian (and some authoritarian) societies may be particularly prone to this sort of pitfall, sometimes opening exploitable vulnerabilities because their decision support structures explicitly lack the traditions of "airing" of alternative positions on issues and general intellectual openness historically associated with the Naval War College.[18]

An interesting and increasingly important variant problem may arise when a mission statement is frozen into statute, with all the legal ramifications that brings with it.

The antidote for such pitfalls starts with sound, careful, even plodding *analysis* of actual strategic objectives—that is, clarification of what the strategist truly must accomplish. Breadth of objectives, however—which is one of the true hallmarks of strategy, by contrast to tactics (a distinction game theory characteristically elides)—means that such analysis is rarely trivial, precisely because broad goals are typically intangible, at times highly abstract, and therefore elusive. To this problem of analysis, which lies at the heart of strategic tasks, we return shortly.

STRATEGY IN A LARGER CONTEXT

There are three ways in which a larger context imposes structure on strategy and strategic planning.

Strategic Objectives and Their Analysis

The purest form of strategic labor is the analysis of objectives. Although not sufficient by itself, the first (and often psychologically difficult) step in effective analysis of this sort in concrete situations is recognizing that here lies a challenging, often deep, problem—one that certainly outstrips the capabilities of any single formal or other "model."

Concepts like "victory" and "defeat" (or indeed "war" and "peace") are commonly of little help in analyzing objectives. The difficulty of this task (compounded if a strategic situation is rapidly changing) may be greatly magnified by potent psychological and bureaucratic forces contributing to what is sometimes known as "goal displacement."[19] Additional factors may also frustrate clear analysis of objectives. For example, *too* clear an analysis may tend to undermine the roots of a strategist's authority—or the glue that holds together a coalition.[20]

The task of analyzing objectives is frequently elided or otherwise underestimated by the intellectual traditions of "rational choice," which widely posit that objectives or their functional equivalents and proxies (e.g., payoff values assigned to game outcomes) have already been effectively analyzed and may therefore simply be treated as known parameters.[21]

With the crucial proviso that strategy must always remain dominant—logistics exists to serve strategy, *never* the other way around—logistics analysis must always accompany the strategic imagination. Such analysis includes continually probing the boundary between what is logistically feasible and what is not, and other logistics ramifications of strategic objectives. Logistics analysis may at times advise changes of goals—because of logistics limitations on one's own side

or an adversary's exploitable logistics weaknesses. It should also be borne in mind that logistics (from well functioning supply chains to the health of the population) is the engine of the better peace that is the ultimate aim of most wars—and that engine requires analysis, not just after the war but during it.

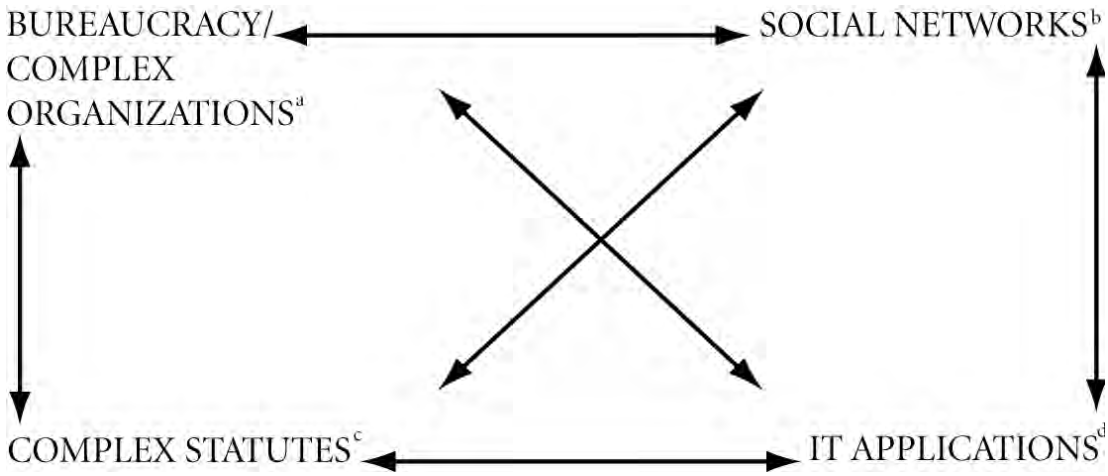
Language and semantic analysis have roles to play too.[22] Part of the task in analyzing strategic objectives is to ferret out conceptual failures—because hazily envisioned future events are the focus—lurking beneath the smooth language in which polished statements of high-level strategic objectives are so often framed.[23]

Because quantification in high-level strategic matters commonly has limited meaning or utility, as a practical matter the analysis of objectives commonly involves devising a hierarchy of qualitative goals, conjoined with a timetable for their accomplishment. It is worth bearing in mind that there are many instances, worldwide, where high-level strategies—and decisions highly relevant to U.S. national interests—emanate from people who are not professional soldiers, who may literally never have heard of a U.S. military operation order, and whose approaches to objectives differ fundamentally from those of the U.S. military.[24]

Relationship between Strategy and the Type of War Being Fought

This is the second genuinely deep problem facing the strategist:[25] correctly analyzing the social, political, and other dynamics that form the larger context of

FOUR FUNDAMENTAL STRUCTURES: SELECTED RESEARCH FOCI



Notes:
a. Formal organizational tables of organization, plus command, control, and communications.
b. Multiple types of interlocking networks.
c. Shorthand for complex doctrine in a legal-administrative sense.

These structures, each a component of the twenty-first-century landscape presenting formidable control challenges, are marked by massive and growing complexity; are distinct but ever more interlocked; are new in significant aspects (symbolized by the bidirectional arrows); often have major but inconspicuous impacts; and require analysis, singly and in combination.

war and peace, with an eye to identifying opportunities to piggyback strategic control on more basic structural patterns and trends. More than an intelligence problem, this is a task for broad and creative social observation and analysis, commonly requiring a mix of qualitative and quantitative strands.[26]

In a related spirit, the figure aims to help break strategists' attentions out of the grip of standard emphases in the lion's share of twentieth-century writings on war and strategy, focusing instead on analyzing four fundamental structures that will, singly and jointly, do much to shape twenty-first-century conflict environments. Deleting any vertex in this figure, or collapsing any two vertices, risks significant analytical distortion, because the operating characteristics of each type of structure are different from those of the other ones.

In a world where markets with prices rule, an important Eccles caution merits restating: the ability to carry out the relevant analysis effectively is "a rare intellectual quality that cannot be made to order or purchased on the open market."[27] Failure in this task of analysis portends perhaps the greatest *controllable* pitfall facing any strategist—that of attempting to operate strategically in an imaginary world!

A crucial strand of the analytic problem here lies in recognizing what Martin Shubik has termed the "games within the game." These are subsidiary games involving often extraneous political purposes whose existence greatly complicates the main "game" in which the strategist is centrally involved, giving lasting, nontrivial meaning to Clausewitz's fundamental insistence on the primacy of war's political purpose.[28]

Roots of Strategy in National or Other Human Values

The third deep way in which larger context impinges on the strategist is the need to craft strategy to be in harmony with the fundamental values of the larger collectivity (nation, party, faction, or other) that the strategist serves. Such values may include that collectivity's concepts of victory and defeat, its affinity with certain weapons or tools of conflict, and its affinity with certain overall styles of conflict (e.g., short war versus protracted war, positional versus mobile versus guerrilla warfare). Harmony with such fundamental, often tacit, values can be a vast source of strategic strength. In some ways, such harmony is akin to an intangible logistics reserve—a reserve of strategic poise and stamina. In the World War II era, U.S. strategy achieved and sustained notable harmony with fundamental values and aspirations of the American people. In Vietnam, there was enormous—and ultimately insuperable—friction between the personal values and goals of a large segment of the American population and war aims in a protracted land war in Asia.[29]

Of course, value harmonization issues face adversaries no less than one's own side. This fact creates an enduring niche for analysis geared to recognizing often subtle strategic opportunities arising when an adversary's course of action starts to veer away from his fundamental values, with concomitant potential for exploitable adversary mistakes. Recognizing this kind of opportunity requires special alertness to pitfalls of "mirror imaging" often born of bureaucracy.

IN SEARCH OF PRINCIPLES OF STRATEGY

What follows is an Eccles-inspired line of inquiry for orienting and structuring a particular strategic analysis project. The central themes of this line of inquiry—logistics, control, flexibility—may also be interpreted as "probes" into principles of strategy.[30] Inevitably, given present space constraints, each basic point below can be raised only briefly and may require imaginative analogical thinking—or a translator's instincts—if full benefit is to be derived in application to twenty-first-century conflict situations very different from World War II.

Advanced-base development work, where a major part of Eccles's World War II experience lay, was a distinctive and in many ways nontraditional brand of logistics—one marked by an integrative viewpoint spanning many functional logistics specialties while looking simultaneously forward to combat areas and back across the Pacific to the continental United States.[31] This viewpoint, in which long-haul transportation issues held center stage and underlined key differences between short- and long-range amphibious operations, did much to shape Eccles's larger view of the logistics process in relation to strategy. As was thoroughly appreciated by Eccles and other analysts at the early post–World War II Naval War College, logistics in modern warfare is inherently a sophisticated concept with important pure and applied, as well as command and technical, levels.[32]

Many of the logistics insights of the World War II era that Eccles codified have been thoroughly assimilated and institutionalized by the U.S. military. Yet areas of structural tension and debate persist, and some trade-offs defy permanent resolution.[33] To shed light on such issues, logistics lessons learned from U.S. World War II success must be constantly restudied, restated, and retaught—in ways, one hopes, that attract genuine interest, animated by a sense of curiosity, from broad audiences of U.S. military officers plus relevant civilians. Application of the same basic lessons remains significantly less well incorporated in U.S. logistics capabilities for supporting strategic action of nonmilitary types (among them, capabilities for "nation building"). Meanwhile, a third application of those lessons pertains to Liddell Hart's "the other side of the hill"—i.e., the situation of the adversary. U.S. adversaries have often *not* learned how to do some basic part of their logistics quite right, so that a further strand of the living

legacy of Admiral Eccles is to suggest ways of identifying and exploiting resulting vulnerabilities.

For working purposes here, logistics—following Eccles—may be defined as the creation and sustained support of weapons and forces to be tactically employed to attain strategic objectives. Yet more simply: "Logistics is the means of war."[34]

In the background of this description lies the concept that *logistics is a dynamic system,* one whose operating characteristics are a rich source of principles closely related to, yet not the same as, directly strategic principles, specifically including those familiar from the rubric of the "principles of war."[35] In modern warfare, this dynamic system is heavily implemented through an enormously complex defense bureaucracy, yet it has an identity that is not simply reducible to such bureaucracy. While logistics is closely related to economics, the logistics process also importantly operates in many nonmarket contexts—including, of course, combat environments. For related reasons, logistics analysis is not reducible to, even though it obviously overlaps with, standard economic analysis. Logistics processes have important psychological dimensions (e.g., Eccles emphasized the role of social trust in the provision of logistics support in combat or other wartime conditions).[36] Such psychological aspects of logistics often coexist awkwardly with standard rational-choice models of the sort that most economists favor.

Logistics permeates military effort, and in many military contexts the true contest, extending to both war and peace, is as much between two logistics systems as between two sets of tactical organizations (indeed, it is possible to parse the Cold War from this viewpoint). To appreciate the true force of this point, it is important to recognize that logistics factors and principles continue to operate—often with enormously potent effects—whatever those factors and principles may be called. Military terminology is often driven by bureaucratic "chop lines" and other organizational compromises, so that much logistics structure and process in modern warfare appear in other guises. Components of a military establishment that are actually designated as "logistics" organizations are therefore frequently pale reflections of the true magnitude of the logistics process.[37]

Building on this background, what follows may be treated as a candidate for the "first principle of strategic logistics."[38]

In modern war, logistics is the soft underbelly of combat power, vastly more vulnerable to effective attack—at times direct and obvious, at times indirect and low-visibility—than is the combat power itself. Underscoring this proposition is the enormous sweep of logistics activities, ranging over supply, transportation, base development, weapons systems support, maintenance and repair, personnel, and medical and public health functions. Exploiting the consequences of

the adversary's logistics dependence, while defending against logistics depredations by an alert, aggressive foe, is therefore a pivotal ingredient of modern strategy as well as a fine illustration of the strategic necessity of a comprehensive perspective that ranges far beyond standard combat operations.

Post–World War II analyses suggest that the Japanese missed many opportunities to attack the complicated and often fragile logistics on which U.S. offensives in the Pacific depended.[39] From that day to this it is not obvious that the United States has *ever* faced a major adversary who has pushed as hard and as imaginatively as possible to attack the logistics system on which U.S. military strength depends. There exist strands of relevant U.S. military experience (e.g., Iraqi Scud missile attack on the port city of Al Jubayl, Saudi Arabia, during Operation DESERT STORM);[40] nonetheless, the nation may remain in some ways an *in*experienced superpower in "logistics war."[41]

By extension (although the terminology used is often different), logistics is also a major source of vulnerability in nonmilitary types of conflict, with the high connectivity and fragility of civilian society affording a combinatorial explosion of logistics targets. U.S. vulnerabilities to sabotage—including its more subtle forms, such as "slow-down or misdirection of effort in certain key industries"—particularly caught Eccles's attention during his years as head of the Naval War College Logistics Department.[42]

But the dependence of strategy on logistics has further—and in some ways yet more far-reaching and challenging—ramifications. Perhaps surprisingly for some audiences, the heart of Eccles's logistics thought, as documented by careful reading of the Eccles Papers, actually points is a somewhat different direction from that just explored.

Specifically, in much of modern warfare the most important (and difficult) "game" confronting a commander may be that associated with the struggle to assert command and control over his own logistics (a struggle on which any adverse effects of hostile action are an overlay).[43] Central here is the principle of the "logistics snowball," which in Eccles's classic formulation describes the tendency of the logistics support of combat power to grow to a size out of all proportion to that of the combat forces supported—until, like a snowball being pushed up a hill, logistics becomes so massive and sluggish that further progress is barely possible.[44]

This is a fundamental insight into how logistics systems behave as dynamic systems, as true in the twenty-first century as in the World War II era.[45] Major contemporary versions and generalizations of the "snowball" effect and its ramifications may be found in many of the structures on which twenty-first-century societies rest (see again the figure on page 97): bureaucracy and complex organizations; social networks (comprising multiple types of network ties);

algorithms, software, and computer networks; and complex statutes and administrative regulations—among them, procurement regulations.

To the extent that taming the snowball is not an impossible game, the feasibility of doing so crucially depends on application for strategic purposes of a further set of fundamental principles centering on command and control of the logistics process.[46] Here it is important that under peacetime conditions logistics responsibilities tend to become diffuse.[47] This means that when war or other crises come, the "game" of taming relevant snowball(s) may easily have *no* outcome consistent with achieving a larger strategic purpose within the finite time window allowed by such external forces as public opinion.[48]

Under twenty-first-century conditions this may be an exceptionally important principle, applicable to future uses of power by the United States. To anchor this problem in recent U.S. military experience in Iraq, consider a question posed by Secretary of Defense Robert M. Gates in his 29 September 2008 speech to a National Defense University audience: "Why did we have to go outside the normal bureaucratic process to develop counter-IED [improvised explosive device] technologies, to build MRAPs [mine resistant ambush protected vehicles], and to quickly expand our ISR [intelligence, surveillance, and reconnaissance] capability?"[49]

The difficulty (and urgency) of controlling the logistics snowball naturally begets a further principle: especially given the ultrahigh dimensionality of modern logistics, dependence of strategy on logistics also gives ample room for updated and expanded versions of the old saying "He who controls the spare parts controls the operation."

With the caveat that strategy must always remain dominant, enough has been said to suggest a further principle: At sufficiently high levels of command—and perhaps separately, at sufficiently deep levels of analysis—strategy and logistics tend to coalesce.[50]

Strategy-as-control is *not* about making no mistakes. The cold, pale light of logistics reality alone makes this virtually impossible. Success tends to go to the side that makes the fewest mistakes, or at any rate the fewest major ones. "Control" is, in short, often a highly imperfect construct—a point that many devotees of mathematics in strategic analysis tend to miss.

One reason the strategy-as-control theme is so productive as a launching point for the development of strategic principles is that it invites a range of searching analytic questions in any given strategic context (consider, e.g., a context involving potential use of biological weapons or of weapons whose use has long-term environmental implications).

One useful specific list of such questions appears in Eccles's writings on strategy.[51] This list follows (and note that the more seriously any of the questions on it is pursued, the more logistics issues tend to arise):

What to control [i.e., the object or objects of control; and note here that strategy-as-control is commonly cumulative],

What is the purpose of this control,

What is the nature of the control,

What degree of control is necessary,

When the control is to be initiated,

How long the control is to be maintained,

What general method or scheme of control is to be used.

Perhaps most fundamentally, strategy-as-control clarifies the essential unity of its subject matter across diverse spheres of human action. At the same time, the concept also encourages analysis of interesting special cases—for example, control directed at the self.[52]

Grand strategy may be interpreted as a special case where either: (1) control is sought with a distinctively deep time horizon (e.g., as in "grand strategy of the Chinese empire");[53] or (2) the search for such control has a distinctively combinatorial aspect, bringing into play a mix of tools of many kinds—among them, diplomatic, psychological, and economic, as well as purely military.[54] The sheer multiplicity of types of networks simultaneously in play in many twenty-first-century conflicts is compelling more conflict actors than ever before—many of them nongovernmental—to attempt to think and operate as grand strategists in sense (2). As the long twentieth-century century road to building U.S. joint operations capability suggests by partial analogy,[55] actually achieving the integration of tools grand strategy requires is far from easy.[56] Indeed, such integration is in many ways harder than that involved in military joint operations, since nonmilitary tools are so diverse—often relative to each other no less than to military ones—and are intertwined with comparably diverse organizations, logistics, and even basic assumptions about human nature and society.[57]

Even beneath a level of grand strategy, the strategy-as-control theme valuably deflects focus from any one tool or weapon of conflict (which, pushed to a logical limit, produces the pathology Eccles dubbed "weapon strategy"), instead expanding attention given to integrated employment of *all* available tools in generating the desired extent and nature of control. Because so many military officers and relevant civilian professionals have career backgrounds heavily invested in specific weapons systems, a strategy-as-control viewpoint can do valuable service in helping avert incipient "weapon strategy" traps.[58] Here again it is relevant to note that strategy-as-control connects on a basic level with themes of control central to modern engineering theory and practice (note, for example, the crucial importance of time and timing factors in strategy). A particularly

important strand of the strategy-as-control theme—one that will be of fundamental importance in many twenty-first-century contexts—is its profound connection with a world of ever deeper dependence on software and the mathematical-logical algorithms that software embodies.[59]

One major contrast case for strategy-as-control is "strategy as destruction," a false equation that received much currency early in the nuclear age.[60] This false equation finds more recent reflection in widespread tacit assumptions that biological or chemical attacks are necessarily geared to creating maximum feasible destructive impact on a human group, as contrasted with more nuanced manipulations of political and social processes in target societies.[61]

Strategy-as-control is also a fine starting point for capturing, comparing, and transposing the active ingredients of some of the most distinguished contributions to strategic thought spanning many cultures and historical eras. Among these are (moving roughly from east to west): Chinese (here note not only Sun Tzu and the Chinese military tradition but also lessons born of two millenniums of imperial Chinese bureaucracy), Mongol, Indian subcontinent, Iranian (e.g., note mirrors-of-princes advice literature), Arab, Ottoman, and Byzantine. In some cases non-Western strategic and other intellectual traditions may contain important insights about control possibilities that are little known or developed in Western contexts.[62]

A focus on strategy-as-control leads naturally to a focus on strategic flexibility and its roots. In some contexts, strategy certainly demands decisive action or some extremely carefully reasoned form of irreversible commitment of the sort analyzed in the strategic writings of Thomas Schelling.[63] Yet the fog of war, fluidity of long-term situations, and ultimately the opacity of complex social structure and process itself (perhaps the richest of all sources of uncertainty facing a strategist) guarantee that strategic flexibility needs to be available when desired—as it often will be.

In thinking about the roots of flexibility, or deficit thereof, it is helpful to distinguish two quite different classes of contributing factors, each having many strands. In this regard, note also a basic asymmetry: producing strategic flexibility typically requires many ingredients, but inducing strategic *in*flexibility may need only one.

The first set of factors centers around the mind of command and is essentially psychological (or sociological, if one allows for the role of staff and others in the commander's environment, often amounting to a well defined social structure). Psychological flexibility may be easy to attain in theory, but (as Clausewitz saw clearly long ago) it is vastly harder amid the stunning emotional and physical pressures of bitter conflict with deadly force. In particular, circumstances may require juggling denial of the possibility of failure of strategic *ends*—even where

all evidence is to the contrary—while at the same time exhibiting the highest level of virtuosity in shifting with poise and flexibility among choices of *means*. Such pressures may be short-term (say, hours or days), or they may be long-term (such as protracted revolutionary war), with quite different psychological contexts and consequences.

In addition, more subtle forms of flexibility loss, amounting to creeping institutional inertia, may accumulate as a largely unplanned by-product of the operation of institutions of command over a long period of time—via persistence of flawed decisions that many recognize as flawed yet that no one seems to know how to correct (even when, at times, those decisions far outlast the organizational tenure of those who made them). As institutions of command, including bureaucracies, age through the course of the twenty-first century, these subtle institutional flaws and the loss of strategic flexibility they entail may become more pronounced.

The second set of factors returns to logistics and centers around the physical substance of flexibility—the quality of a strategist's logistics, especially transportation. One of the twentieth century's most powerful examples of logistics flexibility as foundation of strategic flexibility is the relationship between the success in World War II of U.S. naval operations in the Pacific and the wartime development of mobile logistics support and the strategic mobility it permitted. It is well worth reflecting on the quality of logistics thought and leadership that made such innovation possible midstream in a great war.[64]

THE DUALITY OF STRATEGIC AND LOGISTICS ANALYSIS

Crafting high-level strategy is, and will remain, extraordinarily difficult. This is because logistics, psychology, and bureaucracy are difficult, often counterintuitive subjects—and few experiences (certainly in ordinary civilian life) adequately prepare anyone to cope at a high level with their interacting complexities. Even individuals who have been outstanding strategists in one strategic context may easily reemerge as blunderers in a different one.[65]

Responding to these challenges, the analytic capability that took shape at the Naval War College in the early post–World War II period was an unusual synthesis—in some ways without precedent—and an enduring U.S. national resource that merits careful continuing study, with an eye both to its substance and to the institutional and intellectual conditions that made such synthesis possible. Although there were numerous strands in the synthesis, at its heart lay the duality of strategic and logistics analysis.[66] Without the strategic level—whose principles this article has sought to retrieve and develop in updated form—logistics tends to unravel into a formless sprawl of technical areas, lacking clear focus and identity. Without constant reference to the logistics foundation, strategic

analysis tends to become like much modern art—perhaps intellectually stimulating but of unclear relation to the world as we know it.

With an eye to future applications of the key ideas, the body of theory and principle developed in the present article is geared to three distinct, if related, sets of tasks:[67]

- *Education for modern high command,* centering around inculcating intuitive awareness of the natures and relationships of structural elements of the *full* strategic problem the strategist must be prepared to tackle.
- Creation of a *basic and lasting intellectual organization for the study of strategy,* one that can serve as a "template" for the ongoing development of strategic topics and disciplined accumulation of strategic ideas—thus creating a reserve of strategic and related logistics thinking that can be readily retrieved and consulted under often far-from-ideal crisis conditions, as well as helping with strategic planning more broadly.
- Creation of a *conceptual environment conducive to disciplined forms of strategic creativity,* an environment whose hallmark is fundamentally original, valid, and valuable insights.[68]

While each generation must revisit these tasks with fresh eyes, there are few better starting points for their successful accomplishment than active institutional memory of the pioneering analytic contributions of the U.S. Naval War College in the age of Admirals Raymond A. Spruance and Henry E. Eccles.

NOTES

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1. For further background on Eccles's career contributions as a U.S. Navy line officer (Naval Academy '22)—emphasizing Eccles's Navy Cross–winning command in combat in the vicinity of Java early in World War II—see the tribute to Eccles by Rear Adm. R. F. Marryott, USN, "President's Notes," *Naval War College Review* 39, no. 4 (Autumn 1986), pp. 4–5. In June 1985 the library of the U.S. Naval War College was named in Admiral Eccles's honor. See Admiral Eccles's "Remarks at Dedication of Eccles Library at Naval War College," *Naval War College Review* 38, no. 6 (November–December 1985), pp. 96–97.
2. The story of the founding of the Naval War College Department of Logistics is told in John B. Hattendorf, B. Mitchell Simpson III, and John R. Wadleigh, *Sailors and Scholars: The Centennial History of the U.S. Naval War College* (Newport, R.I.: Naval War College

Press, 1984), p. 186. On Spruance see Cdr. Thomas B. Buell, USN, *The Quiet Warrior: A Biography of Admiral Raymond A. Spruance* (Boston: Little, Brown, 1974).

3. Within worldwide traditions of military and related strategic theory—holding aside the game-theoretic tradition—the major theorists besides Eccles whose analytical work exhibits comparably systematic and codifying instincts are Napoleon's two leading interpreters, Clausewitz and Jomini. In effect, Eccles's writings are placeholders for "thoughts on war" of a major part of the World War II generation of senior U.S. Navy leaders. Of course, full consensus across a population of strong-minded professionals can never be expected—a point on which Eccles, for one, was thoroughly realistic. (To illustrate, a specific conceptual disagreement in Naval War College circles on the relation of logistics to strategy is noted by Eccles, "Logistics and Strategy," *Naval War College Review* 10, no. 5 [January 1958], p. 25.)

4. Eccles's books were *Operational Naval Logistics,* NAVPERS 10869 (Washington, D.C.: Bureau of Naval Personnel, April 1950); *Logistics in the National Defense,* 1st ed. (Harrisburg, Pa.: Stackpole, 1959); *Military Concepts and Philosophy* (New Brunswick, N.J.: Rutgers Univ. Press, 1965); and *Military Power in a Free Society* (Newport, R.I.: Naval War College Press, 1979). Both the 1959 and the 1965 books were written with support from the Office of Naval Research (ONR) through the George Washington University Logistics Research Project. A further sampler of Eccles's published writings, augmented by the limited but important set of his unpublished writings represented in the Naval War College Library catalog, appears in *Naval War College Review* 30, no. 1 (Summer 1977), pp. 26–27. This list is usefully supplemented by a list of Eccles's publications in the *Naval War College Review,* contained in the *Review* index (available online or on compact disc); most, but not all, signed Eccles publications in the *Review* appear on this list. In its "Author" section this index—providing a profile of a major U.S. military periodical published continuously since its founding in 1948—contains more single-authored entries under Eccles's name than under that of any other individual author.

5. The Eccles Papers Project, which was initiated in 1986 at Admiral Eccles's request and invitation to the present author and Dr. Paul R. Levitt (a mathematician who died in 1999), is announced and briefly described in U.S. Naval Academy Alumni Association *Shipmate* 49, no. 9 (November 1986), p. 13. Hereafter the notation "EP *X.Y*" refers to box *X,* folder *Y* in the Eccles Papers in the Naval War College Naval Historical Collection.

6. Two key Eccles observations help give unity to these three topics of logistics, command psychology, and bureaucracy. The first is that the modern logistics organization is the home of *complex organization;* see, for example, comment in *Operational Naval Logistics,* p. 29, to the effect that logistics organizations tend to be much more complex than tactical ones. In many ways *Operational Naval Logistics* is a book about bureaucracy. The second observation is that the perspective of command by its nature must reconcile conflicting imperatives of strategy, logistics, and tactics—a task that involves many psychological as well as bureaucratic challenges. The interconnectedness of strategy, logistics, and tactics is symbolized by the interlocking-rings diagram in Eccles, "Theatre Logistic Planning," *U.S. Naval War College Information Service for Officers* 3, no. 2 (October 1950), p. 3. (This was the predecessor publication to the *Naval War College Review*.)

7. Related "template making" instincts are already plainly apparent in Eccles's "Basic Elements and Aspects of Logistics," 27 August 1947, typescript of his lecture launching the first year of the Naval War College Logistics Course (EP 30.21). In much more highly developed form, Eccles's structural approach to modern warfare is presented in his *Command Logistics,* submitted with foreword dated 8 February 1956 by Capt. K. E. Jung, USN, Head, Strategy and Logistics Dept., and approved by Rear Adm. Thomas H. Robbins, Jr., USN, Chief of Staff (Newport, R.I.: Naval War College, 1956) (EP 44.3, copy identified as "Issue to Naval Warfare Class, 1956"; also held in the Eccles Library of the Naval War College).

8. See Eccles, *Military Concepts and Philosophy,* p. 313 note 4, identifying this memo, "New Thoughts on Strategy," as "written by Dr. Herbert Rosinski in September, 1955,

following informal discussions with the President of the Naval War College, Vice Admiral Lynde McCormick, and his chief of staff, Rear Admiral Thomas H. Robbins, Jr." Text of Rosinski's memo appears in this 1965 book of Eccles, pp. 46–47, and is also reproduced in Eccles's *Military Power in a Free Society,* pp. 60–61. For further background on Rosinski's thought see *The Development of Naval Thought: Essays by Herbert Rosinski,* ed. and with an introduction by B. Mitchell Simpson III (Newport, R.I.: Naval War College Press, 1977).

9. The basic early reference is Eccles, "Notes on Strategy as Control: Its Influence on Logistics and Organization" (first draft of working paper prepared under sponsorship of the George Washington University Logistics Research Project, under contract N7 ONR 41904, n.d. [1957]) (EP 82.23).

10. Without minimizing the many contributions of game theory to fundamental strategic analysis, it is important to keep in clear analytic focus substantive issues of logistics, command psychology, and bureaucracy that game theory applications often elide or miss. This task is increasingly important given the numerous civilians in high policy-related roles who are economics trained—training that nowadays widely encourages them to equate "strategic analysis" with game theory.

11. See Eccles, *Military Concepts and Philosophy,* p. 69 (presenting coordinated definitions of strategy, logistics, and tactics as a unified package). As Eccles here defines it, tactics is "the immediate employment of specific forces and weapons to attain strategic objectives"; Eccles's corresponding definition of logistics is reproduced on p. 100 of this article.

12. This three-way distinction builds on Eccles, *Military Power in a Free Society,* p. 70.

13. For a valuable study of basic principles pertaining to general staffs, one that deserves to be much better known today, see Maj. Gen. Otto L. Nelson, Jr., *National Security and the General Staff* (Washington, D.C.: Infantry Journal Press, 1946). Eccles's review in U.S. Naval Institute *Proceedings* 73, no. 6 (June 1947), pp. 720–21, provides a useful, terse introduction to Nelson's massive book. Organizational struggles to surmount "control of the means of control" problems exist under many other rubrics too (e.g., budget control, surveillance, inspection, internal audit, program evaluation, etc.). As Chinese history can attest, some of these are old—much older, in fact, than the modern general staff.

14. The General Staff Act of 1903 created a general staff for the U.S. Army. It has been commented that by midcentury the United States had acquired, with perhaps characteristically American enthusiasm, *no fewer than ten* kindred entities (military plus civilian Navy staff; ditto, Army; ditto, Air Force; Marine Corps staff; staff of the Office of the Secretary of Defense; National Security Council staff; staff of the Bureau of the Budget, later Office of Management and Budget). Although there were also earlier versions of a joint staff, the Goldwater-Nichols Act of 1986 crystallized what was has been called "a real joint staff." With the early twenty-first century has come Homeland Security, plus the new intelligence bureaucracy.

15. A telling example, from a recent biography of the World War I British Expeditionary Force (BEF) commander in chief, Douglas Haig, is that—in context of a great war on whose outcome the British Empire's fate turned —"Haig could not hope to control every aspect of the working of the BEF; *he did not even have complete control over his closest staff."* See Gary Mead, *The Good Soldier: The Biography of Douglas Haig* (London: Atlantic Books, 2007), p. 239 [emphasis supplied].

16. As Eccles noted in 1960: "In modern conflict the man who understands and controls the capabilities and location of electronic command equipment can in effect decide who will wield actual command authority." See Eccles's review of Roland G. Ruppenthal, *Logistical Support of the Armies* (Washington, D.C.: Office of the Chief of Military History, U.S. Army Dept., 1953 and 1959), vol. 2, in *Naval Research Logistics Quarterly* 7, no. 1 (March 1960), p. 97.

17. See Eccles, *Military Power in a Free Society,* p. 56.

18. The case of Saddam Hussein's Iraq comes to mind. See, for example, Jill Crystal, "Authoritarianism and Its Adversaries in the Arab World," *World Politics* 46, no. 2 (January 1994), p. 279.

19. See Robert K. Merton, "Bureaucratic Structure and Personality," *Social Forces* 18, no. 4 (May 1940), p. 563. Pitfalls of goal displacement arising when a strategic situation is changing rapidly may be illustrated by the later stages of some successful coalition wars, when a coalition partner (e.g., the United States as World War II was ending) persists in thinking strategically when it should be thinking *grand strategically*—that is, about how to position for the upcoming postwar situation. Note also the case of post-9/11 U.S. involvement in Afghanistan, whose objectives started with a focus on "Osama Bin Laden dead or alive" and subsequently evolved into versions of nation building there. For some of the complexities of the latter—further illustrating just how difficult the analysis of objectives can be—see Francis Fukuyama, "Nation-Building and the Failure of Institutional Memory," in *Nation-Building: Beyond Afghanistan and Iraq,* ed. Francis Fukuyama (Baltimore: Johns Hopkins Univ. Press, 2006), pp. 1–16.

20. For an illustration of the stresses that thorough analysis of objectives may impose on even a strong coalition, note the difficulties arising in the work of the Anglo-American Combined Chiefs of Staff in World War II—in particular, the challenges faced by Adm. E. J. King and the U.S. Joint Chiefs of Staff "to get the British to commit themselves *in writing.*" See Thomas B. Buell, *Master of Sea Power: A Biography of Fleet Admiral Ernest J. King* (Boston: Little, Brown, 1980), p. 338 [emphasis supplied].

21. As a working approximation, the phrase "traditions of rational choice" refers to majority strands of microeconomics, decision theory, and game theory. Eccles's long-standing intellectual attention to alternatives to rational choice is clear from his analytical work. That attention is well illustrated by Eccles's review in *Naval Research Logistics Quarterly* 10, no. 4 (December 1963), pp. 383–87, of an important work by Karl W. Deutsch, *The Nerves of Government* (New York: Free Press of Glencoe, 1963). For further work along related lines, see Scott A. Boorman, *Alternatives to Rational Choice: Analytical Outline of Substantive Area—Part I,* Preliminary Paper 001013 (New Haven, Conn.: Cowles Foundation, 13 October 2000), and *Alternatives to Rational Choice: Analytical Outline of Substantive Area—Parts II & III,* Preliminary Paper 030116 (New Haven, Conn.: Cowles Foundation, 16 January 2003). Both papers were produced under the auspices of the Cowles Foundation for Research in Economics, Yale University.

22. Eccles's focus on semantic dimensions of strategy, and on language issues more broadly, at times drawing inspiration from Alfred North Whitehead, makes Eccles unusual—indeed, perhaps unique—among logistics-minded analysts of strategy.

23. In this connection, the work translators do merits consideration as an oft-neglected factor in grand strategy. A paper by Eccles analyzes translation problems, among other challenges, facing staff work of the North Atlantic Treaty Organization (NATO) in the crucial formative years of the alliance; see Eccles, "Allied Staffs," U.S. Naval Institute *Proceedings* 79, no. 8 (August 1953), pp. 859–67. Although not usually thought of in this way, reliance on acronyms presents a kind of translation problem, one that at times may also severely hamper clear analysis of objectives.

24. Illustrating some of the possibilities, for certain actors emotions may enter in tie-breaking roles when no uniquely "optimal" course of action presents itself. See, e.g., Jon Elster, "Emotions and Economic Theory," *Journal of Economic Literature* 36, no. 1 (1998), pp. 59–60.

25. It is hard to overstate the extent to which many strategic debates boil down to disagreements over one or another version of the underlying "what kind of war" question (which, of course, was classically posed by Clausewitz: see Carl von Clausewitz, *On War,* ed. and trans. Michael Howard and Peter Paret [Princeton, N.J.: Princeton Univ. Press, 1984], pp. 88–89). An example of a strategic argument pivoting on a "what kind of war" issue is Stephen Biddle, "Seeing Baghdad, Thinking Saigon," *Foreign Affairs* 85, no. 2 (March/April 2006), pp. 2–14.

26. For precisely this reason, the center of gravity of much insightful strategic analysis lies in empirical work "upstream" of the kinds of game-theoretically motivated calculations widely associated with "thinking like a

strategist." For example, shrewd social observation underlies Eccles's sharp-edged role-playing exercise in strategy in Eccles, "Allied Staffs," p. 867—beginning, "As a Russian, I would attempt . . ." In this kind of analytic work there remains room for more sophisticated blending of mathematical and empirical analytic capabilities (possibly drawing on some types of social network analysis).

27. See Eccles, *Military Concepts and Philosophy,* p. 201. For a larger context see Lyman B. Kirkpatrick, Jr., "Eccles on Strategy," *Naval War College Review* 30, no. 1 (Summer 1977), pp. 10–17.

28. See Martin Shubik, *A Game-Theoretic Approach to Political Economy* (Cambridge, Mass.: MIT Press, 1984), pp. 643–53. A further relevant direction of analytic work stems from "garbage can" interpretations of organizational choice. See, e.g., James G. March and Roger Weissinger-Baylon, eds., *Ambiguity and Command: Organizational Perspectives on Military Decision Making* (Marshfield, Mass.: Pitman, 1986).

29. On the Vietnam War case see Eccles, "The Vietnam Hurricane," *Shipmate* 36, no. 7 (July–August 1973), pp. 23–26.

30. The potential value of multiple "probes" into the principles of strategy finds support in Rear Adm. J. C. Wylie, USN, *Military Strategy: A General Theory of Power Control* (New Brunswick, N.J.: Rutgers Univ. Press, 1967), a work also influenced by Rosinski. An enlarged set of "probes" (seven, not three)—combining strands of Eccles's and Wylie's work, along with that of other modern strategic theorists like Capt. Sir Basil H. Liddell Hart (1895–1970)—is contained in a longer, unpublished version of the present article.

31. See Eccles's major 1945 report—rich in concrete examples—to Commander, Service Force, U.S. Pacific Fleet, "The Establishment of Advanced Naval Bases in the Central Pacific Area, as Seen by the Advanced Base Section, Service Force, U.S. Pacific Fleet," 10 December 1945 (EP 85.2–4; EP 85.3 copy is further identified as "Collateral Reading for Correspondence Course in Logistics," Department of Correspondence Courses, U.S. Naval War College).

32. Already apparent in Eccles's 1947 lecture, "Basic Elements and Aspects of Logistics," the distinctively multilevel nature of logistics as a military concept is further developed in his "Logistics: What Is It?" U.S. Naval Institute *Proceedings* 79, no. 6 (June 1953), pp. 645–53 (perhaps Eccles's best-known published paper). For a full-scale, book-length development, see Eccles's *Logistics in the National Defense.* A Russian perspective on Eccles's work may be found in a 1963 "pirated" Russian translation of this book containing a detailed analytical preface by a Soviet Navy rear admiral, V. I. Andreyev (a preface in turn translated into English by the Office of Naval Intelligence [EP 11.24]). See EP 64.5 for translated copy.

33. Illustrating continuing analytic challenges, see David Moore and Peter D. Antill, "Focused Logistics: Holy Grail or Poisoned Chalice?" *RUSI Journal* 144, no. 5 (October 1999), pp. 28–33, itemizing eight potential advantages and ten potential disadvantages of this concept (also alluding, in a context of disadvantages, to Wylie's theme that "the ultimate tool of control in war is the man on the scene with a gun" [*Military Strategy,* p. 87]).

34. The more compact of the two definitions here is derived from *Pure Logistics,* a pioneering work of Lt. Col. Cyrus Thorpe, USMC, first published in 1917 and later "rediscovered" and brought to the attention of U.S. military circles by Eccles. The slightly lengthier definition crystallized somewhat later but is thereafter used with high consistency in Eccles's work—paralleling in this regard his similarly consistent usage of the term "strategy."

35. Historical analysis of "dynamics of logistics" is the focus of two unpublished manuscripts by Eccles providing some seventy-five pages of commentary on volumes 1 and 2, respectively, of Ruppenthal, *Logistical Support of the Armies* (see EP 45.4 and 46.4). A highly condensed version of his commentary on volume 1 appeared in book-review form in U.S. Naval Institute *Proceedings* 80, no. 7 (July 1954), pp. 813–14. That on volume 2 appeared in two distinct condensed forms: one book review cited in note 16 above, another in U.S. Naval Institute *Proceedings* 86, no. 5 (May 1960), pp. 108–11. Dynamic systems aspects of logistics are further documented in James

A. Huston, *The Sinews of War: Army Logistics, 1775–1953* (Washington, D.C.: Office of the Chief of Military History, U.S. Army, 1966). This work specifically credits Eccles's pioneering analysis of the logistics snowball principle (see p. 659).

36. For military analysis quoting work of Nobel economist Kenneth J. Arrow on trust in a social sense, see Donald Chisholm, "Negotiated Joint Command Relationships: Korean War Amphibious Operations, 1950," *Naval War College Review* 53, no. 2 (Spring 2000), pp. 65–124. Related emphases permeated Eccles's thinking in the 1940s and '50s about many logistics problems. See, e.g., Eccles's discussion of "unnecessary followup" (in context of the requisition system in naval supply depots) in *Logistics in the National Defense,* pp. 187–89. In one of his reviews of Ruppenthal's volume 2, cited in note 35, Eccles writes of the need for "mutual confidence between superior and subordinate," in whose absence the logistics "pendulum can make wide swings between acute shortage, true privation, and reckless overestimates and wastage" (p. 109). Beyond the social trust theme alone, Eccles's analytical work starting in the 1940s allocates substantial attention to "logistic psychology." This topic is approached not merely as a technical area but also as a province of command—epitomized by the struggle to integrate conflicting demands of strategy, logistics, and tactics in the mind of command.

37. Expanding on a related analytical point, Eccles (*Military Power in a Free Society,* p. 63) says: "The word 'logistics' can disappear from all organizational titles and directives, from all curricula, and, in fact, from the military vocabulary itself without in any way influencing the nature of war, the nature of the problem of war, or the problems of command and command decision. The forces of 'military economics' will continue to work regardless of the words and titles used to describe them."

38. Although space does not permit elaboration here, this principle harmonizes with the classic concept of the "indirect approach" to strategy formulated by Capt. Sir Basil H. Liddell Hart (who corresponded with Eccles from the early 1950s until shortly before Liddell Hart's death in 1970).

39. See Eccles, "Pacific Logistics" (presentation, Naval War College, Newport, R.I., 30 March 1946 [delivered while Eccles was serving in Washington as a member of the Joint Operations Review Board]) (EP 30.18). Text of this presentation, along with other analytic writings by Eccles, is cited by Samuel E. Morison, *History of United States Naval Operations in World War II,* vol. 7, *Aleutians, Gilberts and Marshalls, June 1942–April 1944* (Boston: Little, Brown, 1951), p. 100.

40. On 16 February 1991 there was a Scud missile impact in the immediate vicinity of an ammunition-laden pier at Al Jubayl. Importantly, a postwar evaluation observes that "initially, this event received a considerable amount of attention. *However, the initial surge of interest diminished over time* because no personnel injuries and no equipment damage occurred as a result of the missile's impact" [emphasis supplied]. See "Case Narrative: Al Jubayl, Saudi Arabia," Final Report, Special Assistant to the Under Secretary of Defense (Personnel and Readiness) for Gulf War Illnesses, Medical Readiness, and Military Deployments, U.S. Defense Dept., 25 October 2001, available at www.gulflink.osd.mil/al_jub_iii/. Compare historian Alfred W. Crosby's "An Inquiry into the Peculiarities of Human Memory," chap. 15 in *America's Forgotten Pandemic: The Influenza of 1918* (Cambridge, U.K.: Cambridge Univ. Press, 1989), pp. 311–28. Crosby forcefully stresses the puzzling fact that this pandemic was so quickly largely forgotten and had little impact on most organizations and institutions (p. 323). If such collective forgetting could occur in the case of a pandemic that (by Crosby's estimate) in ten months killed more Americans than the "combined battle deaths of personnel of the United States Armed Forces in World War I, World War II, and the Korean and Vietnamese conflicts" (and may have sickened 40 percent of U.S. Navy personnel in 1918), it is reasonable to wonder about the durability in collective memory of lessons in logistics war.

41. Perhaps especially with the fading of World War II memories, it may be easy for American decision makers to become overconfident about the immunity of the superb U.S. logistics capabilities with which they are so familiar. Consider, e.g., David Greenberg,

"Just-in-Time Inventory System Proves Vulnerable to Labor Strife," *Los Angeles Business Journal,* 7 October 2002, p. 13.

42. See Eccles, "Logistics in a Future War" (seminar lecture for Naval Reserve Officers, Third Naval District, U.S. Navy Receiving Station, Brooklyn, N.Y., 18 January 1949 [from which the words quoted in the main text are drawn]) (EP 31.2). See also Eccles's statement, again with an eye to future war, in *Operational Naval Logistics* (p. 151): "Sabotage, in the past never more than a nuisance, may well be serious."

43. Amplifying relevant challenges, Eccles wrote: "*Economic* capabilities limit the combat forces which can be *created.* At the same time, *logistic* capabilities limit the forces which can be *employed* in combat operations" (*Logistics in the National Defense,* p. 41 [emphasis in original]). These two kinds of limitations are clearly intertwined, but they are conceptually distinguishable. Together, they form background to a statement of Robert B. Carney (then vice admiral, USN, and future Chief of Naval Operations): "There you have the meat of the matter: Logistics actually control the Nation's foreign policy by reason of the limiting effect of the Nation's potential in resources." Address to the Naval War College, 12 July 1947, quoted in Eccles, *Operational Naval Logistics,* p. 1.

44. The importance and sheer complexity of never-ending struggles by commanders to exert control over their own logistics is a major theme throughout Eccles's writings. His "logistics snowball" insight emerged as a generalization from logistics experience in World War II in the Pacific, which Eccles knew in great depth. Factors underlying the growth of the snowball are analyzed in his *Logistics in the National Defense,* pp. 102–14. A useful picture of how things have been working quite recently comes from Col. Bradley E. Smith, USA, "The Mandate to Revolutionize Military Logistics," *Air & Space Power Journal* 21, no. 2 (Summer 2007), p. 91: "As *Federal Times* reported on the initial tip of the iceberg, 'During the first month of major combat operations in Iraq two years ago, the Defense Department lost track of $1.2 billion in materials shipped to the Army, encountered hundreds of backlogged shipments, and ran up millions of dollars in fees to lease or replace storage containers because of backlogged or lost shipments.'" See also p. 93 of Colonel Smith's article: "Currently in Iraq, millions of dollars in penalty costs are assessed each month for a multitude of reasons, many of which can be traced back to a fundamental difference of opinion between strategic-level logisticians and tactical-level combat commanders concerning the use of containers. (At the national level, logisticians were leasing and procuring containers as if they were transportation commodities to be quickly returned from Iraq. But tactical-unit commanders did as they always have in combat and held on to containers to be used for mobile storage, bunkers, security walls, and work space.)"

45. Many of the basic problem areas identified by Colonel Smith's 2007 article are reminiscent of problems analyzed forty years earlier by Maj. (later Maj. Gen.) Graham W. Rider, USAF, "Logistics: The Bridge," *Air University Review* 19, no. 1 (November–December 1967), pp. 93–97, whose title is from Eccles's 1959 book. Those problem areas include bureaucracy doing its thing in ways that fail to harmonize logistics efforts across strategic, operational, and tactical levels, a somewhat confused organizational structure, and above all a vital unmet need to integrate information better, all set against a backdrop of failures to apply what we already know—itself a key challenge for logistics education.

46. Working in a supply- and repair-centered context, a pair of RAND Corporation analysts clarify why the quest for improved formulations of basic logistics principles should never cease: While Marine Corps initiatives propose "to reduce the 'iron mountain' using information technology, *some part of that mountain will always remain. . . . Indeed, the smaller the mountain, the more critical it will be to manage it effectively.*" See Ronald D. Fricker, Jr., and Marc L. Robbins, *Retooling for the Logistics Revolution: Designing Marine Corps Inventories to Support the Warfighter* (Santa Monica, Calif.: RAND, 2000), p. xvii [emphasis supplied]. For a classic statement of Eccles's insights into basic logistics principles, see his *Logistics in the National Defense.* Because many of the ideas there reflect Eccles's distinctively integrative, multidisciplinary, logistics background from his

Pacific War experience, Eccles's ideas merit careful study in contexts ranging beyond supply—and perhaps even beyond traditionally recognized logistics functions altogether.

47. Structural forces—many of them essentially bureaucratic—underlying such tendency to diffuseness are analyzed in Eccles, "Logistics," pp. 650–51.

48. A terse, forceful analysis appears in Eccles, "Some Logistics Concepts," *Logistics Spectrum* 11, no. 1 (Spring 1977), pp. 5–8. This paper—importantly anchored in the U.S. logistics experience in Vietnam—was reprinted under the title "How Logistics Systems Behave," *Logistics Spectrum* 16, no. 2 (Summer 1982), pp. 31–34. Eccles's analytical contributions in support of the U.S. naval logistics effort in Vietnam are positively noted by Vice Adm. Edwin Bickford Hooper, USN (Ret.), *Mobility, Support, Endurance: A Story of Naval Operational Logistics in the Vietnam War, 1965–1968* (Washington, D.C.: Naval History Division, U.S. Navy Dept., 1972), p. viii.

49. Text of this 29 September 2008 speech by the secretary of defense is available at www.defenselink.mil/speeches/.

50. Eccles, "Logistics and Strategy" (cited in note 3 above), p. 25; Eccles, *Command Logistics,* p. 8.

51. See, e.g., Eccles, *Military Concepts and Philosophy,* p. 48.

52. An example of a challenging problem of self-control—involving the inner circle of high command at the height of a major crisis—is the case, during the 1962 Cuban missile crisis, of the Executive Committee, whose fifteen members sought to preserve the secrecy of key impending U.S. strategic steps by, for example, keeping "routine appointments where possible." See Theodore C. Sorensen, *Kennedy* (New York: Harper and Row, 1965), p. 698.

53. For an illustration of strategic thinking aiming to look more than a human generation ahead—the context being an estimate of how long communism was likely to survive before, in Eccles's words, "failing under its own faults"—see Eccles, "The World Outlook of Communism (a Comparison between Communist Philosophy and American Philosophy)" (seminar lecture for Naval Reserve Officers, Third Naval District, U.S. Navy Receiving Station, Brooklyn, 19 October 1948) (EP 29.2). Counting in slightly different units, it is said of Bismarck that he thought in terms of the war after next.

54. A related acronym in current circulation is DIME ("diplomacy, information, military, and economics"). One pitfall with any such acronym, of course, is that it may encourage thinking to stop with the received categories. Such a stopping rule may work at some lower levels of action but not in true grand strategy—where opportunities may arise from being early to recognize and exploit some coherent, perhaps emerging, set of tools that is not "one to one" with any of the given categories and may in important respects scramble them. (It is also worth noting that an online source, Acronymfinder.com, last visited 11 October 2008, identifies no fewer than fourteen other meanings of "DIME"—some slightly different from that just given, others very different.)

55. In the background stands the timeless challenge of achieving genuine integration of planning and decision processes. This is a problem, having both specifically military and wider strategic facets, where Eccles's strategic thinking provides much valuable insight, building in part on his Joint Operations Review Board background mentioned in note 39; his 1951–52 role, in a challenging period early in NATO's history, as Assistant Chief of Staff, Logistics, for Commander, Allied Forces Southern Europe (CINCSOUTH); plus relevant analytical work (see, e.g., Eccles, *Logistics in the National Defense,* pp. 79–101).

56. Well after the events of 9/11, a basic related problem—one whose impact permeates the U.S. defense establishment from a grand-strategic down to a tactical level—remains continuing insufficiency of personnel with appropriate capabilities in critical languages. See, e.g., Will Bardenwerper, "For Military, Slow Progress in Foreign Language Push: Struggle Persists over a Training Objective," *New York Times,* 22 September 2008, p. A20.

57. Note a French army officer's well informed account, based on his command experience as a junior officer in France's Algerian war, of two contrasting mentalities in counterinsurgency warfare—whose exemplars he terms "warriors" and "psychologists." See David

Galula, *Pacification in Algeria, 1956–1958,* with new foreword by Bruce Hoffman (Santa Monica, Calif.: RAND, 2006), pp. 64–68. To the extent that doctrine can help bridge diverse mentalities, one idea—inspired in part by work with the Eccles Papers, in part by recent advances in network analysis—is "seeding" carefully chosen imaginative cross-references to connect doctrine statements whose subject matters would usually be regarded as unrelated or largely so. The goal of doing so would be to help encourage disciplined but creative intellectual cross-fertilization and analogical thinking.

58. A particularly forceful—in part because it is so very terse—comment by Eccles directed against weapon strategy stands the test of time so well as to merit quotation here: "A great danger lies in the possible domination of strategy by weapons rather than by national objectives. National objectives ultimately are developed by the aspirations, character, and sense of values of the people, not by a technological triumph.

    "If one becomes committed to a strategy which is based on a weapon rather than upon national objectives, a sense of frustration is bound to ensue. *Frustration frequently leads men of high spirit to commit acts of reckless irresponsibility*" (Eccles, "The Great Debate," U.S. Naval Institute *Proceedings* 80, no. 7 [July 1954], p. 809, [emphasis supplied]). The context for these words was, of course, nuclear weapons and strategic airpower; the substance could extend to other weapons systems—or to systems or capabilities of other kinds, civilian as well as military.

59. Certain relevant military possibilities, importantly including possibilities of algorithm sabotage suggested by a (nonsabotage) naval warfare example from the 1982 Falklands War, are analyzed in Scott A. Boorman and Paul R. Levitt, "Deadly Bugs," *Chicago Tribune Magazine,* 3 May 1987, p. 19ff. See also Scott A. Boorman and Paul R. Levitt, "Software Warfare and Algorithm Sabotage," *Signal* 42, no. 9 (May 1988), p. 75ff.

60. See Tami Davis Biddle, *Rhetoric and Reality in Air Warfare: The Evolution of British and American Ideas about Strategic Bombing, 1914–1945* (Princeton, N.J.: Princeton Univ. Press, 2002), especially the discussion of the "industrial fabric theory" on pp. 163, 296–97.

61. In fact, al-Qa'ida "strategy" invites thorough critical analysis along related lines. A key (if perhaps long-term) limitation, and possibly exploitable vulnerability, of al-Qa'ida may grow out of its apparent basic preoccupation with strategy-as-destruction rather than strategy-as-control.

62. Illustrating some of the intellectual possibilities, Karl W. Deutsch noted ancient Parthian modes of warfare involving attacks directed "at first not so much against the principal material resources but rather against the decision-making capacity" of an adversary. See *Nerves of Government,* pp. 62, 274–75; Eccles, "Strategy: The Essence of Professionalism," *Naval War College Review* 24, no. 4 (December 1971), p. 50.

63. See Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, Mass.: Harvard Univ. Press, 1960), p. 36ff., and his *Arms and Influence* (New Haven, Conn.: Yale Univ. Press, 1966), p. 35–91.

64. See Morison, *Aleutians, Gilberts and Marshalls, June 1942–April 1944,* pp. 100–13. Still an important source, by virtue of its author's key pioneering role in wartime creation of a mobile logistics support capability, is Rear Adm. Worrall R. Carter, USN (Ret.), *Beans, Bullets, and Black Oil* (Washington, D.C.: U.S. Government Printing Office, 1953).

65. Consider Mao Zedong as strategist of revolution versus the Mao who later led the People's Republic of China into the Great Leap Forward and the Cultural Revolution.

66. The relevant spirit of strategy/logistics synthesis is captured by former Chief of Naval Operations (CNO) Adm. Robert B. Carney, USN (Ret.): "Some General Observations and Experiences in Logistics," *Naval Research Logistics Quarterly* 3, nos. 1 and 2 (March–June 1956), pp. 1–9 (building in part on Carney's World War II background as Adm. William Halsey's chief of staff, plus his postwar role as Deputy CNO for Logistics).

67. A good set of approaches to all three tasks should be crafted to meet the needs of both *strategic planners* and *strategic analysts*—two different roles that are often confused. The crux of the difference is clarified by Eccles, *Military Concepts and Philosophy,* p. 44: "A strategic analyst can contribute greatly to the

understanding of strategy without necessarily being qualified to originate and develop a specific national or military strategy. On the other hand, there have been excellent strategists who have not made major contributions to the historical or theoretical analysis of strategy. For example, the maxims of Napoleon were gleaned from his notes and letters, while Admiral Spruance has never written any comprehensive statement of his own concepts of strategy."

68. The spirit of a counterpart in strategic studies to the "endless frontier" of science concept of Vannevar Bush is captured by an unpublished Eccles document, "Control of the Sea": "No single person can ever say everything about control of the sea nor should we expect agreement in all that is said by competent authority. Nevertheless, from time to time deep thinkers will express their thoughts on fundamental truths with such insight and clarity that their words should be carefully preserved and repeatedly referred to. A specific example of this is contained in Admiral Spruance's discussion of control of the sea. The excellent expressions of fundamental truth should not be considered as a rigid and final formulation but rather as a sound basis upon which men can establish their own line of thinking and ideas. The development of further ideas on this basis is important and many novel interpretations and expressions can be usefully developed. However, the search for novelty and fresh formulations should not go on without periodic reference back to the classic thought." A copy bearing the dates 25 October 1956 and 14 December 1965 is in EP 82.23 in the Eccles Papers.

BOOK REVIEWS

THE AFFAIRS OF THE AMERICAS

Reid, Michael. *Forgotten Continent: The Battle for Latin America's Soul.* New Haven, Conn.: Yale Univ. Press, 2007. 384pp. $30

Anyone taking up duties related to Latin America or otherwise wishing to understand current realities in the region should read Michael Reid's assessment of contemporary Latin America. Editor of the Americas section of *The Economist,* Reid has lived or traveled in Latin America since 1982 and credits his Peruvian wife for important insights in this volume. Writing with the clarity and color of an accomplished journalist, Reid has produced a book that is sophisticated enough to satisfy a specialist on Latin America but accessible and comprehensible to a neophyte in the subject.

The subtitle refers to the tension between populist politicians with statist agendas, like Venezuela's Hugo Chávez, and the liberal democracies that have undertaken market-oriented reforms in the past two decades. Not bound by this dichotomy, Reid engagingly presents the full complexity of Latin America, where politics, economics, ethnicity, and history create a mixture in which simple explanations and facile prescriptions fall short. While not a policy manual per se, the book reinforces the view of policy makers who favor a multidisciplinary approach.

Reid notes that "the region has been relatively free of the interstate conflicts that have dogged so many other parts of the world" and suggests that as one reason why "for much of Latin America's history, regional integration was not a priority," unlike Europe during the Cold War. Perceived security threats also help explain U.S. attitudes toward the region. Reid observes that "while in the past they had condemned *Yanqui* interventionism, many Latin American politicians came to lament what they saw as a lack of U.S. engagement with the region"—thus the title *Forgotten Continent.* In fact, U.S. attention to the region usually has peaked when Americans have felt a security threat, whether it was the European involvement that prompted the United States to adopt the Monroe Doctrine or more recent fears of the spread of the Cuban revolution or Sandinista insurgency. The war on drugs has also driven U.S. interest and policy in Latin America, to the annoyance of those who live there. The current paucity of serious state-to-state

military threats does give Latin American countries the advantage of not having to devote hefty resources to external defense, unlike much of the rest of the world.

Why then has Latin America not done better economically? Reid provides good answers. Latin American countries have prospered recently by meeting rapidly rising global demand for foodstuffs and raw materials, and a tenfold increase in the price of petroleum enabled Hugo Chávez to expand his influence abroad and fuel his authoritarian tendencies at home. However, now that contractions in global demand have reduced the price of oil by two-thirds from its high, Chávez may find his wings trimmed.

Whatever the economic future, Latin Americans will continue to debate how best to organize their affairs, and Michael Reid's expert analysis will help outsiders understand the issues.

PAUL TAYLOR
Naval War College

Percival, Bronson. *The Dragon Looks South: China and Southeast Asia in the New Century*. Westport, Conn.: Praeger, 2007. 200pp. $31.25

Bronson Percival has written a compelling book that is a must-read for any student or practitioner of national security in Southeast Asia. His work, unlike that of many others on the same subject, strives to understand the China–Southeast Asia relationship from an Asian perspective. As a career diplomat with extensive experience in Southeast Asia, he explains the key nuances that characterize the complex and iterative nature of China's security relationships with its southern neighbors. Unlike the United States, which considers the ten countries that constitute Southeast Asia as a homogeneous group, China has shown a deeper understanding of the "extremely complex" nature of the region, reflected by its varied approaches to each country in Southeast Asia. As a consequence, China appears to be steadily achieving its security goals, while the United States has been less successful in realizing its own objectives.

Percival approaches his subject starting with a historical overview of Chinese strategic goals in Southeast Asia and the policies they have used to achieve them. He argues convincingly that, in pursuit of its strategic aims, China has demonstrated a better appreciation of those that comprise the maritime countries of Southeast Asia.

In one of the most important chapters of his work, "How to Think about China and Southeast Asia," the author dispels some of the more disingenuous analytical approaches that have been used to explain the security dynamics in East Asia. Key among them has been the realist perspective founded on power relationships that assumes the countries in Southeast Asia at some future point will need to choose between China and the United States. He argues that this perception is wholly unsuited given the "asymmetry" of power and influence each country brings to the table. In his view, traditional notions about what constitutes power and influence in Southeast Asia are much more nuanced than many U.S. security analysts have appreciated. His comprehensive analyses of "soft power" and its role in Chinese relations with Southeast Asia are especially compelling. Significantly, the author contends that China's power

and influence in Southeast Asia are not predicated upon military or economic prowess but rather on its "restraint in requesting adjustments in Southeast Asian policy," and its support to existing ruling regimes that often come under intense pressure from the United States. Finally, Percival argues U.S. credibility problems in Southeast Asia arise from American "reluctance" to commit to a set of priorities and an unwillingness to devote the resources needed to achieve America's strategic goals. As a result, U.S. policy has fallen victim to competing constituencies in the United States, which results in an ad hoc decision-making process that poorly matches means to desired ends.

The Dragon Looks South provides a clear and succinct analysis of complex issues and relationships that exist in a strategically critical region for both China and the United States. As such, it is a must-read for anyone wanting to gain a better appreciation of the issues that confront American security policy in Southeast Asia.

RON RATCLIFF
Naval War College

Flanagan, Stephen J., and James A. Schear, eds. *Strategic Challenges: America's Global Security Agenda.* Washington, D.C.: National Defense Univ. Press, 2008. 415pp. $35

From time to time it is extremely useful for senior military and political leaders to take stock of the international landscape, rise above the incessant demands of the day, and think about where the currents of change are bearing their ships of state. This book takes a hard look at seven distinct security challenges with which U.S. leaders can reasonably be expected to wrestle in the future.

In many ways, *Strategic Challenges* is exactly the sort of solid work that one expects scholars associated with the National Defense University (NDU) and the Institute for National Strategic Studies (INSS) to produce. Its genesis was a two-year study of the international environment undertaken by NDU in response to a tasking from the chairman of the Joint Chiefs of Staff. This is a thoughtful work, well organized, well written, and well supported by cogent analysis. In short, *Strategic Challenges* is a gateway book that both illuminates important security issues and at the same time leaves the reader wanting to explore some of its topics in greater depth.

Strategic Challenges opens with an overview of the emerging global security environment, dedicating subsequent chapters to the issues of dealing with global terrorism, combating the threat of weapons of mass destruction, protecting the American homeland, defusing conflicts in unstable regions, engaging other major powers, and adapting alliances and partnerships. The final two chapters examine how the United States might transform its defense strategy and posture and secure its future. Each chapter makes a worthwhile contribution to the total volume; the chapters on "engaging other major powers" and "transforming defense strategy and posture" are particularly good. Indeed, the latter chapter provides an excellent thumbnail review of the history of transformation in the George W. Bush administration and the evolution of capabilities-based planning.

If there is a drawback to *Strategic Challenges,* it is that for all its high-caliber writing, the challenges it evokes seem oddly comfortable and familiar. This is not to imply they are not valid but rather there is widespread agreement that these are issues that will task future U.S. presidents. It would have been illuminating if the authors had taken a deeper look at more unusual challenges, such as the growth of feral cities, the ability of the international community to respond to pandemics, the security implications of global warming, and the impact of clearly established demographic trends. Some of these issues are mentioned, and others are actually examined to some degree, but a deeper look at each would have been welcome.

Strategic Challenges would seem destined to become required reading for students in the security studies field. It is suited for both the undergraduate and graduate level as well as lay readers looking to gain an overview of security threats in a minimum amount of time.

RICHARD NORTON
Naval War College

Lieber, Keir. *War and the Engineers: The Primacy of Politics over Technology.* Ithaca, N.Y.: Cornell Univ. Press, 2008. 226pp. $21

Keir Lieber, a recent graduate of the Political Science Department at the University of Chicago, is presently an assistant professor and faculty fellow at the University of Notre Dame. This is Lieber's first book.

One of the first books to examine and criticize directly the current political science analysis on "offense-defense theory," this work is an analysis of the debate as well as a well crafted refutation of the theory as a whole. The title, however, could have been a better fit with the content—this is not a book about war itself, or about engineers.

In the introduction Lieber outlines the foundations of current theory. Offense-defense theory, broadly, states that war and peace are dependent on technology and perceived power. If a country has offensive capabilities, it will attack and expand, overthrowing the status quo. When defense predominates (ideologically, technologically, or otherwise), cooperation and peace are more likely. Lieber questions this theory. To refute it, in later chapters he considers both *military outcomes* and *political outcomes* (italics original) in specific case studies. By analyzing offense-defense theory using its own vocabulary and definitions, he is able to deconstruct it persuasively. Using two case studies on "offensive" mobility (trains in the wars of German unification and tanks in World War I), and two on the evolution of "defensive" firepower (small arms in World War I and the "nuclear revolution"), Lieber turns the theory against itself. He effectively argues that neither offensive nor defensive capabilities pushed or prevented war during the periods in question.

In his conclusion Lieber offers an alternative argument, "technological opportunism," with just enough information to lead readers to look forward to his next project.

Lieber's use of sources, both primary and secondary, is extensive, and his bibliography provides a wealth of information. His book is well written, well argued, and concise. However, it is sure to cause controversy, outlining as it does both the offense-defense theory as

well as Lieber's refutation of it. This work is the latest in the debate within political science circles on the causes of war. I highly recommend this book to historians, political scientists, military officers, and analysts, who should all be familiar with offense-defense theory and objections to it.

S. MIKE PAVELEC
Naval War College

Scheuer, Michael. *Marching toward Hell: America and Islam after Iraq.* New York: Free Press, 2008. 364pp. $27

Former CIA analyst Michael Scheuer offers an assessment of the war on terror, providing in varying proportions the history, an estimate of the global situation, recommended tactics, and a polemic against what he believes has both provoked al-Qa'ida and impaired Washington's ability to fight it successfully. Scheuer was chief and then special adviser to the chief of the CIA's Bin Laden unit from 1996 to 2004.

Scheuer's core argument is twofold. First, he argues that al-Qa'ida's attacks America because of U.S. foreign policies in the Islamic world, and not because of any objection to the nature of American society. In Scheuer's estimate, while jihadists do have contempt for American values, it is only Washington's interference in Muslim lands that motivates them to target Americans and their allies. Second, he argues that this misunderstanding has led Washington to underestimate them and thus remain superficial in its responses.

Scheuer is fairly convincing in his first argument, primarily using statements by al-Qa'ida leaders to illustrate how they focus attention on U.S. policies and how they use sophisticated strategies to attack (or spare from attack) other Western nationals in proportion to their support for those policies.

However, he also shows how ineffective the U.S. response has been toward these attacks, arguing that the central premise of American strategy in the Muslim world is flawed. That is, whether or not America is a prosperous, free, tolerant, and generous country is beside the point; many Muslims may agree and yet still believe that America deserves punishment for its policies. He then delivers stinging critiques of other U.S. policies since 9/11—for example, deploying too few troops to Afghanistan and deposing a natural ally against al-Qa'ida, Saddam Hussein.

Some of his critiques are less convincing than others. It is frustrating that the author does not critically evaluate the veracity of al-Qa'ida's accusations against the United States or logically explain how U.S. policy failures flow directly from its failure to comprehend al-Qa'ida's true motives. The book is also riddled with run-on sentences and strings of four-or-more-words-connected-by-hyphens, which better editing could have reduced.

The value of the book for the national security community is its identification of eight future hot spots in the global war on terrorism. Scheuer identifies one of these regions, the northern Caucasus, as particularly dangerous and well positioned to provide al-Qa'ida with nuclear weapons.

Because the book's virtues, insights, and provocative ideas are mixed with logical gaps and woeful underdevelopment, this reviewer cannot give it his

unqualified endorsement. If you read only one book on the global war on terrorism, do not make it this one. If, however, you read several books on the subject or your job involves long-term planning for the war on terror, this work is certainly worth a look, as it will make you aware of many of the mind sets and biases that shape government rhetoric and conventional commentary on terrorism and national security.

ROBERT HARRIS
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Cull, Nicholas J. *The Cold War and the United States Information Agency: American Propaganda and Public Diplomacy, 1945–1989.* New York: Cambridge Univ. Press, 2008. 533pp. $125

Public diplomacy today is a topic of global conversation. Books on the "new public diplomacy" of state and nonstate actors appear with increasing frequency. Memoirs by practitioners and monographs on cultural diplomacy and international broadcasting abound. Until now, however, there has been no in-depth scholarly treatment of the U.S. Information Agency (USIA), the government organization primarily responsible for America's international information, broadcasting, and educational and cultural exchange activities during the Cold War.

Nicholas Cull, a historian who teaches public diplomacy at the University of Southern California's Annenberg School for Communication, provides this much-needed scholarship, with a well written account grounded in twelve years of archival research and more than a hundred interviews with practitioners. Beginning with the development of information and cultural programs during World War II, Cull's narrative, organized in chapters on presidential administrations and USIA directors, deals principally with the decades between USIA's creation in 1953 and the end of the Cold War in 1989. He concludes with a brief epilogue on USIA's final decade, years that saw consolidation of U.S. international broadcasting services under the independent Broadcasting Board of Governors and the transfer of USIA's information, exchange, and foreign-opinion-research programs to the Department of State in 1999.

Cull assesses with remarkable evenhandedness the priorities, decisions, and organizational struggles of political leaders and USIA's practitioners. There is no ideological tilt in his examination of sharply contested approaches to winning the Cold War struggle for "hearts and minds." The book is not a lament for USIA's demise or a call for its restoration. Cull brings a scholar's discipline, a wealth of empirical evidence, and arm's-length perspective to his analysis. Nevertheless, Cull does have strong opinions. He renders critical judgments on USIA's successes and failures. In so doing, he frequently prefers to show rather than tell.

On foreign-policy issues and USIA's domestic political context, Cull's account is strong on the McCarthy era, the Soviet launch of Sputnik, the civil rights movement, and the Vietnam War. He provides insights into USIA's marginal role as an adviser to the president, State Department, and National Security Council on implications of foreign public opinion in policy formulation and communication. He deals at length with tensions between USIA and

the Voice of America over missions, "firewalls," journalism norms, and organizational independence.

Yet the book has limitations. He problematically conflates the generic and constituent elements of public diplomacy—listening, advocacy, cultural diplomacy, exchange diplomacy, and international broadcasting—in the book's framework of underlying themes. He gives (as he recognizes) disproportionate attention to Washington, USIA's directors, and broadcast media.

The author ends with a brief look at lessons for the future, such as the need to include public diplomacy in foreign-policy planning and for the United States to listen as well as speak. These are valuable insights. But new forces are shaping twenty-first-century diplomacy. Networks challenge hierarchies. Attention—not information—is the scarce resource. Globalism, nonstate actors, a mix of secular and religious "big ideas," digital technologies, and new media are transforming the old order. Cull is sensitive to these forces and to the ways in which they are changing diplomacy. Perhaps one day he will write another book that completes his history of USIA and explores the evolution of public diplomacy in a world that is vastly different from the Cold War. In the meantime, Cull's masterful history will be the gold standard in scholarship on USIA.

BRUCE GREGORY
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Macrakis, Kristie. *Seduced by Secrets: Inside the Stasi's Spy-Tech World.* New York: Cambridge Univ. Press, 2008. 370pp. $28

Michigan State University professor Kristie Macrakis provides an interesting, if somewhat disjointed, look into one part of the former East German Ministry for State Security, the department commonly known as the "Stasi." In its time, the Stasi was one of the most effective intelligence and security organizations on the planet. The book under review provides a look into a key aspect of Stasi operations. Its author, Kristie Macrakis, has written several books on modern Germany and conveys a deep understanding of German thought and attitudes, but her lack of knowledge on intelligence matters unfortunately limits her understanding of her chosen topic. However, the professional who is willing to dig past the discrepancies will find value.

The book is divided into two parts, "High-Tech" and "Spy-Tech." The latter section focuses on "spy technology" and will fascinate the dilettante and inform the professional. It is in this section that Macrakis appears more comfortable and writes with greater confidence and insight. If your favorite James Bond character is Q, you will love this section. Secret writing, spy cameras, and other surveillance gadgets abound.

Unfortunately, the first section is not as well written as the second. It provides valuable information for intelligence and policy professionals, focusing on the Stasi's quest to steal high-technology information and hardware from the West, primarily West Germany. Macrakis describes economic espionage as a major role for the Stasi's foreign-intelligence arm, backed by an extensive organization within the ministry and throughout the East German state. However, an inadequate understanding

of intelligence prevents her from presenting real insights, which readers must find for themselves. Still, the depth of the author's research and her superior understanding of the German psyche are definite enablers for an astute reader.

On the basis of extensive archival research as well as interviews with former officers, the author describes how the Stasi succeeded in stealing technical plans, equipment, and software. Attempting to gain an economic edge on the West, East Germans spent thousands of marks to steal millions of marks' worth of technology. Macrakis also describes the ultimate futility of this effort: East Germany could not incorporate the technology faster than the West could innovate and thus lagged farther and farther behind. Stealing technology is relatively simple, but incorporating that technology and making it an effective part of a national economy is not.

Another major challenge for the Stasi was Western technology-control regimes. While imperfect and implemented long after the Stasi had begun its operations, these regimes significantly increased the effort required. Eventually, the cost of stealing and the inability of East Germany to integrate what it took doomed the Stasi's efforts to failure.

Contemporary critics of current technology-control regimes should note that many nations have learned from the Stasi's mistakes and now make the transfer of "know-how" a key element of their technological-industrial-economic espionage programs. Those charged with enforcing technology-transfer laws can also learn lessons from this work.

JOHN R. ARPIN
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Winkler, Jonathan Reed. *Nexus: Strategic Communications and American Security in World War I.* New York: Harvard Univ. Press, 2008. 358pp. $55

In March 1921, the U.S. subchaser *SC-154* fired on a cable ship attempting to land a transoceanic cable near Miami, Florida. The cable to South America would have been operated under foreign control. While the ship was undamaged, the cable never reached land. The lessons of World War I had left the United States willing to use force rather than allow a new foreign-controlled communications link to North America. In his excellent study, Jonathan Winkler recalls these episodes, describing the international and naval communications structures of the era, their influence on the war, and America's recognition of its dependence on foreign communications systems. The Navy, with a cadre of technical experts and the need to command and control a worldwide fleet, played a central role in shaping a U.S. communications policy intended to reduce these vulnerabilities.

The years before World War I represent the start of our networked world. Trade, overseas news, colonial administration and the coordination of far-flung military forces all became dependent on a web of undersea communications cables, supplemented by a limited number of long-range radio stations. Understanding this dependence, both Great Britain and Germany entered the war with contingency plans to cut enemy

cables at sea. However, British naval superiority ensured that damage from German attacks could be quickly repaired. Despite later German successes in using submarines to attack undersea cables, geography and infrastructure left Great Britain as the hub of the remaining international communications system. While some of this story will be broadly familiar to readers of Barbara Tuchman's classic study *The Zimmerman Telegram,* Winkler moves well beyond Tuchman's work, describing how Britain's information blockade emerged as a coordinated effort that complemented and reinforced its naval and economic blockades of Germany.

Initially, many in the U.S. government and Navy were sympathetic to British efforts. Even while neutral, the U.S. Navy cooperated, by closing German wireless stations in the United States. However, the British stranglehold on German communications had the effect of leaving the United States dependent on British cables to Europe and Latin America. British monitoring of cable traffic, a valuable source of military intelligence, also yielded commercial information that was used to further British trade—often against U.S. commercial interests. Reliable reporting of news from Germany became impossible, leaving the neutral American press dependent on British reporting of the war. The divergence of American and British interests forced the U.S. Navy's realization that control of communications had become an essential part of control of the seas in the modern age.

In response, several U.S. government agencies moved to build an American cable network, but they were hampered by British control of raw materials. Others turned to emerging technology. Largely through Navy efforts, the United States ended World War I with the largest radio network in the world. However, the lack of a coordinated U.S. strategy and poor interagency coordination ultimately prevented the nation from dominating the international communications system after the war. Winkler asserts that the lessons learned from this failure provided the impetus for American dominance of international communications in years following the Second World War.

This is an excellent book with a compelling story. Winkler deftly handles a complex topic that cuts across issues of naval history, intelligence, economics, and technological change. *Nexus* is well worth the time of any naval officer contemplating the sources of American dependence in a networked age.

DALE C. RIELAGE
Commander, U.S. Navy
Deputy Assistant Chief of Staff for Intelligence, U.S. Seventh Fleet

Kershaw, Ian. *Hitler, The Germans, and the Final Solution*. New Haven, Conn.: Yale Univ. Press, 2008. 394pp. $35

This insightful collection of essays from the leading scholar of the Third Reich is a must-read for any serious student of the Second World War. Kershaw's mastery of the intricacies of the Nazi regime is second to none, and he approaches the historical controversies surrounding its reign of terror in as calm and deliberate a manner as the topic permits. Kershaw's essays cover a variety of topics, but he frequently returns to the questions surrounding Adolf Hitler's direct involvement in implementing the

"Final Solution" and how a nation so seemingly advanced could have carried out such monstrous crimes. The crux of Kershaw's argument is that the führer's "charismatic domination" of the German people through a potent mix of ideological zeal coupled with his great skills in the art of propaganda paved the way for the "Final Solution."

On 30 January 1939, Hitler delivered a lengthy speech in the Reichstag in which he threatened the "annihilation of the Jewish race in Europe" should the Jews "succeed in plunging the nations once more into a world war." As Kershaw notes, Hitler and his underlings would repeatedly cite that "prophecy" over the course of the next three years, as planning for the "Final Solution" intensified. (Interestingly, as the war dragged on, the date of the "prophecy" speech was deliberately altered by the regime in its propaganda broadcasts to 1 September 1939, to link it with the onset of the war.) In 1942 alone, Hitler referred to his "prophecy" in four nationally broadcast radio addresses designed to, as Kershaw puts it, "condition the general population against humanitarian sympathy for the Jews" and, most disturbingly, signal to the regime's insiders Hitler's "knowledge and approval of the genocide."

Kershaw believes that one of the major milestones on the road to a "comprehensive solution" of the "Jewish question" was Hitler's declaration of war against the United States on 11 December 1941. The propaganda minister, Joseph Goebbels, noted in his diary on 13 December that "the Führer is determined to make a clean sweep. . . . The world war is here. The annihilation of the Jews must be the necessary consequence." A little over five weeks later, the infamous Wannsee Conference convened to plan, as *SS-Obergruppenführer* Reinhard Heydrich put it, "the coming final solution of the Jewish question." What had until that point been a localized and somewhat "inefficient" extermination effort was transformed into a Reich-wide, comprehensive genocide. None of this, as Goebbels noted in March 1942, was possible without the führer's presence as the "unswerving champion and spokesman of a radical solution" to the "Jewish question."

Kershaw is to be commended for this collection of essays, which, coupled with a reading of his two-volume biography of Hitler, should be required reading for any serious student of Nazi Germany and the Holocaust. We owe a debt to Kershaw for the unpleasant but essential enterprise of helping future generations grapple with one of the most squalid episodes in the history of mankind.

STEPHEN KNOTT
Naval War College

Blake, John. *Charts of War: The Maps and Charts That Have Informed and Illustrated War at Sea.* London: Conway Maritime, 2006. 160pp. $50

John Blake's book is a masterful short course on the maritime history of Western civilization and chart making as it has evolved through time. It traces the history of sea charts from thirteenth-century portolan wind charts to the diagrammatic charts used to describe pivotal phases of the sea operations during the first Gulf war, in 1991. The sea chart was particularly important to

the maritime countries as they emerged into national states. The objective of this book is to study not war but the development of charts and their use in warfare.

The book is written for the general public, not for the specialist. Although laid out in chronological order, it does not provide an index of the charts, which makes it difficult to locate a specific one. The charts are in a large format, and their reproduction is of high quality; however, it is often necessary to resort to a magnifying glass to see details.

Blake has selected a series of original and printed charts seldom seen by the public; they are highly appealing and are considered secondary art in their own right. Blake states that they were chosen to show "how the chart can illustrate, inform and comment on maritime history." Each has a description that sets it in its historical context, the specific objective for which it was constructed, its originator (when known), and its current location.

There are over 185 charts, maps, and sketches, covering the development of sea charts from the beginning, as well as their design and content, with the overall intent of showing their importance to the planning and execution of sea battles. Very few sea charts, however, have survived that show the actual planning or progress of a sea battle. Most sea charts of war are illustrations of past events.

The selection came from fifteen major archives in the United Kingdom, Europe, and the United States. Blake's research was extensive and goes into great detail. The book covers eight specific areas of chart making: ancient world; the Renaissance; the Spanish and Portuguese empires; seventeenth-century European, American, and Asian wars; American independence; the French Revolution and the Napoleonic Wars; the American Civil War; and modern warfare.

John Blake has written two other excellent books on sea charts. He was an officer in the Royal Navy for seventeen years, with twelve years' active service. In 1996 he and his wife initiated the licensing of maritime cartography in the United Kingdom Hydrographic Office. He was educated at Brighton and Britannia Royal Naval College, Dartmouth, and is a fellow of the Royal Institute of Navigators.

RALPH C. WEISS
Commander, U.S. Navy (Retired)
Newport, Rhode Island

IN MY VIEW

"THE MYTH OF AN ISOLATED SCENARIO"

Sir:

In his "Revisiting Taiwan's Defense Strategy," in the Summer 2008 issue of *Naval War College Review,* Professor William Murray argues that in a complete surprise scenario, the People's Liberation Army (PLA) could launch a long-range precision bombardment to quickly cripple or destroy the Republic of China (ROC) navy and air force; the subsequent invasion and blockade by the PLA could then neutralize the island republic's resistance on the ground and achieve success before the United States could intervene. Accordingly, Murray suggested that Taiwan should not heavily invest in its navy and air force because neither is likely to survive such a surprise attack; rather, it should adopt a "porcupine strategy" and "concentrate on development of a professional standing army armed with mobile, short-range, defensive weapons." He believes that such a policy would enable Taiwan to resist the People's Republic of China's (PRC's) offense for weeks or even months and allow the United States time to deliberate whether intervention is warranted.

The article hinges upon the scenario of a "complete surprise." In reality, however, this scenario is selectively isolated and hardly tenable. First of all, in an envisioned campaign across the Taiwan Strait, the PLA would never base its invasion on guided missiles alone. Before it launches a long-range precision bombardment with its overwhelming guided missiles, the PLA will conduct an access-denial strategy in advance, deploying its numerous submarines between the first and the second island chains so as to prevent the intervention of the U.S. Navy. At the same time, the PLA will assemble a huge number of combat troops of the three services along the southeast coast for subsequent invasion and blockade. At this juncture, the numerous advanced spy and reconnaissance satellites of the United States will come into play and prove themselves. Although the PLA has antisatellite missiles, it is impossible for the PLA to eliminate all such U.S. satellites instantaneously. That is, the deployment of numerous

submarines and the assembly of vast numbers of PLA combat troops will definitely be picked up by the U.S. satellites, which will then provide strategic and tactical warnings to the United States and Taiwan. A Western proverb goes as follows: forewarned is forearmed. Once alerted, the United States and Taiwan will respond accordingly. Consequently, there is no room for a "complete surprise" to occur across the Taiwan Strait realistically. In short, a critical but implicit assumption of the "complete surprise" scenario—the PLA conducts vital deployment without being detected—is untenable at all. This makes the article fundamentally flawed.

The argument that neither the Taiwan navy and air force is likely to survive such a long-range precision bombardment is also seriously flawed. At present, the ROC navy has two operational Dutch-built submarines. If the ROC acquired the additional eight submarines which the Bush administration has promised to sell to Taiwan in 2001, its navy would have altogether ten operational submarines. As prescribed by naval routine, at least three or four submarines would be cruising under the sea. All ten would be ready for combat once the PLA's critical deployment was detected. These submarines cruising under the sea stand the best chance to survive a dozen waves of saturation missiles attack by the PLA and would be immediately ready for lethal revenge attacks. Their counterattack might neutralize more than a third of the invading amphibious troops during the shore-to-shore maneuver stage and force the PLA to abort its invasion.

Even though the PLA may still conduct a blockade against Taiwan, the fact that the island sits on the chokepoint of quite a few vital sea-lanes may trigger international intervention right away. The international pressure may well soon exceed the level Beijing could withstand. A prolonged blockade will prove an invitation to international intervention and may end up in failure. In short, the coherence of the scenario from a long-range precision bombardment to blockade is fragile.

The so-called porcupine strategy puts emphasis on the conservation of army forces rather than the building up of the navy and the air force of the ROC. This strategy might lead to a disastrous result. When in power, both the Democratic Progressive Party (DPP) and the Kuomintang (KMT) have claimed that Taiwan is a maritime nation. Hence the ROC is meant to be a sea power. As shown by the example of the United States, the U.K., and Japan, a sea power has to prioritize the buildup of its navy and air force. Otherwise, it is giving up the struggle for sea and air control. As an island republic, Taiwan would be vulnerable to external threat without a strong navy and air force. Neglecting to build up its navy and air force would invite PLA invasion.

If the PLA chose to invade Taiwan, it would very likely adopt an "access denial" strategy against the U.S. beforehand. That is, before invading Taiwan, the

PLA could establish a line, or even a double line, of defense, composed of submarines, between the first and the second island chains. If the PLA succeeds in taking Taiwan, how long would it take the U.S. to break through the formidable line(s) of defense to come to the rescue of Taiwan? If the PLA heavily reinforced its combat troops and consolidated its anti-U.S. defenses right after taking Taiwan, the breakthrough and rescue operations of the United States would be further delayed. The longer the delay, the heavier the casualties for the United States and the dimmer the chance of success. Facing the grim prospect of a miserable war, heavy casualties, and prolonged confrontation with the formidable PRC, will the U.S. Congress approve the dispatch of its soldiers to sacrifice their lives for Taiwan, already in the firm grip of the PLA? Probably very few would be optimistic about the answer.

If, then, the ROC government adopts the "porcupine strategy" and ignores the buildup of its navy and air force, the PLA might be lured to take up an access-denial strategy against the U.S. and launch a surprise attack against the island simultaneously. Whatever the result of the PLA attack would be, it would be a disaster for Taiwan. This kind advice from a friend might lead to catastrophe. The ROC government has to be careful with the "porcupine strategy."

Professor Murray argues that facing the overwhelming military threat from the PLA, Taiwan must rethink and redesign an asymmetrical defense strategy to deny the PRC's strategic objectives. There is more than one option in terms of asymmetric defense strategy. Stressing the conservation of army combat power is one option. Putting emphasis on the buildup of the navy and air force in a way that yields strategic deterrence capacity, tenacious survival ability, and lethal revenge capability could be another. An asymmetric army can make [it hard for] the PLA to swallow the island, while an asymmetric navy and air force may dissuade it from launching a surprise attack in the first place. It is not difficult to tell which is superior.

Confronting the overwhelming superiority, and likelihood, of surprise attack from the PLA, the ROC military should aim to promote survivability, revenge capability, strategic deterrence, and asymmetric-warfare capabilities. In terms of tangible options, the decision makers in Taipei and Washington, D.C., have to abandon tribalism and answer the following question honestly: In a scenario close to a complete surprise, is there any war-fighting platform that possesses survivability, revenge capability, strategic deterrence, and asymmetric-warfare capabilities superior to those of submarines? Actually, if the ROC has acquired substantial submarines, the high survivability and fatal revenge capability of submarines alone might dissuade the PLA from invading Taiwan in the first place.

The "porcupine strategy" urges that the combat-power-conservation measures of the army be consolidated so that Taiwan can resist PLA invasion long enough for America to come to the rescue. The strategy serves the interests of the United States. The argument expects the ROC to hold on and defend the critical strategic point of the first island chain for the U.S. However, the ROC is not a vassal state of America; rather, it is an independent maritime nation. It has its own national goals to accomplish, including safeguarding the territorial integrity and maritime resources of the Senkaku Islands and the islands in the South China Sea.

Many of the Asia-Pacific nations are pursuing naval buildup programs. The ROC has territorial disputes with some of these nations. Such disputes involve conventional security threats, and military power still plays a significant role for resolution. Taiwan has to face the solemn issue of safeguarding the territorial integrity and maritime resources with military power, if necessary. The ROC simply cannot entrust the mission to any other country. As other Asia-Pacific nations pursue military buildups, if we do not, shall we take the mindset of a protectorate and look to the U.S. or some other big brother for protection? Such mentality is dangerous and irresponsible. As an independent island republic, Taiwan has to rely on its navy and air force to ensure the integrity of its territorial sovereignty and maritime resources.

"Revisiting Taiwan's Defense Strategy" shows concern about the security of Taiwan. The scenario and suggestions it offers serve to help the ROC review its vulnerability and look for ways for improvements; therefore, the writing as a whole merits approbation from Taiwan. However, the paper is fundamentally flawed. The basic assumption of the scenario of complete surprise is untenable; the coherence of the scenario is fragile. The article has been, in effect, developed in the interests of the U.S. and subconsciously treats the ROC as a vassal state and a protectorate of America, which contradicts our commitment to Taiwan as a sovereign maritime nation. The suggestions given by the article may further deprive Taiwan of its aspiration to become a sea power. The ROC military, on the one hand, appreciates the paper's concern but, on the other hand, is cautious about its suggestions.

WEN-LUNG LAURENCE LIN
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Sir:

William S. Murray wrote an intriguing, thoughtful article arguing that both Taipei and Washington needed to reexamine the island's approach to defending against an attack from the People's Republic of China. Entitled "Revisiting Taiwan's Defense Strategy," Mr. Murray's article contends that the pace and scope of China's military modernization—with its rapid introduction of precise short-range ballistic missiles, advanced submarines, surface ships, aircraft and surface-to-air missiles—has "fundamentally altered" the cross-strait security environment by eroding Taiwan's strategic depth and geographic advantage.

Mr. Murray concludes that Taiwan should forgo purchasing advanced military systems from the U.S. and stop developing its own offensive counterstrike capabilities. Taiwan instead should adopt a "porcupine strategy" by hardening its civil-military infrastructure and strengthening the Taiwan army to such an extent that Taipei would deny Beijing all of its strategic objectives in attacking the island. In short, he believes that this new strategy would show "demonstrable Taiwanese resilience[,] would diminish Beijing's prior confidence in success, strengthen cross-strait deterrence, and reduce the risk of the United States being dragged into a conflict with China."

Professor Murray's analysis of the relative PRC and Taiwan military capabilities and strategies during a full-scale conflict is largely sound. However, his conclusion that Taiwan is doing enough but just "not doing the right things" misses some important strategic considerations. The right thing for Taipei to do now is to ensure that its defense policy is free from partisan politics and that Taiwan fully utilizes its acquired weapon systems toward a viable defense against Beijing's threats.

Taiwan's acquisition of the recently announced $6.4 billion package (which includes Harpoon missiles, PAC-3 missiles and firing units, AH-64D Apache helicopters, and upgrades for Taiwan's E-2 early warning aircraft) will serve as another step toward maintaining a capable and resilient defense force. Moreover, Taiwan's purchase is also an important symbol of Taipei's resolve to resist Beijing's coercion—a far more powerful symbol than Taiwan deploying offensive missiles or "hardening" alone. Despite limitations at the higher end of the escalation ladder, Taiwan's military capabilities play a central role in preventing Beijing from intimidating the island (via force demonstrations, forward exercises, sea-lane disruptions, etc.) so as to force Taipei to negotiate under duress. By Taiwan's maintaining a modestly sized but potent force equipped with advanced weaponry, its military will have the capacity to confront these intimidations successfully and confidently. Faced with this resistance, Beijing will then

need to either deescalate the situation or make the risky, costly choice China does not want to make: full-scale war.

In the face of overwhelming Chinese force, however, a strong Taiwan military is a necessary—but not sufficient—requirement for the island's defense. Regardless of how "hardened" Taiwan becomes, it is unlikely that Taipei could resist a prolonged, full-scale assault alone—a point Murray readily concedes. What complicates Beijing's calculus—and therefore prevents China from undertaking such a gambit—is the risk of failure, a hazard made far greater by the prospect of U.S. intervention that reinforces the island's will to resist. Therefore, Washington's promise to keep Taiwan safe from attack and intimidation by, in part, providing it appropriate defense articles and services is indispensable for maintaining security and stability across the Taiwan Strait. The sale of defense systems like PAC-3 and AH-64D Apache helicopters is a significant, tangible, and responsible demonstration of Washington's long-standing commitment to Taipei, succinctly enunciated in President Bush's pledge to "do whatever it takes to defend Taiwan."

Professor Murray is correct that it is important for the U.S. and Taiwan to reevaluate periodically the direction of their defense policies to ensure that they are consistent with the changing security environment. His prescription that Taiwan's leaders should work to reduce its critical vulnerabilities is a sound one. Making improvements in Taiwan's civil-military infrastructure is especially important for an island prone to periodic natural disasters. So too is improving the Taiwan army's sustainability, training, and force protection.

Now, however, is not the time for Taiwan to abandon the primary features of its current defense strategy in favor of Professor Murray's "porcupine strategy"—a radical form of Taiwan's previous "resolute defense, effective deterrence" doctrine. Instead, Taipei should look to develop all of its armed services in ways that accentuate the geographic advantages the island continues to enjoy despite Beijing's improved capacity to coerce and intimidate. These may include a more robust use of sophisticated decoys, wider use of alternative runways and basing, or employing more redundant and joint logistics infrastructure as Mr. Murray suggests. Nevertheless, these efforts should complement Taipei's current strategy, not replace it.

With the announcement now made in Washington, the hard part begins for Taipei. It is incumbent on Taiwan's authorities to provide the sufficient funding to procure the $6.4 billion package in the near term and to prepare its forces to employ them effectively over the long term. Taiwan's political parties now need to cooperate on their defensive needs and avoid politicizing defense policy. A clear, long-range defense strategy that transcends party politics would best serve the island's security in the long term. Failing to do so will undermine

Washington and Taipei's efforts to maintain cross-strait security and stability as Beijing continues its rapid military modernization unabated.

MICHAEL CASSIDY
Analyst, U.S. Department of Defense

Professor Murray replies:

In his summary of my argument, and repeatedly in his subsequent analysis, Captain Lin claims that I advocate the negligence of Taiwan's air force and navy, and the buildup of its army in their place. This is incorrect. The complete sentence from which he quoted (italicized portion) reads: "Rather than relying on its navy and air force (neither of which is likely to survive such an attack) to destroy an invasion force, Taiwan should *concentrate on development of a professional standing army armed with mobile, short-range, defensive weapons*." Maritime powers, as Captain Lin rightly observes, have real needs for the capabilities an air force and navy can provide. Taiwan is no exception. I don't, however, think it is prudent to count on either Taiwan's navy or air force to apply combat power effectively after being subjected to a surprise bombardment. Consequently, it would seem logical (and not parochial) to rely more heavily on a fully professional, properly equipped and trained army as an effective counter-invasion force. This does not mandate or constitute a recommendation for the diminishment or disestablishment of either the Taiwan navy or air force, but it does suggest the need to rethink the missions they should be configured to perform.

Mr. Cassidy wrote that I feel "Taiwan should forgo purchasing advanced military systems from the U.S." This is a misleading oversimplification of my argument. I contend instead that weapons systems offered by the United States should be unambiguously defensive; that they should be able to survive an initial bombardment by large numbers of precision munitions; and that they should directly assist in either defeating an invasion or preserving Taipei's ability to prevent Beijing from obtaining control over the island's airspace and adjacent waters. Weapons that satisfy these criteria can be simple or advanced, but there are undeniable advantages to relatively simple weapons systems if they are used in a manner that achieves a set of coherent strategic objectives.

Captain Lin bases a significant portion of his counterarguments on the assumption that Taiwan will receive strategic and tactical warning. I agree that Taiwan should be able to discern strategic warning. Intelligence specialists can better assess than I whether China can launch barrages of missiles against Taiwan without providing unambiguous indicators of imminent attack. Nonetheless, I would imagine the benefits of being able to do so are readily apparent to the People's Liberation Army (PLA), and that China's military has trained to be able to do just that. I think it is also reasonable to assume that Beijing's operational plans are designed and sequenced to minimize the likelihood of providing Taipei tactical warning. The alternative seems like a poor planning assumption and ignores the PLA's history of achieving tactical surprise. I'll also observe that Taiwan's runways and other valuable fixed facilities and weapons systems remain vulnerable regardless of the amount or type of warning received.

Captain Lin argues that Taiwan's potential future submarines will survive a Chinese bombardment and deter or defeat an invasion. I agree that correctly positioned submarines could probably sink several invading amphibious ships near Chinese ports of departure or as they transit to an invasion beach. Yet even a fortuitously positioned four-knot submarine will have limited attack opportunities against a fleet of twelve-knot amphibious ships and escorts. I do not understand how Taiwan could ensure these opportunities unless several of Taipei's submarines continuously patrolled in the very shallow waters near likely landing beaches or immediately outside the similarly shallow waters of Chinese ships' home ports (which would likely be defensively mined). Captain Lin wrote that Taiwan could maintain three or four submarines in such positions, but this assertion represents a very high submarine force operations tempo. Such a high OPTEMPO would likely require an even larger inventory of submarines than that to which Taiwan currently aspires. Regardless, China could defeat such a concept of operations by building more amphibious ships than Taiwan's submarines could be expected to sink.

Mr. Cassidy notes that Taiwan's weapons systems are important symbols of Taipei's resolve and that those systems would help the island resist coercion in scenarios less severe than the existentially threatening example I posited. I agree. Yet I remain concerned that many of Taiwan's showcase weapons systems could be destroyed or rendered unusable by an initial Chinese salvo of conventional missiles. Symbolism based on vulnerable weapons systems is not a feature of an effective deterrent and does little to lend stability to a crisis. For these reasons I must disagree with Mr. Cassidy's assertion that "Now . . . is not the time for Taiwan to abandon the primary features of its current defense strategy." On the contrary, I think Taiwan should, as a matter of urgency, honestly and openly

debate its strategic options and determine how to reestablish a stable deterrence. The United States should actively contribute to this debate.

Mr. Cassidy recommends that Taipei should ensure that its defense policy is freed from partisan politics. I wonder if this is possible (since it doesn't appear to be in other democracies), yet I take his point. Taiwan's defenses and defensive strategy largely stagnated during the tumultuous years of the Chen administration, partly due to partisan politics. Simultaneously, China aggressively modernized its military and fundamentally altered how it could apply coercive force against Taiwan and against any intervening forces. This created a worrisome and deepening imbalance in what had been a relatively stable situation. I believe there is a compelling need to reevaluate and reconsider what constitutes an effective defense strategy for Taiwan and how the United States should best support it. Toward that end, I have offered the ideas in the "porcupine strategy," and I maintain that they make sense, both for Taiwan and for the United States.

Finally, I am gratified by Captain Lin's statement that my paper "Revisiting Taiwan's Defense Strategy" offers the potential to help Taiwan in some way. I am sure he, Mr. Cassidy, and I would agree that continued deterrence across the Strait is in everyone's interest, even though we don't yet agree on how that deterrence can best be maintained.

WILLIAM S. MURRAY
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REFLECTIONS ON READING

Professor John E. Jackson is the Naval War College's manager for the Navy Professional Reading Program

As they responded to tasking in the fall of 2005 from the Chief of Naval Operations (CNO) to establish the Navy Professional Reading Program (NPRP), the program managers faced the rather daunting challenge of selecting a mere five dozen books to be featured in the program from among the millions of titles available on library shelves around the world. To help with the task, an advisory group was established with representatives from the Naval War College, the Naval Academy, the Naval Postgraduate School, the Senior Enlisted Academy, the Naval Historical Center, and other organizations. Hundreds of titles were considered, and the books listed on a number of other "suggested reading lists" were reviewed. After great discussion and debate, a final list of sixty books was personally approved by the CNO. Subsequent feedback from the fleet has indicated wide acceptance of the books chosen. Since the program was launched in the fall of 2006, selections from the NPRP have also been cited on other reading lists, which helps reinforce the notion that these are indeed books of consequence. For example, the Defense Department's Deputy Chief Information Officer recently published his list of ten books that he considered valuable for information leaders. Included were three NPRP titles:

- *Execution: The Discipline of Getting Things Done,* by Larry Bossidy and Ram Charan. Written by a highly successful business executive (at General Electric and Honeywell, among other firms) and a Harvard educator and consultant, *Execution* has been described as "the missing link between aspirations and results," and "making it happen" as the leader's most important job.
- *The Tipping Point,* by Malcolm Gladwell. One reviewer says about this book: "Hip and hopeful. The book is like the idea it describes: concise, elegant but packed with social power. A book for anyone who cares about how society works and how we can make it better."

- *The Innovator's Dilemma,* by Clayton Christensen. This business-focused book, written by a Harvard faculty member, highlights the need to avoid complacency and to be prepared for inevitable change. As a reviewer noted: "This model has application far outside the business world. One can think of many examples, such as generals preparing to fight the last war, while innovators, like Erwin Rommel or Billy Mitchell, develop the weapons and tactics that will win the next one."

Although the Navy is not a profit-and-loss business, many of the challenges faced by Navy leaders are similar to those faced by business line managers and executives. The editors of *U.S. News and World Report* asked fourteen business leaders to identify the five books they considered indispensable for managers/leaders. Five books from the NPRP were among their picks, including *The Tipping Point*, *The Innovator's Dilemma,* and *Execution.* The other two were:

- *The Second World War: The Gathering Storm,* by Winston Churchill. One reviewer noted: "His detailed account of how we got into the Second World War, and how we might have avoided it, is incisive and persuasively argued. This is a book everyone interested in understanding the Second World War—and everyone who enjoys the creative use of the English language—should read."
- *The World Is Flat: A Brief History of the Twenty-first Century,* by Thomas Friedman. A reviewer noted: "*The World Is Flat* provides a very interesting view that establishes the author's contention that the world is becoming more flat by getting interconnected through globalization. Outsourcing is changing the world in every aspect. Increased globalization in forms of better communication will allow poor and less industrialized countries to compete equally with the more industrialized countries such as the United States and Western Europe. Overall this is a must-read because of the insight it provides into the new global order."

We encourage you to pick up one of the books mentioned here, or any other selection from the NPRP library, and, as the program's motto urges, "Accelerate your mind!"

JOHN E. JACKSON