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NAVAL WAR COLLEGE REVIEW

Summer 2008

Volume 61, Number 3

*Leadership must be based on goodwill.
Goodwill does not mean posturing and,
least of all, pandering to the mob.
It means obvious and wholehearted
commitment to helping followers.
We are tired of leaders we fear,
tired of leaders we love,
and tired of leaders
who let us take liberties with them.*

*What we need for leaders
are men of the heart
who are so helpful that they, in effect,
do away with the need of their jobs.
But leaders like that are never out of a job,
never out of followers.
Strange as it sounds,
great leaders gain authority by giving it away.*

—Vice Admiral James B. Stockdale, U.S. Navy

Cover

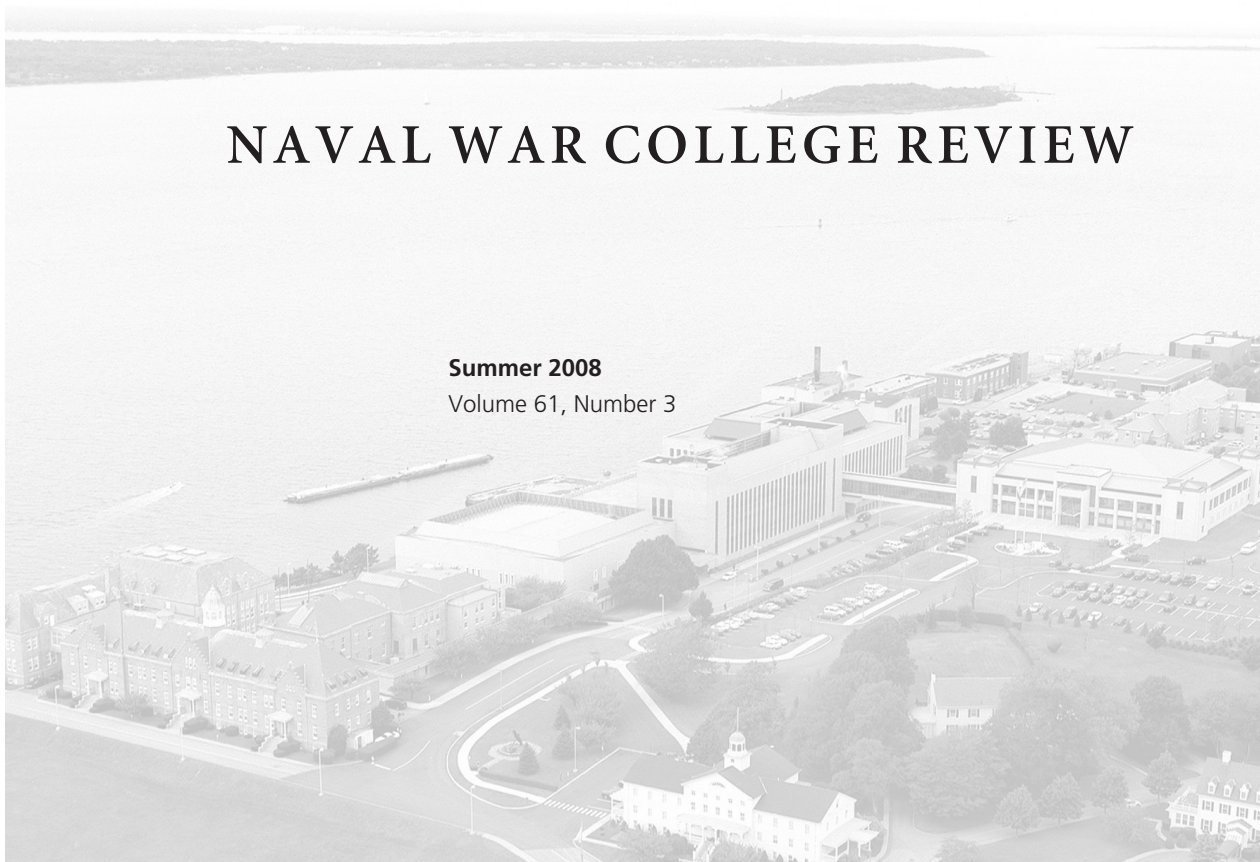
Vice Admiral Stockdale (1923–2005) left his mark on the Naval War College not only as president of the institution, from October 1977 to August 1979, but as a thinker on and writer about—and as an exemplar of—leadership. His contributions in the latter respect are remembered today in the school's College of Operational and Strategic Leadership, particularly in the Stockdale Group, a team of students carefully selected each year for directed study. This issue offers a prime example of that group's recent work, in "Developing the Navy's Operational Leaders: A Critical Look," by Commander Christopher D. Hayes, U.S. Navy, who graduated (with distinction, as a lieutenant commander) in 2007.

Vice Admiral Stockdale's observation reproduced on the cover is drawn from his essay "Moral Leadership" in the U.S. Naval Institute Proceedings 106, no. 931 (September 1980), a contribution to the Leadership Forum department of that journal—of course, set conventionally, as prose. The work was reprinted as "Machiavelli, Management, and Moral Leadership" in *Military Ethics: Reflections on Principles*, edited by Malham Wakin et al. (Washington, D.C.: National Defense Univ. Press, 1987).

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CONTENTS

From the Editors 3

President's Forum 7

Asia Rising

Revisiting Taiwan's Defense Strategy 13

William S. Murray

If, as was long presumed, Taiwan could fend off a Chinese bombardment, invasion, or blockade, it probably can no longer. But in a wholly new defense posture Taiwan might prevent such an attack from achieving the goals for which it was mounted—and perhaps deter it from being made at all.

China and the United States in the Indian Ocean

An Emerging Strategic Triangle? 41

James R. Holmes and Toshi Yoshihara

Conditions today are auspicious for shaping a mutually beneficial maritime relationship among India, China, and the United States. Maritime security cooperation, however, is by no means foreordained, and the opportunity to achieve it may not endure for long.

Strategy and Policy

Reflections on Future War 61

Mackubin Thomas Owens

Despite recent experience, the more extreme claims of the technological optimists who largely dominated the debate in the 1990s continue to exert substantial influence. But is this the correct vision of future war? In fact, the character (not the nature) of war is changing in fundamental and dangerous ways.

Leadership and Decision

Developing the Navy's Operational Leaders

A Critical Look 77

Commander Christopher D. Hayes, U.S. Navy

There is a leadership crisis in the Navy, and it is a consequence of a misaligned, fragmented, and marginalized system of officer professional development.

Admiral Richard G. Colbert

Pioneer in Building Global Maritime Partnerships 109

John B. Hattendorf

Building global maritime alliances, a central element of the U.S. Navy's new strategy, has been a hallmark of the Naval War College for more than half a century. In this, Admiral Richard Colbert was a key leader, both at the College and in the Navy.

Research & Debate

The Effect of Tactical Ballistic Missiles on the Maritime Strategy of China 133

Wang Wei

Translated by OS3 Danling Cacioppo, U.S. Navy

Book Reviews

Taiwan's Statesman: Lee Teng-hui and Democracy in Asia, by Richard C. Kagan

Why Taiwan? Geostrategic Rationales for China's Territorial Integrity,

by Alan M. Wachman

reviewed by Bernard D. Cole 141

Defending the Homeland: Historical Perspectives on Radicalism, Terrorism,

and State Responses, edited by Melinda M. Hicks and C. Belmont Keeney

reviewed by Randy L. Unger 143

Brown Waters of Africa: Portuguese Riverine Warfare, 1961–1974, by John P. Cann

reviewed by Martin N. Murphy 144

Assignment Pentagon: How to Excel in a Bureaucracy, 4th ed., by Perry M. Smith

and Daniel M. Gerstein

reviewed by Albert J. Shimkus 145

Flying Tigers: Claire Chennault and His American Volunteers, 1941–1942,

by Daniel Ford

reviewed by William Calhoun 146

The Kaoboys of R&AW: Down Memory Lane, by B. Raman

reviewed by John R. Arpin 147

Portuguese Oceanic Expansion, 1400–1800, edited by Francisco Bethencourt and

Diogo Ramada Curto

reviewed by John B. Hattendorf 148

In My View 150

FROM THE EDITORS

On 22 March, in an exemplary display of democracy in action that seems to have been little noticed in this country, the people of Taiwan voted by an unexpectedly large margin to reject the presidential candidate of the governing Democratic Progressive Party in favor of the leader of the main opposition party, the Kuomintang. President-elect Ma Ying-jeou promises to be a more predictable and reliable interlocutor for the United States than outgoing President Chen Shui-bian, who has antagonized both Beijing and Washington in recent years by pressing in various ways the envelope of Taiwanese independence. His election therefore opens a major window of opportunity to reduce tensions across the Taiwan Strait as well as in U.S.-Chinese relations generally. But it also may open the way to a new approach on the part of both Taiwan and the United States to the military defense of Taiwan against actual or threatened invasion of the island by the People's Republic. The exponential growth in Chinese military forces arrayed against Taiwan, particularly in the area of short-range ballistic missiles, has been well publicized, but its dire implications do not seem to have been fully digested either in Taipei or in Washington. In a timely and (we believe) pathbreaking and important article, "Rethinking Taiwan's Defense Policy," William Murray, a former naval officer and now an analyst associated with the China Maritime Studies Institute at the Naval War College, provides a comprehensive and detailed survey of Taiwan's current strategic predicament, together with a cogent analysis of the inadequate and—as he argues—deeply misguided efforts undertaken by Taiwan's current government to address this situation. Moreover, he faults the United States for promoting an arms assistance package for the Taiwanese that is at the same time costly, provocative, and strategically ineffective. Murray's own recommendations, it may be added, track in important ways with recent statements on defense policy offered by President-elect Ma himself.

If anyone doubts the significance of China's buildup of short-range ballistic missiles, it is enlightening to listen to the Chinese themselves on this subject. PRC military analyst Wang Wei, in a piece entitled "The Effect of Tactical Ballistic Missiles on the Maritime Strategy System of China," shows that the Chinese are increasingly confident in their ability to hold at risk with these weapons not

only Taiwan but deployed U.S. naval assets in the western Pacific. Other articles in this issue touching on China include that of Toshi Yoshihara and James Holmes on the U.S.-Chinese-Indian triangular relationship in the Indian Ocean and Mackubin Owens's "Reflections on Future War." Owens reminds us that America's preoccupation with Iraq and "the Long War" should not cause us to lose sight of the implications of the rise of China as a near-peer competitor in the coming years, especially since we can very probably expect from the Chinese an approach to major-power warfare involving unconventional or irregular features that we have been unaccustomed to dealing with in the past.

This issue also offers two articles under the rubric "Leadership and Decision." Commander Christopher Hayes, USN, a recent Naval War College graduate, provides an authoritative analysis of the limitations of existing institutional arrangements and procedures within the Navy for cultivating operational leadership. This study is an outgrowth of ongoing research on leadership being done by a select group of students (the "Stockdale Group") under the auspices of the Naval War College's newly established College of Operational and Strategic Leadership, currently headed by Rear Admiral Thomas Zelibor, USN (Ret.). Finally, we have asked Professor John Hattendorf to allow us to republish in revised form an article on the career of Admiral Richard G. Colbert, not only because of its interest for the history of the Naval War College (whose panoramic Colbert Plaza memorializes him) in the immediate postwar years but even more for its relevance to the Navy today as it rethinks maritime security cooperation under the impetus of its new maritime strategy.

EDWARD S. MILLER RESEARCH FELLOWSHIP IN NAVAL HISTORY

The Naval War College Foundation intends to award one grant of \$1,000 to the researcher who has the greatest need and who can make the optimal use of the research materials for naval history located in the Naval War College's Archives, Naval Historical Collection, Naval War College Museum, and Henry E. Eccles Library. Further information on the manuscript and archival collections and copies of the registers for specific collections are available on request from the Head, Naval Historical Collection (evelyn.cherpak@nwc.navy.mil).

The recipient will be a research fellow in the College's Maritime History Department, which will provide administrative support during the research visit. Submit a detailed research proposal—a full statement of financial need, a comprehensive research plan for use of Naval War College materials, curriculum vitae, at least two letters of recommendation, and relevant background information—to Miller Naval History Fellowship Committee, Naval War College Foundation, 686 Cushing Road, Newport, R.I. 02841-1207, by 1 August 2008. For further information, contact the chair of the selection committee, at

john.hattendorf@nwc.navy.mil. Employees of the U.S. Naval War College or any other agency of the U.S. Department of Defense are not eligible for consideration; EEO/AA regulations apply.



Rear Admiral Jacob L. Shuford was commissioned in 1974 from the Naval Reserve Officer Training Corps program at the University of South Carolina. His initial assignment was to USS Blakely (FF 1072). In 1979, following a tour as Operations and Plans Officer for Commander, Naval Forces Korea, he was selected as an Olmsted Scholar and studied two years in France at the Paris Institute of Political Science. He also holds master's degrees in public administration (finance) from Harvard and in national security and strategic studies from the Naval War College, where he graduated with highest distinction.

After completing department head tours in USS Deyo (DD 989) and in USS Mahan (DDG 42), he commanded USS Aries (PHM 5). His first tour in Washington included assignments to the staff of the Chief of Naval Operations and to the Office of the Secretary of the Navy, as speechwriter, special assistant, and personal aide to the Secretary.

Rear Admiral Shuford returned to sea in 1992 to command USS Rodney M. Davis (FFG 60). He assumed command of USS Gettysburg (CG 64) in January 1998, deploying ten months later to Fifth and Sixth Fleet operating areas as Air Warfare Commander (AWC) for the USS Enterprise Strike Group. The ship was awarded the Battle Efficiency "E" for Cruiser Destroyer Group 12.

Returning to the Pentagon and the Navy Staff, he directed the Surface Combatant Force Level Study. Following this task, he was assigned to the Plans and Policy Division as chief of staff of the Navy's Roles and Missions Organization. He finished his most recent Pentagon tour as a division chief in J8—the Force Structure, Resources and Assessments Directorate of the Joint Staff—primarily in the theater air and missile defense mission area. His most recent Washington assignment was to the Office of Legislative Affairs as Director of Senate Liaison.

In October 2001 he assumed duties as Assistant Commander, Navy Personnel Command for Distribution. Rear Admiral Shuford assumed command of the Abraham Lincoln Carrier Strike Group in August 2003. He became the fifty-first President of the Naval War College on 12 August 2004.

PRESIDENT'S FORUM



Strategic Investment and Title X War Gaming

THIS AUGUST THE NAVAL WAR COLLEGE will host a very significant event—Global War Game 2008. This game marks the Navy's return to "Title X" war gaming, a strategic-level analytic activity that was discontinued in 2001.* The College originated this type of gaming in 1979, when the Navy decided to explore conflict with the Soviet Union on a worldwide scale. Its purpose was to help rebuild the Navy's operational and strategic perspective, a perspective many felt had become too narrowly tactical. With similar intent, the new Global series is meant to reestablish a truly worldwide perspective and future orientation in a service whose recent focus has been regional contingencies and the near term. The game is also a necessary step to implementing the new maritime strategy ("President's Forum," Winter 2008), a sweeping, top-level document that requires follow-up work to flesh out the operational concepts, capabilities, and forces needed to meet both its expressed and implied objectives.

Global Gaming: Catalyst for Concept Generation and Development

For a number of reasons, a gap has developed in the Navy's innovation architecture. A great deal of very innovative work is done by the fleet and various labs, and "Fleet Readiness Enterprises" have emerged as efficiency drivers to field product improvements and improve processes around specific platforms in current programs. For the very distant horizon, the Chief of Naval Operations Strategic Studies Group faithfully explores, as an education function, each year's new crop of technologies and studies their potential relevance to the Navy.

* Title X, U.S. Code, concerns federal law for the organization and operation of the armed forces of the United States. It constitutes the legal basis for the roles and missions of each of the services and responsibilities for organizing, training, and equipping them.

However, the Navy lacks a coordinated process that knits together, deliberately and comprehensively, the work of various enterprises on future concepts eight to twenty years out, a period for which strategic investment decisions must be made today. Although various analytical processes within the Navy Staff necessarily focus on this time frame, these analyses are—also by necessity—oriented to the current program of record.

Understanding the Navy's innovation architecture gap requires a more precise definition for "concept development," which is actually the middle element of a three-step process. Implementation follows an extensive set of activities that must be led by the fleet to refine a concept; to develop associated concepts of operations, tactics, techniques, and procedures; to demonstrate, experiment with, and validate the concept; and to evolve doctrine. But before a concept can be *developed*, it must be *generated*. This is not just an ad hoc process but rather a complex set of tasks that include identifying a problem, developing solutions and elaborating them into concepts, determining strategic value and risks associated with a concept, and discerning the broad implications for force design and policy. Concept generation requires *whole warfighting analysis* and forcewide perspective, it must relate to a strategic- and operational-level context, and it must enjoy wide and diverse stakeholder participation. In short, concept generation is the fundamental, *horizontal* element of the innovation architecture.* This is where the warfighting analysis done here at the College, along with strategic- and operational-level gaming and research, begins to address the innovation gap and inform strategic investment.

The Navy has begun to take some significant steps that should address this gap and put in place a sustained, disciplined approach to generating and evaluating alternative naval concepts and force-design options. One of them is re-instituting the Navy Title X war game.

We Are Not Starting from Scratch

For several years now, the College has been conducting a set of highly focused and detailed operational studies of various current and future warfare scenarios via its Halsey groups, which I have previously discussed in this space ("President's Forum," Summer 2005). Continuous, highly collaborative gaming and research on key warfighting scenarios have produced a wealth of analytically sound data and insights that provide credible, threat-based assessments necessary to calibrate key assumptions for the Title X games. The College also did seminal research for the new maritime strategy and gained important insights

* Concept development translates, through its various functions, from the strategic and operational horizon into the *vertical* output necessary to plan, program, and budget for systems, people, and platforms.

into strategic futures and collaborative processes that can be brought to bear in the new gaming series. Further, regionally oriented research and analysis efforts, as well as our new China Maritime Studies Institute, will provide current and detailed regional knowledge that will make the Title X games more relevant and valid.

The College is also making internal adjustments in order to leverage its unique strengths to provide a better strategic and analytic context to support integrated assessments for future force design. We are restructuring the Center for Naval Warfare Studies. Among other things, this restructuring includes evolving the Warfare Analysis and Research Department into a new Advanced Concepts Department that will support expanded Halsey Group operations and also conduct workshops and other activities necessary for the Title X gaming process and for Navy concept generation and development. All departments within the Center for Naval Warfare Studies will collaborate with the Navy Staff, fleet forces, and others to establish a “campaign plan” that, according to the missions, functions, and tasks assigned to the College, will provide “a program of focused, forward-thinking and timely research, analysis, and gaming that anticipates future operational and strategic challenges; develops and assesses strategic and operational concepts to overcome those challenges; assesses the risk associated with these concepts; and provides analytical products that inform the Navy’s leadership and help shape key decisions.”

Global 2008

The new maritime strategy establishes strategic imperatives and six core capabilities for the nation’s maritime forces. Further, it commits them *concurrently* to provide regionally concentrated, credible combat power *and* mission-tailored forces, distributed globally. Understanding the implications of these commitments—how we define “sufficiency” in terms of core capability—is key to implementing the strategy. This will be the focus of our 2008 Global War Game. Insights from the game should help shape the Navy’s contribution to the Quadrennial Defense Review, which occurs at the beginning of each new administration.

The insights we produce regarding the capabilities, capacities, and risks associated with implementation of the maritime strategy will focus follow-on capabilities analysis and inform force design. A second, equally important objective is to connect the tenets of the maritime strategy to future concept development and the Navy Strategic Planning Process.*

* The Navy Staff (specifically N3N5, Deputy Chief of Naval Operations for Information, Plans, and Strategy) has developed a process for a structured examination of strategic trends and translates that analysis into guidance for the Navy via the Navy Strategic Plan (NSP) and the Naval Operational Concept (NOC).

The mechanism for this year's game will be a series of discussions across four alternative futures in which the strategy must operate. This will allow the participants to identify concepts and capabilities required—from both global and regional perspectives—to gain a better understanding of the capabilities and capacity issues associated with the strategy. In an effort to gather a wide range of expert, informed perspectives and insights, we will invite players from all the U.S. military services, other federal agencies, partner nations, international organizations, and leaders in the financial, energy, and maritime industries. The game cannot be structured to validate specific force-structure options but should provide a sound basis for developing these options and associated concepts. Subsequent “Force Design Workshops” will be conducted to build on the collaborative, expert perspectives introduced during Global '08 and to strengthen strategy-to-force alignment in Navy planning.

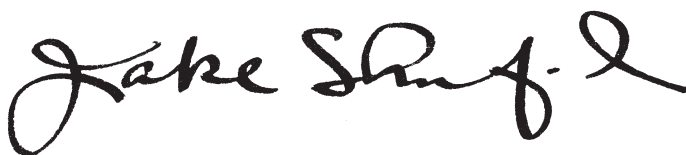
Back to the Future

Many *Review* readers are familiar with, and may have even played in, the old “Global” series. The game had many successes and excellent qualities, but by 2001 it had become very large, very expensive, and narrowly focused on networked operational command-and-control issues. The new Global games will return to their roots, taking a truly global perspective, as established by the new maritime strategy. They will provide the strategic context for examining a range of warfighting, homeland defense, and maritime security issues. Each game will be developed over the course of the entire year, and its size and objectives will be developed to ensure relevant and analytically sound results. We will carefully select game players who can bring specific expertise and perspective and who can think beyond current doctrines and programs. Players will also have to be familiar with the future concepts featured in the game. We also understand the value of a Title X game as an outreach and integration opportunity, and so we look forward to bringing in not only other service and joint representatives but also representatives from defense industry and other government agencies, as well as, when appropriate, other nations. In short, we will bring forward those traditions and approaches that were successful in the previous Global games, while tailoring the new series to meet the challenges we face today.

Global '08 will be a first step toward reestablishing Navy Title X gaming and improving strategy-to-force alignment. It will resemble the first such game we held, in 1979. That game was an experiment to see what was possible in terms of using war gaming to provide strategic insights to Navy leadership. Once its utility was demonstrated, resources flowed into it. Today the College's War Gaming Department is less than half the size it was in 2001, and so the initial game must be bounded in scope and methodology. I expect that its utility and value will be

manifest and that greater expectations and resources will follow to support a more robust role for the College in the Navy's innovation process. These investments will yield huge returns in terms of more confident and efficient programming and better arguments for the national investment in sea power. Specifically, the Navy's return to Global and to Title X war gaming will be a powerful stimulus for Navy innovation across the board, catalyzing new thinking and creating avenues for collaboration among different organizations. It will yield new synergies and efficiencies in research and technology development. In the end, the main return on investment—in Global and in the College—will be the enhanced ability of the Navy to pace global strategic developments.

The original Global games had a significant impact on the Navy, leading as they did to the development and implementation of the Maritime Strategy of the 1980s. In this, they were a continuation of a tradition at the College. Our games here in the 1920s and 1930s are legendary: they led to the development of naval aviation and to the logistical triumphs of War Plan ORANGE in World War II. These games were themselves offspring of earlier games in the late nineteenth century that led to the development of a strong and concentrated U.S. Fleet. War gaming is a powerful tool in the hands of a mission-funded institution dedicated to professional military education and objective research, a fact clearly grasped by a current leadership intent on revitalizing future-oriented, strategic thinking.

A handwritten signature in black ink that reads "Jake Sharp". The signature is written in a cursive, flowing style with a large initial "J" and a long, sweeping underline.

*Rear Admiral, U.S. Navy
President, Naval War College*

William S. Murray is associate research professor at the U.S. Naval War College, where his research focuses on China's navy. He conducted submarine deployments and qualified to command nuclear submarines prior to retiring from the U.S. Navy. He is the coeditor of and a contributing author to China's Future Nuclear Submarine Force and China's Energy Strategy: The Impact on Beijing's Maritime Policies. He can be reached at william.murray@nwc.navy.mil.

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REVISITING TAIWAN'S DEFENSE STRATEGY

William S. Murray

China's recent military modernization has fundamentally altered Taiwan's security options. New Chinese submarines, advanced surface-to-air missiles, and, especially, short-range ballistic and land-attack cruise missiles have greatly reduced Taiwan's geographic advantage. Taipei can no longer expect to counter Chinese military strengths in a symmetrical manner, with Patriot interceptors, diesel submarines, surface warships, F-16 fighters, and P-3 maritime patrol aircraft. Taiwan must therefore rethink and redesign its defense strategy, emphasizing the asymmetrical advantage of being the defender, seeking to deny the People's Republic its strategic objectives rather than attempting to destroy its weapons systems. This would enable Taipei to deter more effectively Beijing's use of coercive force, would provide better means for Taiwan to resist Chinese attacks should deterrence fail, and would provide the United States additional time to determine whether intervening in a cross-strait conflict was in its own national interest. The strategy would also place the responsibility for Taiwan's defense squarely on its own military. Finally, it would restore the United States to unambiguous compliance with the Taiwan Relations Act.

The People's Republic of China (PRC) has been increasingly explicit about its military modernization objectives. China's 2004 white paper on national defense stated that "the PLA [People's Liberation Army] will . . . enhance the development of its operational strength with priority given to the Navy, Air Force and Second Artillery Force, and strengthen its comprehensive deterrence and warfighting capabilities."¹ The introduction of new classes of advanced surface warships; the unveiling of new nuclear-powered submarines, tactical fighter aircraft, and short- and medium-range ballistic missiles with advanced warheads; and an antisatellite demonstration—all attest to the determined pursuit of these

goals.² Many analysts believe that China's near-term purposes are to deter Taiwan from declaring independence, to provide leverage by which to coerce a reunification with Taiwan if deterrence fails, and to inhibit or delay U.S. intervention in such a conflict.³

Chinese employment strategies for these new weapons systems and potential capabilities remain unknown, though statements from senior leaders provide important hints. For example, President Hu Jintao is said to have stated in August 2007 that China had five major military priorities relative to Taiwan: establishing military readiness, conducting demonstrative exercises, "imposing a blockade on the Taiwan Strait," "carrying out combined firepower attacks," and "[conducting a] cross-sea landing."⁴ Guo Boxiong, vice chairman of the Central Military Commission, boasted in March 2008, "We have the resolve and capability to deal with a major 'Taiwan independence' incident at any time."⁵ The likely use of force would encompass three components: long-range precision bombardment, invasion, and blockade. These attack mechanisms would also likely be conducted in close coordination, not independently.⁶ Taiwan faces the daunting challenge of how best to deny China the fulfillment of these objectives.

Previous studies of potential China-Taiwan conflict scenarios have concluded that Taiwan (either acting alone or with the assistance of the U.S. military) could defeat PRC coercion, thus presumably ensuring reliable deterrence.⁷ Several of these studies have asserted that the Second Artillery (the PRC's strategic rocket force) possessed only a limited inventory of relatively inaccurate short-range missiles with which to attack Taiwan, restricting its role to what Robert Pape calls "coercion by punishment," terrorizing or inflicting pain on the population—a strategy that observers like Pape argue is rarely successful.⁸ These circumstances, however, have now changed profoundly. Over the past decade China has greatly enhanced its capacity to "reach" Taiwan with far more accurate and decisive capabilities, and recent analyses question Taiwan's near-term ability to resist coercive force.⁹

For example, the PRC's expanding arsenal of increasingly accurate ballistic missiles can quickly, and with complete surprise, cripple or destroy high-value military assets, including aircraft on the ground and ships at piers. This emergent capability, plus the acquisition of long-range surface-to-air missiles (SAMs), suggests that the PRC has shifted its anti-Taiwan military strategy away from coercion by punishment toward denying Taiwan the use of its air force and navy.¹⁰ Taiwan therefore faces a threat against which it has not adequately prepared and that offers the PRC a real prospect of achieving success before the United States could intervene. This is a very worrisome development.

Taiwan's responses to China's enhanced capabilities remain highly conflicted, a situation that reflects the deep political disagreements that shape Taipei's

military policies. Taipei decreased its defense budgets in absolute and relative terms from 1993 until 2003, with only meager improvements thereafter.¹¹ These diminished efforts hardly seem commensurate with the increased threat that Taiwan confronts. They suggest either a state of denial about the threat, a gridlocked political system, misplaced faith in current systems and geographic advantages, or perhaps most disturbingly, a belief that the United States is certain to provide timely military assistance. Despite this ambivalence and its anemic defense budget, Taiwan has sought costly weapons systems from the United States, including PAC-3 (Patriot Advanced Capability, third version) missile systems, P-3 maritime patrol and F-16 fighter aircraft, *Kidd*-class destroyers, and diesel submarines. Taiwan is also reportedly attempting to develop offensive counterstrike capabilities indigenously, including the 360-mile-range Hsung-Feng IIE cruise missile.

Both approaches represent serious misperceptions of the threats posed to Taiwan and a misallocation of budgetary resources. The PAC-3s and other potential purchases are expensive, and they concentrate Taiwan's defense dollars on a limited range of capabilities that China is increasingly able to defeat. Offensive counterstrike weapons, furthermore, are potentially destabilizing, since China would have difficulty determining if such strikes originated from American or Taiwanese platforms. They are also unlikely to be acquired in numbers sufficient to deter China.¹²

More affordable, more effective, and less destabilizing means of defense against precision bombardment, invasion, and blockade are nonetheless available, but to take advantage of them, Taiwan must rethink its defense strategies. Rather than trying to destroy incoming ballistic missiles with costly PAC-3 SAMs, Taiwan should harden key facilities and build redundancies into critical infrastructure and processes so that it could absorb and survive a long-range precision bombardment.¹³ 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. To withstand a prolonged blockade, Taiwan should stockpile critical supplies and build infrastructure that would allow it to attend to the needs of its citizens unassisted for an extended period. Finally, Taiwan should eschew destabilizing offensive capabilities, which could include, in their extreme form, tactical nuclear weapons employed in a countervalue manner, or less alarmingly, long-range conventional weapons aimed against such iconic targets as the Three Gorges Dam.

Such shifts constitute a "porcupine strategy." They would offer Taiwan a way to resist PRC military coercion for weeks or months without presuming immediate U.S. intervention.¹⁴ This shift in strategy might also be less provocative to

the PRC than Taiwan's current policy of offensive defense. A porcupine strategy would enhance deterrence, in that a Taipei truly prepared to defend itself would be able to thwart a decapitation attempt—thereby discouraging Beijing from acting militarily. Perhaps most important, such a policy would allow the United States time to deliberate whether intervention was warranted. Washington could avoid a reflexive decision that would draw it into a war against a major power that had systematically prepared for just such a contingency for more than a decade.

This article has five principal parts. The first summarizes the history and rationale of the 2001 U.S. arms offer to Taiwan and explains why the weapons sales proposed are unsuited to the effective defense of the island. The second section outlines how China would probably attempt to destroy or neutralize the Taiwan air force and navy, and it proposes an alternative strategy for countering China's increasingly precise short-range ballistic missiles (SRBMs), cruise missiles, and manned tactical aircraft. The third part explores how Beijing's invasion options would change if Taipei lost its navy and the use of its air force. The fourth section examines PRC blockade options against Taiwan and suggests how Taiwan could more effectively deny China its blockade objectives. The concluding section considers the impediments to, and repercussions of, adoption by Taiwan of a "porcupine defense."

WHATEVER IT TAKES: THE 2001 U.S. ARMS SALE OFFER

In April 2001, reversing twenty years of American policy, the George W. Bush administration offered to provide to Taiwan eight diesel submarines for U.S. \$12.3 billion.¹⁵ This was part of a larger offer that also included six batteries of PAC-3 surface-to-air missiles for an additional \$4.3 billion and twelve P-3C maritime patrol and antisubmarine aircraft at \$1.6 billion.¹⁶ This potential sale evoked predictably strong opposition from the mainland, stirred extensive internal Taiwanese debate, and brought significant American pressure on Taiwan to assent to these purchases.¹⁷ For example, Richard Lawless, the Deputy Under Secretary of Defense for Asian and Pacific Affairs, stated that "the passage of this budget is a litmus test of Taiwan's commitment to its self-defense";¹⁸ he also warned Taipei of "repercussions" if it failed to approve the arms purchase.¹⁹

One early version of the proposal also envisioned Taiwan buying new P-3Cs.²⁰ This would have required restarting a production line that had closed in 1990, at a cost of some \$300 million per plane.²¹ Many in Taiwan viewed the totality of this package as exorbitant.²² Indeed, the leader of Taiwan's People First Party likened it to extortion by American mafiosi in exchange for protection from Chinese thugs.²³ The combination of high cost and intense divisiveness produced political theater

and gridlock;²⁴ proposals to fund the package were defeated some sixty times between 2004 and 2007.²⁵ Six bitter years of stonewalling, stalemate, and wrangling finally ended in June 2007 with passage of watered-down legislation allocating a billion dollars to purchase rebuilt P-3 aircraft and upgrade Taiwan's existing SAM systems of the less advanced PAC-2 type, probably to PAC-3 standards.²⁶ The Legislative Yuan, however, allocated only about six million dollars to fund continued feasibility studies on the U.S. diesel submarine deal, thereby postponing or even killing it.²⁷

The military rationale underlying the original arms package was one of a classic symmetrical response to perceived threats. Thus the P-3C Orion aircraft, which specialize in antisubmarine warfare (ASW) and open-ocean surveillance, could defend Taiwan from China's modernizing fleet of diesel and nuclear submarines. Similarly, eight modern diesel submarines would presumably defend against the PRC's increasingly impressive and capable surface forces and submarines. Finally, the PAC-3 would seemingly offer a viable defense for critical targets against Beijing's expanding inventory of short-range ballistic missiles, attack aircraft, and highly accurate land-attack cruise missiles.²⁸ Yet closer analysis suggests that none of these three weapons systems serve Taiwan's current or immediate future defense needs, that each would be acutely vulnerable to existing Chinese weapons and for Taipei would therefore be a major misallocation of resources. To support this conclusion I will review the presumed role of various potential capabilities in relation to the likely employment of Chinese capabilities.

PAC-2 and PAC-3 SAMs versus China's SRBMs

Taiwan clearly faces a major challenge in defending against Chinese short-range ballistic missiles. In 2005 Taiwan had an inventory of approximately two hundred earlier PAC-2 interceptors in three batteries.²⁹ Each PAC battery consists of a multifunction phased-array radar, an engagement control station, communications gear, and eight launchers with four missiles per launcher, plus one reload each. In theory, these three batteries of PAC-2 missiles could destroy up to 192 (that is, $3 \times 8 \times 4 \times 2$) Chinese SRBMs. SAM firing doctrine, however, mandates shooting two missiles against each target to increase the odds of success.³⁰ The downside of this enhanced kill probability is that it effectively halves the inventory of interceptors and doubles the cost of each attempted intercept. Unless Taiwan were to increase its inventory of PAC missiles hugely, it can expect to shoot down with the PAC-2 interceptors already in inventory at most ninety-six of the SRBMs targeted against it, or as many as 192 if Taipei upgrades all its current PAC-2 batteries to PAC-3 capabilities (which have sixteen missiles per launcher). Even this would allow over nine hundred of

China's 2007 inventory of a thousand SRBMs to arrive unchallenged at their targets.

Patriot interceptors are useless unless guided by the PAC radar. China could target these radars with SRBMs, cruise missiles, homing antiradiation missiles fired from tactical aircraft, or even Harpy antiradar drones launched from the mainland. Taiwan would then have to devote SAMs to defending the PAC radar, thus reducing the number available for defending airfields, leadership sites, critical infrastructure, or other key facilities.

Additionally, a PAC-3 installation protecting a particularly valuable target (e.g., Tsoying naval base) could be saturated and overwhelmed by large numbers of SRBMs. China could also initially fire older, less precise weapons to deplete Taiwan's inventory of interceptors, following them closely with unimpeded precision attacks using more accurate missiles. Mark Stokes, a close observer of China's Second Artillery, also notes that Beijing may have "a terminal guidance system that could preclude engagement by terminal missile defenses," such as Patriot interceptors.³¹

One argument commonly used to dismiss the threat posed by SRBMs is that the ballistic warheads lack the accuracy necessary for precision targeting. In a 2000 publication, for example, Michael O'Hanlon observed that the reported inaccuracy—a three-hundred-meter circular error probable (CEP)—of China's SRBMs made them little more than terror weapons.³² However, O'Hanlon derived that estimate from 1999 and earlier sources; since then China has greatly improved the accuracy of its missiles, as well as the number in its inventory. Authoritative judgments are classified, but Thomas Christensen noted in 2001 that internal PLA sources assumed that the Second Artillery would be able to support accurate, concentrated attacks on enemy military assets.³³ *Jane's* in 2005 estimated China was producing ballistic missiles with CEPs of forty meters.³⁴ Mark Stokes wrote in 2006 that "at least 10 years ago, PRC missile engineers had been tasked to meet an accuracy requirement of below 50 meters circular error probability (CEP)."³⁵ Taiwan's Ministry of National Defense reported in September 2007 that China's SRBMs could strike within forty meters of their intended targets.³⁶ The Global Positioning System (GPS), which provides accuracy to within a few meters over most of the earth's surface, would be available to Beijing's weapons during all phases of launch and flight.³⁷ Further, the U.S. Navy's Office of Naval Intelligence also reported in 2004 that China is building ballistic missiles that can target large ships at sea; in 2006 it stated that these maneuvering warheads were guided by either infrared or radar seekers.³⁸ These reports reflect a growing consensus that China has mastered the engineering and manufacturing challenges involved in fielding highly accurate ballistic-missile warheads.

China's ballistic missiles are therefore no longer weapons for frightening populations but precision munitions. The Second Artillery's SRBMs provide the PLA the capability to destroy very large numbers of fixed targets with little or no warning.³⁹

P-3s versus China's Submarines

Taiwan's purchase of P-3 Orion antisubmarine aircraft appears to make more sense. P-3s have a proven capability to find submarines; China has a large submarine fleet, over fifty diesel and nine or more nuclear submarines; and Taiwan's 1960s-vintage S-2 Tracker ASW aircraft is hopelessly obsolete.⁴⁰ Japan, another island state facing similar strategic imperatives, has up to 110 P-3s.⁴¹ In reality, however, twelve P-3C aircraft will make little or no difference against China's submarine fleet. The reason is straightforward: P-3 aircraft require secure airfields from which to fly, but Taiwan will probably lose its airfields in the opening salvos of any all-out war with China. Air superiority will be doubtful. Further, a dozen P-3s can patrol only a fraction of the waters in which China's submarines could operate against Taiwan, and this fraction would be very likely reduced by combat losses. Twelve P-3s will have meaningful reconnaissance and maritime patrol roles to play during peacetime and scenarios of limited conflict, through their ability to conduct wide-area searches, but they will have little wartime utility.

Taiwan's Diesel Submarines versus the People's Liberation Army Navy

Diesel submarines can conduct effective operations against an opposing navy and merchant fleet, but only when they are used offensively. Admittedly, there are examples of diesel submarines effectively defending home or nearby waters. One is the Argentine Type 209 diesel submarine that operated against the Royal Navy during the 1982 Falklands War. Although making a number of attacks against surface and submarine contacts, it failed to damage any British ships. The Royal Navy, meanwhile, expended nearly its entire inventory of ASW weapons against the boat without sinking or disabling it.⁴²

Conversely, there are many examples of effective employment of diesel submarines in offensive operations. The U.S., German, and British submarine forces have all excelled offensively. Yet technological developments after World War II dramatically altered the operational role of diesel submarines—they can no longer prowl for targets at relatively high speeds on the surface, submerging only to attack. Diesel submarines must now remain submerged, where their battery capacity forces them to hunt at low speeds—approximately four knots. They must also transit slowly to locations where enemy vessels might eventually deploy—geographic choke points, sea-lanes, and the waters around enemy harbors and naval bases being the most likely.

It is also erroneous to view diesel submarines as effective antisubmarine systems. A diesel submarine can, if equipped with appropriate torpedoes, attack another submarine, but modern submarines are very quiet and exceedingly difficult to detect. The Congressional Research Service, for example, reports that some Kilo-class diesel submarines are quieter than improved *Los Angeles*-class nuclear submarines.⁴³ This suggests that properly maintained, modern diesel submarines can be detected at ranges varying from two hundred yards to four nautical miles.⁴⁴ By maritime standards, these are very short distances. Diesel submarines, therefore, cannot reasonably expect to find other quiet submarines at long ranges.

Thus the importance of the low speeds of diesel submarines. If they can detect opponents only at ranges of a few miles, they will take a considerable amount of time to search large areas effectively. Furthermore, the hunting diesel submarine might well be itself detected and attacked by the hunted boat. Having no marked advantages in detection range, search speed, or quietness over opponents, diesel submarines cannot hope to become effective ASW platforms. Diesel submarines are therefore really specialists in antisurface warfare, mining, and intelligence gathering. These are all offensively oriented missions.

During a conflict, Taiwan would likely maximize the effectiveness of its submarines by either laying mines against Chinese ports or by attacking with torpedoes or cruise missiles warships leaving their bases. This would provide a much higher probability of success against People's Liberation Army Navy (PLAN) vessels than would the defensive tactic of waiting in or around Taiwanese waters for them. But China would have difficulty determining the origin of any resulting attacks and could attribute them to the United States, particularly any by Mark 48 torpedoes, which were included in the 2001 arms sale offer and a variant of which is carried by American submarines.⁴⁵ Such a contingency seems unnecessarily escalatory, especially since there are other, purely defensive and nonescalatory, alternatives that could more quickly offer Taiwan equal or better deterrence and at lesser cost.

TAIWAN'S VULNERABLE NAVY AND AIR FORCE

Taiwan's navy could probably fight the PLAN effectively. It possesses highly advanced equipment, including four *Kidd*-class destroyers and Harpoon antiship and SM-2 anti-air missiles; its officers and men have a reputation for competence.⁴⁶ In consequence, China can be expected to look for a way to defeat this force decisively without a campaign of symmetrical, force-on-force attrition. A surprise, long-range, precision bombardment on Taipei's navy while it is in port seems a clear choice. Beijing would need sufficient weapon accuracy, availability,

and reliability, as well as targeting information, but all of these are now within the PRC's technical ability.

As mentioned above, problems of accuracy that used to characterize Beijing's long-range weapons have likely been solved. Accurate weaponry is useless without knowledge of the precise location of targets, but targeting Taiwan's surface combatants in port is increasingly easy. In the age of Google Earth, the latitude and longitude of naval piers at Tsoying, Suau, and Taiwan's other naval bases are easy to determine exactly, and these piers are finite in number. Moreover, many of Taiwan's naval bases are also commercial ports, suggesting that direct observation of surface ships within them would be a simple matter. Ships in port rarely shift berths, so Beijing could readily monitor the location of most, if not all, of Taiwan's surface combatants in port on a day-to-day basis.⁴⁷

If Beijing knew that Taipei's destroyers were tied up to a given pier, it could readily program cruise or ballistic missiles to strike the appropriate aim points. Even if jamming denies GPS and similar signals, technology like laser radar guidance allows automatic target recognition.⁴⁸ Deficiencies in accuracy can also be compensated for by submunitions, which can damage targets within a larger area. China has developed ballistic-missile-deployed submunitions since at least 2000.⁴⁹ Submunitions designed to penetrate and damage runways, which China has almost certainly developed for its SRBMs, would also be highly effective against moored naval vessels.⁵⁰

Unclassified information regarding China's weapons-system reliability is not available. But technological shortfalls no longer plague China's space program or significantly retard its ability to manufacture dependable high-technology consumer products such as memory chips, digital processors, digital cameras, cell phones, or personal computers. China thus seems increasingly capable of achieving adequate weapons-system reliability. Producing sufficient numbers of weapons is also well within the PRC's technical and budgetary capacities. Devoting, say, a hundred SRBMs to the destruction or crippling of Taiwan's navy would likely be a fruitful allocation of China's inventory of precision weapons.

Taiwan's air force is also threatened by long-range precision bombardment, but by different means.⁵¹ The Taiwan air force has nine air bases, from which approximately 145 F-16, fifty-six Mirage 2000, and 131 F-CK-1A Indigenous Defense Fighters operate.⁵² An examination of the air bases using Google Earth shows upward of four hundred protected revetments at these nine bases, approximately half of them covered and perhaps hardened.⁵³ This gives credence to the reports of underground hangars at Ta-Shan Air Base in Hualien that reportedly can protect over half of Taiwan's tactical fighter aircraft. Other underground shelters exist at Taitung Air Base and perhaps elsewhere.⁵⁴ The table

describes results of open-source satellite imagery examination of Taiwan’s air bases.

TAIWAN’S AIR BASES

Air Base	Latitude/ Longitude	Runways (Taxi)	Runway Length × Width (ft)*	Warheads	Shelters	Revetments	Tunnels
Taoyuan	250319/ 1211431	1 (1)	10,015 × 145	8	41	46	0
Hsinchu	244905/ 1205621	1 (2)	11,955 × 148	12	43	11	0
Ta-Shan	240148/ 1213629	1 (1)	7,959 × 140	5	0	0	8
Chashan	240109/ 1213652	1 (2)	9,022 × 148	8	23	10	0
Chiayi	232747/ 1202329	2 (1)	10,007 × 148 5,307 × 74	9	34	37	0
Tainan	225700/ 1201220	2 (1)	10,007 × 148 10,007 × 148	8	43	50	0
Kangshan	224657/ 1201553	2 (1)	8,019 × 145 7,435 × 145	6	4	0	0
Ching Chuan Kang	241525/ 1203738	1 (2)	12,000 × 148	12	31	16	0
Taitung	241104/ 1203914	1 (1)	11,055 × 147	8	29	0	12
Sungshan	250353/ 1213303	1 (1)	8,578 × 197	5	0	0	0
Makung	243409/ 1193747	1 (1)	9,843 × 148	8	4	8	0
Total		14 (14)		89	252	178	20

* Nearly all runway data in this table are taken from posted airport information on Google Earth. Information not provided was determined using Google Earth.

Any Chinese attempt to destroy individual aircraft in hardened shelters would be hindered by the large number of targets. The Second Artillery might have to devote at least one highly accurate unitary warhead to each covered aircraft revetment. This allocation of over two hundred missiles could be wasted, however, if Taiwan did not place any aircraft in these revetments but instead parked them in the open to defeat such targeting. Such dispersed aircraft, however, would be vulnerable to SRBM-delivered fragmenting submunitions. This too would be an inefficient use of a potentially large percentage of the Second Artillery’s short-range ballistic missiles, and neither method would threaten any aircraft protected in underground shelters.

A better option for the Chinese would be to target the runways with warheads designed to crater them and so prevent Taiwan’s aircraft from taking off.⁵⁵ For example, a

loaded F-16 apparently requires approximately 2,500 feet of uninterrupted runway to take off; U.S. doctrine, however, demands a fifty-by-five-thousand-foot minimum operating strip for tactical aircraft operations.⁵⁶ Taiwan's air bases have fourteen runways ranging from 5,307 to 11,995 feet long, and these strips are on average approximately 150 feet wide. If China's SRBMs are sufficiently accurate and reliable, six unitary warheads each creating a fifty-foot crater could cut a 12,000-by-148-foot runway into six segments, each smaller than a U.S. minimum operating strip.⁵⁷ Where taxiways could also serve as runways, they would also have to be cratered. Using this logic, China would have to devote at least eighty-nine perfectly accurate warheads (see the "warheads" column of the table) to Taiwan's runways and taxiways to prevent their use by tactical aircraft. The PRC cannot rely on 100 percent SRBM reliability and accuracy, but something between a hundred and two hundred unitary warheads could deny Taiwan the use of its air bases for a while. This number would be greater if accuracy and reliability were poor and ballistic missile defenses were effective; conversely, it could be smaller if China has runway-penetrating submunitions, tactical aircraft or cruise missiles can reliably deliver antirunway munitions, or fighter aircraft require longer takeoff or landing distances than assumed.⁵⁸

China has reportedly acquired runway-penetrating bombs from Russian sources.⁵⁹ It also seems likely that the Second Artillery has developed rocket-delivered warheads. A Google Earth image at 40°29'20" north latitude, 93°30'02" east longitude, depicts what is likely Chinese testing of a concrete-penetrating submunition warhead. Mark Stokes asserts that in fact the Second Artillery already has runway-penetrating submunitions, terminally guided.⁶⁰ In any case, there is little reason to doubt that China has developed suitably accurate antirunway weapons to support such a campaign as envisioned here. As a point in evidence, Taiwan recognizes that its runways present a critical vulnerability and has acquired the ability to repair them rapidly under combat conditions.⁶¹ Disturbingly, however, as late as 2007 at least one Taiwan airfield's runway repair capabilities consisted of "a pile of gravel and pile of sand at the apex of the runways. Both piles were uncovered, exposed to the elements, and obviously had been very long in place; furthermore, there was no earthmoving equipment stored anywhere near the piles."⁶² Effective rapid runway repair during sustained ballistic missile strikes requires highly trained and motivated teams. If Taiwan has established and maintained such teams, it should be able to keep some of its airfields operable. Observers might be forgiven doubts, however, given other manning problems that afflict Taiwan's military.⁶³

Among those problems is a shortage of pilots. For nearly a decade Taiwan has struggled to maintain a ratio of one pilot to one modern fighter aircraft. Bernard

Cole relates that Taiwan's minister of defense has seriously considered mothballing some of its Mirage 2000s in an effort to increase the pilot-to-plane ratio.⁶⁴ Attrition among pilots by any means would be a very serious matter.

Finally, Taiwan has on at least two occasions conducted exercises in which tactical aircraft flew from highways.⁶⁵ Yet this expedient incurs a host of logistics problems, very low sortie rates, and increased vulnerabilities to traditional, fifth-column, or PRC special operations forces attacks.⁶⁶

The key point is simple and sobering: the Second Artillery's expanding inventory of increasingly accurate SRBMs probably allows Beijing to incapacitate much of Taiwan's navy and to ground or destroy large portions of the air force in a surprise missile assault and follow-on barrages.

An Invitation to Invasion?

Hypothetical Chinese invasion fleets have always been presumed to risk devastation by Taipei's highly regarded air force. Yet even if Taiwan's fighters could take to the air and conduct coordinated defensive operations after suffering a long-range precision bombardment, they would still have to prevail against the Chinese air force and navy's growing inventory of fourth-generation Su-27, Su-30, J-10, and J-11 aircraft, all with impressive antiair capabilities. Other mortal threats include Beijing's four (soon to be eight) batteries firing the land-based S-300 PMU2 surface-to-air missile, which with its 120-mile range can reach nearly across the Strait of Taiwan and make penetration of China's airspace "difficult if not impossible" with F-16s and F-15s.⁶⁷ This difficulty could be exacerbated by the ninety-mile SA-20, which China is sending to sea on its pair of Luzhou-class destroyers, and by the fifty-four-mile HHQ-9 SAMs on both of its Luyang II destroyers.⁶⁸ Combined, these weapons systems could effectively defend an invasion fleet against any tactical aircraft that got airborne.

It is also widely assessed that Beijing lacks the amphibious lift required to conduct a successful invasion. A spate of recent mainland amphibious-ship construction, however, suggests that Beijing continues to pursue that option. The launching and outfitting of the Yazhou-class landing ship (LPD) in 2006 and 2007 at Shanghai's Hudong shipyard means that shortly an invasion fleet would have helicopter and air-cushion-vehicle support.⁶⁹ An additional invasion capability will be gained if China acquires from Russia the sixty-knot *Zubr*-class amphibious hovercraft, which can carry three main battle tanks, ten armored personnel carriers, or 140 troops. Long-swirling rumors of the impending sale of six or more are gaining credibility.⁷⁰ Further, the ten Yuting-II tank landing ships built during 2003 and 2004 increased China's inventory of that type by approximately 50 percent.⁷¹ The total number of amphibious vessels required to support a Taiwan invasion is debated; it depends on attrition rates, weather,

loading and unloading times, the use of civilian shipping, availability of off-loading infrastructure in Taiwan, Taiwan's will to resist, and other factors both physical and subjective.⁷² Regardless, it is apparent that China has not forsaken an invasion option and has the ability to develop rapidly additional amphibious forces.

Rethinking Taiwan's Defenses

Taiwan can do little to prevent a Chinese bombardment by many hundreds, even thousands, of precision-guided munitions. Taipei might have a better payoff, therefore, in seeking not to defeat the incoming warheads but to prevent the attack from achieving its objectives. For instance, one technologically unsophisticated and relatively affordable measure would be to harden key civil and military facilities—burying them or constructing concrete shelters that can withstand multiple direct hits.⁷³ This would be especially important for civilian leadership facilities, military command posts, and communications systems. It could even be done for Taiwan's three Patriot interceptor sites, which, Google Earth reveals, are in the open. Keeping the launchers and radars in caves or hardened bunkers would cause Beijing to devote more warheads to them. Also, having survived the initial bombardment, the launchers could be rolled out to protect against follow-on harassment strikes by SRBMs, cruise missiles, and tactical aircraft.

The same logic would further suggest redundancy of critical infrastructure—such as food and water distribution systems, medical services, wartime command and control, warning radars, or civil defense information networks. However, Taiwan's electrical grid is particularly vulnerable. For example, the magnitude 7.6 earthquake that struck central Taiwan on 21 September 1999 resulted in a complete loss of electricity in the northern half of the island. A major cause was heavy damage to the Chungliiao electrical substation, “a major hub in the island's high voltage transmission network that directs 45% of the north's power demand.”⁷⁴ Attacks on this attractive target could be resisted either by distribution redundancy or emergency generators (with fuel) to supply vital networks and facilities during and after a bombardment. Tax incentives or building-code revisions could help create such capacity.⁷⁵

As a further example, Taiwan could complicate China's targeting. Decoys are an excellent and affordable way to do so. In 1999 Serbia reportedly misled many NATO precision-guided munitions with such primitive ruses as simulated tanks made of wood and tarpaulins.⁷⁶ Taiwan could complicate Beijing's targeting options with radar emitters that seduce homing antiradiation missiles, inflatable “missile launchers,” and the like. Properly done, these measures could cause the Second Artillery to waste a large percentage of its warheads on false targets.

Another worthwhile alternative to trying to shoot down ballistic warheads would be making critical targets mobile. Fixed targets are relatively easy to locate and destroy with precision weaponry (unless buried or hardened), but mobile targets are not, as the United States discovered in its unsuccessful hunt for Scuds in the Iraqi western desert during the first Gulf War.⁷⁷ An option would be for Taiwan to move its Patriot radars frequently between several sites. For its part, the navy could consider frequently shifting its ships' berths, increasing the time they spend at sea, or even anchoring them in its ports, especially in time of heightened tensions.⁷⁸ Another option would be hardened pens for missile patrol craft, in which they might survive an initial SRBM attack.⁷⁹ Taipei could also rotate its fighters between airfields or between hardened shelters, in a high-stakes analogy to three-card monte. Future weapons acquisitions could emphasize mobility and concealment.

Beijing's short-range ballistic missiles are highly accurate, but they are not infinite in either destructive power or number.⁸⁰ In the face of such passive defenses they might well fail, however many struck targets, to achieve the true purpose for which they were fired—destruction of Taiwan's ability, or willingness, to resist "regime change."

Under existing conditions, however, a surprise long-range precision bombardment would likely cost Taiwan its ability to fly useful numbers of tactical aircraft in a coordinated manner or to sortie its navy. This prospect has important implications. For one, it suggests that additional tactical fixed-wing aircraft requiring long runways would not be a wise investment. If their mission would be countering invasion and (more important) preventing the PRC from using its own aircraft in a bombardment, invasion, or blockade, Taiwan would do better to invest more in mobile SAM systems. For instance, Taiwan reportedly has 162 medium-range Improved Hawk missiles but as few as five launchers.⁸¹ The surface-launched advanced medium-range air-to-air missile (SLAMRAAM), a truck-mounted version of the highly capable AIM-120 AMRAAM, if acquired and integrated with existing systems, would significantly enhance Taiwan's anti-air capability.⁸² Taiwan could enhance its short-range man-portable and truck-mounted air-defense systems, such as the Stinger, Avenger (a truck-borne Stinger), and Chaparral; they might be stored in hardened or disguised shelters and frequently moved between them. These steps would greatly complicate targeting and help deny China air superiority in the aftermath of a major bombardment. On this view, further investments in fixed-site surface-to-air missiles, such as Taiwan's silo-based Sky Bow 1, would seem unwise due to their vulnerability to precision-guided munitions, unless they can withstand multiple direct hits.

REPELLING AN INVASION

An all-out Chinese campaign to topple the Taiwan government might combine bombardment with invasion. If Taiwan's navy and air force were neutralized or destroyed by the bombardment, the army would have to repulse or defeat an invasion alone. There are several weapons—all affordable and unambiguously defensive in nature—that, if purchased, could greatly improve its chances of doing so.

At the top of this list are mobile coastal-defense cruise missiles (CDCMs), such as truck-mounted Harpoons. A fairly small number of these missiles would likely devastate China's armor-carrying amphibious shipping, which would have to come well within range, and then stop, to disembark the vehicles. Recent naval history strongly suggests that a vessel loaded with tanks or armored personnel carriers could be sunk or put out of action by a single five-hundred-pound (or lighter) high-explosive warhead, such as cruise missiles deliver.⁸³ Thus far, no Chinese amphibious vessel has a robust anti-cruise missile capability.⁸⁴ Cruise missiles' targets could be acquired by mobile radars.⁸⁵ Best of all, CDCMs could greatly enhance Taiwan's ability to destroy an invasion force without third-party assistance.⁸⁶

A second class of weaponry that would be highly effective in repelling an invasion comprises attack helicopters, such as the Apache AH-64D. Taiwan, recognizing the utility of helicopters, has sixty-three AH-1A Super Cobras and has set in motion an initiative to buy thirty Apaches in 2008 from the United States for an estimated U.S. \$2.26 billion.⁸⁷ These aircraft would be highly effective against armor that approached in landing craft or got ashore, if adequately protected during the preparatory bombardment. Additionally, helicopters' ability to fly low affords a degree of immunity to long-range surface-to-air missiles.

The Multiple Launch Rocket System (MLRS) is another truck-mounted weapon that might be appropriate for Taiwan. These mobile launchers could be readily hidden or sheltered. Equipped with appropriate rockets, their long-range precision fire could greatly weaken any PLA toeholds.⁸⁸ They might do so even if key bridges or roads were impassable; a handful of MLRS sites could cover the entire island. Advanced tanks, artillery, and antitank weapons should not be left off this list of effective hardware, but Taiwan already has sizable stocks of most of them.

Another hardware recommendation, less strictly associated with ground warfare, involves surf-zone sea mines. These weapons, designed for waters less than ten feet deep, are extraordinarily difficult to counter and would bedevil the planning or execution of any Chinese invasion of Taiwan. A former commandant of the U.S. Marine Corps, General James L. Jones, stated in 2002 that "the inability

to clear mines from the surf zone is the 'Achilles' heel of our maneuver force.'"⁸⁹ U.S. Navy mine warfare officers also attest to their effectiveness and to the speed and ease of deploying them.⁹⁰ Since they are lightweight and portable, shallow-water mines can be quickly and easily moved from secure bunkers to where they are needed. They are also quite inexpensive, relative to many of the other weapons systems Taiwan might choose.

None of these weapons would be effective if Taiwan's army were not highly trained or motivated. Unfortunately, however, its conscript ground forces reportedly "suffer from low morale, a poor NCO [noncommissioned officer] program and poorly maintained equipment."⁹¹ Also, Taiwan's reserve forces are very weak; conscripts serve only fourteen months before entering the reserves.⁹² In any case, conscript-based armies are poorly suited to the high-technology combat that would characterize an invasion attempt by the PRC. These problems are no doubt rooted in structural, social, and political issues beyond the scope of this article. However, it should be pointed out briefly that the aim of thwarting the ultimate objectives of a PRC attack (or better, thereby discouraging Beijing from the attempt) would be best served by an all-volunteer, highly professional and highly trained army. An all-volunteer army, though consistent with the stated desires of many elected officials, could not be developed quickly.⁹³ It would increase personnel costs, but it would also increase the ground force's deterrent value, since it would reduce the likelihood of total collapse at the beginning of hostilities, which numerous informed observers believe is a real possibility.⁹⁴

WITHSTANDING A BLOCKADE

If Taiwan's military and leadership were to ride out a bombardment and repel an invasion, China might then consider an extended blockade designed to prevent Taiwan from importing energy.⁹⁵ The Republic of China would be acutely vulnerable to such an action, since it imports over 98 percent of its energy requirements. All these fuels pass through easily identifiable bottlenecks, including off-loading terminals and processing locations that would be susceptible to destruction or mining.⁹⁶ Imported energy is also carried on easily identifiable ship types, which could be isolated, diverted, or even sunk. Additionally, Taiwan's refineries are required only to maintain crude oil stocks equivalent to thirty days' demand.⁹⁷ This all suggests that an energy blockade's effects would be felt very quickly throughout Taiwan, and could be severe.

One wonders how long Taipei could resist Beijing's demands under such conditions. It is equally unclear how a blockade that was preceded by a long-range precision bombardment could be countered, whatever defensive military

options Taiwan pursues. A partial solution might lie in the civil, rather than military, sphere. Specifically, Taiwan could prepare for a blockade by stockpiling critical energy, food, and medical supplies and planning for rationing and financial contingencies.⁹⁸ Such preparations would reassure Taiwan's leadership and citizenry that they could withstand a blockade, thus reducing the likelihood of panic and early capitulation. A second objective of comprehensive preparations and plans would be to delay significantly the point when shortages would force Taipei to concede.⁹⁹

Perhaps most important, the United States could use the interim to deliberate how best to respond. For instance, Washington could withhold the possibility of intervention as leverage to induce Taipei to behave within acceptable parameters, both before and during crises. With the luxury of time, the United States might find ways to assist that avoided direct military conflict with China—for example, supplying critical military material via airlift, much as the Nixon administration did for Israel during the 1973 Yom Kippur War, or by shipping oil to Taiwan on reflagged, escorted tankers. The United States might, conversely, decide to intervene with conventional force in an overwhelming but carefully phased manner that took advantage of asymmetrical American advantages. A standing realization by China that it could well be defeated in such a contingency would significantly contribute to deterrence.

THE PORCUPINE REPUBLIC

It is difficult to escape the conclusion that China either already has or shortly will have the ability to ground or destroy Taiwan's air force and eliminate the navy at a time of its own choosing. This prospect fundamentally alters Taiwan's defense needs and makes the intended acquisition from the United States of diesel submarines, P-3 aircraft, and PAC-3 interceptors ill advised.

Diesel submarines are poor antisubmarine platforms, since with their low speed and limited underwater endurance they simply cannot search quickly large volumes of ocean for quiet submarines. These physical restrictions also limit their versatility as antisurface platforms. They are, for all practical purposes, four-knot minefields. At a cost of over U.S. \$1.5 billion each and with indeterminate delivery dates, conventional submarines also carry significant opportunity costs, as some in Taipei clearly recognize. Finally, submarines are no more likely than other naval ships tied up at exposed piers to survive the opening salvo of a war with China.

Taiwan's apparent decision to purchase up to twelve submarine-hunting P-3C aircraft is similarly brought into question. Although these planes can collect valuable information during peacetime and in crisis, in wartime they would

be sitting ducks while on the ground (though hardened shelters might protect P-3s) and aloft would require uncontested air superiority to have any chance of accomplishing their mission.¹⁰⁰ In any case, Taipei cannot protect its runways. Patriot surface-to-air missiles have some utility against short-range ballistic missiles, but China already has the means to defeat this expensive air-defense system.

The implication is that Taiwan would be far better served by hardening, and building redundancy into, its civil and military infrastructure and systems. In that way the island could reasonably hope to survive an initial precision bombardment, deny the PRC the uncontested use of the air, repel an invasion, and defy the effects of a blockade for an extended period. Many of these actions, in fact, would be consistent with recent efforts by Taiwan to improve its defenses. Others, however, would entail substantial shifts that some in Taiwan's navy and air force would doubtless oppose. Air force leaders would be understandably loath to admit that their fighters cannot defend Taiwan's skies; their navy counterparts might similarly resist suggestions that their fleet is acutely vulnerable in port. Both services' political champions would certainly challenge the implications of this article's analysis. So too would the arms manufacturers who stand to benefit from the sale of aircraft, ships, and supporting systems to Taiwan.

Yet under present conditions it is doubtful that the people and government of Taiwan could withstand a determined PRC assault for long. A hasty American military intervention would be Taiwan's only hope, but only at the risk of strategic miscalculation and nuclear escalation. A "porcupine" strategy—a Taiwan that was patently useless to attack—would obviate the need; it would also make a determined Taipei conspicuously able to deny the objective of a bombardment or defeat an invasion, thus deterring either scenario. Ability to resist a full-scale campaign—long-range precision bombardment, invasion, and blockade—for a substantial amount of time would allow its potential allies to shape their responses carefully. Above all, 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.¹⁰¹

Meanwhile, a porcupine strategy would restore the United States to unequivocal adherence to the Taiwan Relations Act, since Taiwan would be in the market only for defensive systems. Taiwan would find itself with a better defense for fewer dollars, and the United States would abide by the 17 August 1982 joint communiqué declaring that it would "not exceed, either in qualitative or in quantitative terms, the level of those [arms] supplied in recent years . . . and that it intends gradually to reduce its sale of arms to Taiwan, leading, over a period of time, to a final resolution."¹⁰²

Finally, and most important, a porcupine approach would shift the responsibility for Taiwan's defense to Taiwan, rendering U.S. intervention in a cross-strait battle a last resort instead of the first response. Many observers believe that Taiwan today relies unduly on a perceived American security guarantee and does not do enough to provide for its own defense. Yet since 2000 the Kuomintang and the Democratic People's Party have not framed a defense debate that could produce the open, honest appraisal that is desperately needed if domestic consensus on a viable defense is to be achieved. A Taiwan that China perceived could be attacked and damaged but not defeated, at least without unacceptably high costs and risks, would enjoy better relations with the United States and neutralize the threat posed by many of China's recently acquired military capabilities. Unfortunately, political gridlock in Taipei stands in the way of any such hopes. It is not that Taiwan does not do enough to construct a viable defense but that it is not doing the right things.

NOTES

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1. *China's National Defense in 2004*, available at www.fas.org/. China's 2006 defense white paper did not emphasize the same point.
2. Many of these improvements have been proudly displayed on the Internet. See, for example, the intelligently moderated China Defense Forum at forum.china-defense.com/. The annual U.S. Department of Defense reports to Congress on the "Military Power of the People's Republic of China" also chronicle many of Beijing's military developments.
3. U.S. Defense Dept., *Annual Report to Congress: Military Power of the People's Republic of China 2007* (Washington, D.C.: 23 May 2007), p. 15, available at www.defenselink.mil/; Roger Cliff et al., *Entering the Dragon's Lair: Chinese Antiaccess Strategies and Their Implications for the United States* (Santa Monica, Calif.: RAND, 2007), available at www.rand.org/; Ron O'Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress* (Washington, D.C.: Congressional Research Service [hereafter CRS], 20 July 2007).
4. Wang Yu-yen, "Hu Jintao Says the Only Task of the CPC Armed Forces Is to Launch War against Taiwan," *Lien-Ho Pao*, 27 August 2007, Open Source Center [hereafter OSC] CPP20070827312001.
5. Wang Shibin, "Guo Boxiong Sets Out PLA Tasks, Warns 'Taiwan Independence' Forces," *Jiefangjun Bao*, 7 March 2008, p. 1, OSC CPP20080307710003.
6. Thus, in all probability, an invasion or a blockade would be preceded by a long-range precision bombardment. These scenarios could, and likely would, involve extensive information warfare operations, as well as "decapitation attacks," in which senior political and military leaders would be personally targeted, perhaps by assassins or precision-guided munitions.
7. See, for example, Michael O'Hanlon, "Why China Cannot Conquer Taiwan," *International Security* 25, no. 2 (Fall 2000), pp. 51–86; Michael A. Glosny, "Strangulation

- from the Sea? A PRC Submarine Blockade of Taiwan,” *International Security* 28, no. 4 (Spring 2000), pp. 125–60; Robert S. Ross, “Navigating the Taiwan Strait: Deterrence, Escalation Dominance, and U.S.-China Relations,” *International Security* 27, no. 2 (Fall 2002), pp. 48–85; and David A. Shlapak, David T. Orletsky, and Barry A. Wilson, *Dire Strait? Military Aspects of the China-Taiwan Confrontation and Options for U.S. Policy* (Santa Monica, Calif.: RAND, 2000). However, these studies were published before the evidence of PLA modernization was fully apparent.
8. Robert A. Pape, *Bombing to Win* (Ithaca, N.Y.: Cornell Univ. Press, 1996), pp. 12–26.
 9. See, for example, Thomas J. Christensen, “Posing Problems without Catching Up: China’s Rise and Challenges for U.S. Security Policy,” *International Security* 25, no. 4 (Spring 2001), pp. 5–40; and Lyle Goldstein and William Murray, “Undersea Dragons: China’s Maturing Submarine Force,” *International Security* 28, no. 4 (Spring 2004), pp. 161–96. For a careful, and rather discouraging, analysis of Taiwan’s security situation see Bernard D. Cole, *Taiwan’s Security: History and Prospects* (London: Routledge, 2006).
 10. Pape refers to this use of bombardment as “coercion by denial,” maintaining that such strategies are much more likely to succeed than strategies that rely on punishment; *Bombing to Win*, pp. 27–35.
 11. For details see Shirley Kan, *Taiwan: Major U.S. Arms Sales since 1990*, CRS Report for Congress (Washington, D.C.: CRS, 5 July 2005), pp. 17–22.
 12. A thoughtful criticism of such offensive systems is provided by Denny Roy, “Taiwan Perilously Ponders Its Strategic Missile Force,” Jamestown Foundation *China Brief* 6, no. 20, available at jamestown.org/china_brief.
 13. A PAC-3 interceptor costs approximately \$3.2 million. Rich Chang, “PAC-3s Will Protect Taiwan, MND Says,” *Taipei Times*, 21 March 2005, p. 3, available at www.taipetimes.com. Although the cost of Chinese SRBMs is not publicly available, the fact that the PRC is building over a hundred a year suggests they are much more affordable to the PRC than are PAC-3 interceptors to Taiwan.
 14. This would align with the 11 September 2007 speech by Thomas J. Christensen, Deputy Assistant Secretary of State for East Asian and Pacific Affairs, to a U.S.-Taiwan Business Council defense industry conference. Christensen said that the United States desires a “strong and moderate Taiwan . . . that maintains the military capacity to withstand coercion for an extended period of time”; available at www.state.gov. Further, section 3302 of the Taiwan Relations Act states, “The President and the Congress shall determine, in accordance with constitutional processes, appropriate action by the US in response to any such danger” (usinfo.state.gov/eap). Such process would likely take a significant period of time.
 15. Ross, “Navigating the Taiwan Strait,” p. 82.
 16. Jim Wolf, “Taiwan Submarine Builder Not Chosen Yet: Envoy,” Reuters, 29 September 2004; prices are in U.S. 2001 dollars. The complete package offered in response to a Taiwanese request also included “54 Mark-48 torpedoes, 44 Harpoon submarine-launched anti-ship cruise missiles, 144 M109A6 Paladin self-propelled howitzers, 54 AAV7A1 amphibious assault vehicles, AN/ALE-50 electronic countermeasure systems for F-16s, and 12 MH-53 mine-sweeping helicopters”; Kan, *Taiwan*, p. 6. Kan’s excellent report contains a comprehensive accounting of the arms sale’s subsequent tortuous progress.
 17. See, for example, “China Opposed to US Submarine Sale to Taiwan: FM Spokeswoman,” *People’s Daily*, 21 November 2001, available at english.people.com.cn.
 18. Nicholas Kravev, “Election Results Threaten U.S. Arms Agreement,” *Washington Times*, 16 December 2004, p. 17.
 19. “U.S. Official Warns of ‘Repercussions’ If Taiwan Fails to Approve Weapons Deal,” Associated Press, 6 October 2004, available at taiwansecurity.org. Other public pressure from the United States included statements by Stephen Young, the director of the American Institute of Taiwan, who called frequently on Taiwan to fund the package. See Rich Chang, “Time Expiring on Arms Deal: Congressman,” *Taipei Times*, 23 February 2006, p. 2, available at www.taipetimes.com; and Jane Rickards, “Taiwan Rejects Most of U.S. Arms Package Offered in 2001,”

- Washington Post*, 16 June 2007. Peter Rodman, Assistant Secretary of Defense for International Security Affairs, testified in 2004 to Congress, "We expect Taiwan to go forward with its plan to pass a 'Special Budget' this summer to fund essential missile defense and anti-submarine warfare systems and programs"; Kan, *Taiwan*, p. 20, citing statement before the House International Relations Committee, *The Taiwan Relations Act: The Next 25 Years*, 108th Cong., 2nd sess., 21 April 2004, note 102.
20. Lu Chao-lung, "US Demands Exorbitant Price for Purchase of Submarines, Anti-submarine Planes," *Chung-Kuo Shih-Pao*, 8 May 2003, Foreign Broadcast Information Service [hereafter FBIS] CPP20030508000022.
 21. *Jane's Defence Weekly*, 21 May 2003.
 22. In comparison, the Russians in 2002 sold eight Project 636M Kilo-class submarines to the PRC for a reported \$1.6 billion. See, for example, "Sevmachpredpriyatiye Enterprise Ready to Construct Submarines for Chinese Navy," *Agentstvo Voenykh Novostey*, 3 September 2002, FBIS CEP20020903000123. All eight Kilos were delivered to China by the end of 2006.
 23. "Warning on Arms Purchase Angers Taipei Opposition," Reuters, 7 October 2004, available at taiwansecurity.org.
 24. Taiwan's defense minister, Lee Jye, for example, said, "I have said I will resign if the budget is not passed. I am serious"; "Defense Minister Threatens to Quit over Sub Budget," *Taipei Times*, 15 June 2004, p. 4, available at www.taipeitimes.com.
 25. Ted Galen Carpenter, "Taiwan's Free Ride on U.S. Defense," *Asian Wall Street Journal*, 23 April 2007, available at www.cato.org.
 26. Taiwan apparently decided to buy twelve P-3Cs; Reuters, "U.S. May Sell Weapons to Taiwan," *New York Times*, 13 September 2007.
 27. Shih Shiu-chuan, "Legislature Finally Passes US Arms Budget," *Taipei Times*, 16 June 2007, p. 1, available at www.taipeitimes.com.
 28. "By November 2007, the PLA had deployed between 990 and 1070 CSS-6 and CSS-7 short-range ballistic missiles (SRBM) to garrisons opposite Taiwan. It is increasing the size of this force at a rate of more than 100 missiles per year, including variants of these missiles with improved ranges, accuracies, and payloads"; U.S. Defense Dept., *Annual Report to Congress: Military Power of the People's Republic of China 2008* (Washington, D.C.: 29 February 2008), p. 2. The 2008 DoD report states (pp. 2, 56) that China has up to 250 DH-10 land-attack cruise missiles. *Jane's* claims a ten-meter-CEP accuracy for these weapons; "China Tests New Land-Attack Cruise Missile," *Jane's Missiles and Rockets*, 1 October 2004, available at www.Janes.com. CEP is the radius of a circle within which a warhead will land at least 50 percent of the time.
 29. Chang, "PAC-3s Will Protect Taiwan, MND Says," p. 3.
 30. A Taiwan Ministry of National Defense official leaked that PAC-3 interceptors have a 0.8 probability of kill; Chang, "PAC-3s Will Protect Taiwan, MND Says." By extension, they also have a probability of miss of 0.2. The probability of at least one of a pair of PAC-3 interceptors striking their target would therefore be $1 - (0.2 \times 0.2) = 0.96$.
 31. Mark A. Stokes, prepared statement before the U.S.-China Economic and Security Review Commission, *China's Military Modernization and Export Controls Hearings*, 109th Cong., 2nd sess., 16 March 2006, p. 44, available at www.uscc.gov/hearings/2006hearings/transcripts.
 32. O'Hanlon, "Why China Cannot Conquer Taiwan," p. 58.
 33. Christensen, "Posing Problems without Catching Up," p. 26.
 34. John Hill, "Missile Race Heightens Tension across the Taiwan Strait," *Jane's Intelligence Review*, 1 January 2005. This article also reports the Chinese development of land-attack cruise missiles with ten-meter accuracy.
 35. Stokes, prepared statement before the U.S.-China Economic and Security Review Commission, p. 44.
 36. "Chinese Missiles Aimed at Taiwan Exceeds [sic] 900," *China Post*, 11 September 2007, available at www.chinapost.com.tw. A 2007 Taiwan article claims newer SRBMs have a CEP of thirty, or even twenty, meters; see Cheng Ta-ch'eng, "Taiwan Report on PRC Missile Threat to World," *Taipei*

- Lu-chun Yueh-k'an*, 26 January 2007, OSC CPP20070524312005. Cheng does not provide a source for this estimate in his otherwise well-documented article.
37. Russia's GLONASS system, which would presumably be available even if the U.S. GPS were denied, provides similar accuracies, as will the even more accurate Galileo system, to be built by the European Union and China. China is also putting into orbit its Beidou navigation satellite system.
 38. Scott Bray, Office of Naval Intelligence Public Affairs Office, "Seapower Questions on the Chinese Submarine Force," e-mail to author, 6 March 2007.
 39. Stokes relates that "2nd artillery doctrine stresses surprise and disarming first strikes to gain the initiative in the opening phase of a conflict"; Stokes, prepared statement before the U.S.-China Economic and Security Review Commission, p. 44.
 40. One close observer's assessment to the author was, "I don't think any of the S-2s are operable."
 41. See "P-3C Orion Maritime Patrol and Anti-submarine Warfare Aircraft, USA," *Air Force Technology*, www.airforce-technology.com. Japan obtained and honed this significant force during the Cold War to oppose the threat posed by the Soviet submarine force. The multimission capability of these aircraft, however, justifies their continued operation by Japan and other countries, including the United States.
 42. Adm. Harry D. Train, USN, "An Analysis of the Falkland/Malvinas Islands Campaign," *Naval War College Review* 41, no. 1 (Winter 1988), p. 40.
 43. Shirley Kan, Christopher Bolkom, and Ronald O'Rourke, *China's Foreign Conventional Arms Acquisitions: Background and Analysis*, CRS Report for Congress (Washington, D.C.: CRS, 10 October 2000), p. 61, available at www.fas.org. China has twelve Kilo submarines.
 44. See figure A6-6 in Tom Stefanick, *Strategic Antisubmarine Warfare and Naval Strategy* (Lexington, Ky.: Institute for Defense and Disarmament Studies, 1987), p. 278. Stefanick concludes that a *Los Angeles*-class submarine can be detected at ranges from one to twenty-five nautical miles. If a Kilo-class diesel submarine is quieter than an improved *Los Angeles*-class unit, which in turn must be quieter than an unimproved *Los Angeles*, then Stefanick's graph suggests that detection ranges for a Kilo are on par with those of *Ohio*-class SSBNs.
 45. Kan, *Taiwan*, p. 6.
 46. Taiwan also has nine *Chi Yang* (ex-U.S. *Knox*-class) frigates, eight *Cheung Kung*-class frigates that are copies of the U.S. *Oliver Hazard Perry* class, six frigates of the *Kang Ting (Lafayette)* class, and some fifty missile patrol craft. See Cole, *Taiwan's Security*, pp. 119–34.
 47. Ship movements in port would require the interruption of daily training and maintenance, involve several harbor tugs, and complicate the planning of harbor operations. As a result, it is somewhat expensive and generally avoided.
 48. See, for example, "Laser Radar (LADAR) Guidance System," at the Israeli Aerospace Industry's *Defense Update: International, On-line Defense Magazine*, www.defense-update.com/products/l/ladar.htm. I make no claim that the PRC has this technology but only observe that high weapons-system accuracy is no longer a monopoly of the United States.
 49. Bruce Bennett, "The Emerging Ballistic Missile Threat: Global and Regional Ramifications," in *Emerging Threats, Force Structures, and the Role of Air Power in Korea*, ed. Natalie W. Crawford and Chung-in Moon (Santa Monica, Calif.: RAND, 2000), p. 193.
 50. The technology for such weapons is not cutting-edge. The British JP233, used in the Gulf War, for example, was an aircraft-delivered anti-airfield munition that dropped thirty 34 kg cratering bomblets and 215 2.4 kg anti-personnel mines. The bomblets had two stages—the first used a shaped charge to blow a hole in the concrete runway into which the second stage would fall, exploding to create a large crater. The antipersonnel mines were sufficiently strong and sensitive to disable heavy equipment passing nearby, slowing runway repair. The JP233 weighed approximately 1,587 kg; see "JP233," *Wikipedia*, en.wikipedia.org/wiki/JP233. Germany's STABO runway-penetrating submunitions weigh just 16 kg each. China's CSS-7 SRBM is thought to be able to carry 800 kg warheads

- at least 174 miles, which suggests that in terms of mass delivered, two SRBMs could create the same airfield damage as a single JP233. Similarly, a single CSS-7 could also carry approximately the mass of forty-eight STABOs, though its ability to carry that much volume is uncertain. See “CSS-7,” Missilethreat.com (Claremont Institute).
51. An informed discussion of this idea can be found in Lt. Cdr. William E. Bunn, USN, “Shock and Awe with Chinese Characteristics,” *Chinese Military Update* 3, no. 2 (March 2006). Readers who type “Hualien” into Google Earth can observe for themselves the location of the hardened aircraft revetments at Taiwan’s Chashan and connected Ta-Shan air bases.
 52. See “Republic of China Air Force (ROCAF),” TaiwanAirPower.org; and Cole, *Taiwan’s Security*, pp. 105–18. Cole points out that Taiwan also has ninety or more F-5 aircraft but notes that these largely obsolete aircraft are used mostly for pilot training.
 53. Knowledgeable individuals who have inspected Taiwan’s aircraft shelters have observed to the author that they are “inadequate in coverage and strength.”
 54. Oliver August, “Secret World That Guards Taiwan,” *London Times*, 23 May 2001. Google Earth images of Taitung’s underground shelters, which are approximately two thousand feet long in total, suggest that they can protect a substantial number of aircraft.
 55. This is apparently consistent with at least some Chinese operational concepts. See the discussion in Cliff et al., *Entering the Dragon’s Lair*, pp. 62, 81–109.
 56. See U.S. Air Force Dept., “Mission Planning,” *Pilot Operating Procedures: F-16*, Multi-Command Instruction 11-F16, sec. 2.2.2, 21 April 1995, available at www.fas.org. Despite this, in U.S. doctrine the minimum operating strip for flight operations is fifteen meters wide and 1,525 meters long (or fifty by five thousand feet). This additional length is more important during landings than on takeoff. See “Aviation Facilities,” *Federation of American Scientists*, www.fas.org.
 57. Cole reports a Taiwanese Ministry of National Defense estimate that a 500 kg unitary warhead from an SRBM would create in a runway a crater ten meters deep and twenty wide. *Taiwan’s Security*, p. 113.
 58. A 1999 RAND study estimated that dozens of missiles with nonpenetrating submunitions bomblets could attack a U.S. air base effectively; John Stillion and David Orletsky, *Airbase Vulnerability to Conventional Cruise-Missile and Ballistic-Missile Attacks* (Santa Monica, Calif.: RAND, 1999), pp. xiii, 13, 14. I contend that runway-penetrating submunitions further reduce that number.
 59. “KAB-500Kr TV-Guided Bomb,” SinoDefence.com.
 60. “These warheads include things like, for example, submunitions, terminally guided submunitions for example, for runway cratering in order to pin down an air force on the ground or to disrupt naval operations”; Stokes, prepared statement before the U.S.-China Economic and Security Review Commission, p. 42.
 61. The Washington, D.C., company Rapid Mat U.S. was awarded a \$43 million contract in 2002 to provide rapid-runway-repair kits to Taiwan by the end of 2004. See the U.S. Defense Dept., Press Release 145-2, 22 March 2002, available at www.defenselink.mil/contracts. The company’s website, www.coltrapidmat.com, lists the materials used in rapid-runway-repair kits.
 62. E-mail to the author from a knowledgeable individual who visited the base.
 63. See, for example, Cole, *Taiwan’s Security*, pp. 74–78, 89–90, 102, and 111–12.
 64. *Ibid.*, pp. 111–12.
 65. This occurred in 2007 and in 2004. See “Planes Land on Highway as Taiwan Simulates Attack from Rival China,” *China Post*, 15 May 2007, available at www.chinapost.com.tw; and “Taiwan Turns Highway into Flyway,” Associated Press, 22 July 2004, available at taiwansecurity.org.
 66. Shlapak, Orletsky, and Wilson, *Dire Strait?* p. 33.
 67. For a description of the threat posed by advanced Russian SAMs see John A. Tirpak, “The Double-Digit SAMs,” *Air Force Magazine Online* 84, no. 6 (June 2001), www.afa.org/magazine. The quoted phrase is that of Lt. Gen. Bruce Wright, USAF, in Eric

- Talmadge, "While U.S. Is Boggled Down in Iraq China Seen Making Big Military Strides," *Japan Times*, 1 October 2007, available at search.japantimes.co.jp.
68. "SA-N-6/20 'Grumble' (S-300 Fort/Rif)," *Jane's Strategic Weapon Systems*, 29 December 2006, available at www.Janes.com; and U.S. Defense Dept., *Annual Report to Congress: Military Power of the People's Republic of China 2006* (Washington, D.C.: May 2006), p. 5.
69. See Richard D. Fisher, "Chinese Aspects of Singapore's IMDEX Naval Technology Show," *International Assessment and Strategy Center*, 20 June 2007, available at www.strategycenter.net.
70. See, for example, "China Orders 6 Giant Russian 'Zubr' Hovercraft," *Defense Industry Daily*, 13 September 2007, available at www.defenseindustrydaily.com.
71. "Yuting-II Class (LSTH)," *Jane's Fighting Ships*, 29 January 2007, available at www.Janes.com.
72. O'Hanlon's discussion in "Why China Cannot Conquer Taiwan" of the difficulties facing an invasion of Taiwan is still quite good, although his conclusion regarding the survivability of Taiwan's air force during bombardment has been overcome by developments.
73. James Mulvenon has been making this point since at least 2000. Steven Mufson, "U.S. Faces a Dilemma on Taiwan: Warship Sale Could Fuel China Tensions," *Washington Post*, 14 April 2000, available at taiwansecurity.org. A hardened aircraft shelter in Europe cost approximately four million dollars in 1999; see Stillion and Orletsky, *Airbase Vulnerability to Conventional Cruise-Missile and Ballistic-Missile Attacks*, p. 31. Shlapak, Orletsky, and Wilson strongly advocate hardening not only aircraft revetments but also air base fuel-tank farms, fuel distribution systems, and critical maintenance facilities; *Dirge Strait?* pp. 32–33. Bernard Cole too argues strongly that Taiwan should harden critical facilities, in *Taiwan's Security*, pp. 113–14.
74. Restoration of power to northern Taiwan businesses and residences took weeks. Risk Management Solutions, *Event Report Chi-Chi, Taiwan Earthquake* (n.d.), pp. 13–15, available at www.rms.com/publications/Taiwan_Event.pdf.
75. Although this would be a significant commitment, it is not entirely without precedent. Israeli law mandates that all new houses have a "safe room" designed to withstand a bomb blast.
76. "And Now, the War Forecast," *Economist Technology Quarterly*, 17 September 2005, p. 23.
77. The United States reportedly dedicated nearly 2,500 missions to finding and destroying Scuds, with no successes. Mark Thompson, "The Great SCUD Hunt," *Time*, 15 December 2002, available at www.time.com.
78. Because an anchored ship swings, or pivots, around its anchor, it cannot be struck by warheads aimed at coordinates. It could be hit, however, by area-covering submunitions or guided warheads, perhaps from antiship cruise missiles, to which China has devoted much effort.
79. Missile craft sheltered in facilities modeled on Germany's famously impervious submarine shelters in Brest, France, during World War II would be vulnerable to cruise missiles, however, or to the effects of thermobaric warheads, which could be delivered via missiles or aircraft. See Jonathan Marcus, "Analysis: How Thermobaric Bombs Work," *BBC News*, 4 March 2002, available at news.bbc.co.uk.
80. Milošević withstood the destruction caused by 6,728 U.S. precision-guided munitions striking approximately six thousand aim points before conceding to demands. Taiwan, with an island's additional defensive characteristics, ought to be able to do even better. See Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Santa Monica, Calif.: RAND, 2001), pp. 87–88, note 4.
81. See "Army, Taiwan," *Jane's Sentinel Security Assessment: China and Northeast Asia*, 23 April 2007, table, "Air Defense Weapons," available at www.Janes.com.
82. For a description of this system, see "Surface Launched (SL)AMRAAM Complementary Low Altitude Weapon System (CLAWS)," *Defense Update*, www.defense-update.com/products.

83. During the 1982 Falklands War, HMS *Sheffield* was sunk and HMS *Glamorgan* badly damaged by hits by single Exocet ASCMs. The USS *Stark* (FFG 31) nearly sank after being hit by two Iraqi Exocet ASCMs in 1987, and Israel's *Sa'ar*-class corvette *Ahi Hanit* retired from battle after being struck by a Chinese-model C-802 ASCM in 2006. The Exocet and C-802 both have 165 kg (363-pound) warheads.
84. The one exception to this statement is the solitary Lashou-class LPD, which is equipped with the AK-630 Gatling-gun point-defense system.
85. These radars would be vulnerable to HARM systems, such as Harpy subsonic unmanned drones or China's supersonic KH-31 Krypton missiles. To counter these weapons coastal surveillance radars could be mobile, operated in "blinking" modes from hardened locations, or protected by decoys.
86. Taiwan is developing the 180-mile-range Hsiung Fen III supersonic ASCM; it displayed this weapon during a 13 October 2007 parade.
87. Sofia Wu, "Apache Helicopter Most Suited to Taiwan's Defense Needs: Army," ROC Central News Agency, 10 July 2007, available at www.globalsecurity.org.
88. The MLRS can fire a multitude of rockets with a variety of lethal warheads. Many of these variants could greatly assist Taiwan's defenses, but as presently configured some have ranges that theoretically would allow them to strike China, especially from Penghu. See "MLRS Multiple Launch Rocket System, USA," *Army Technology*, www.army-technology.com/projects.
89. See, for example, Sandra I. Erwin, "Shallow-Water Mines Remain 'Achilles' Heel' of U.S. Navy," *National Defense* (January 2002), available at www.nationaldefensemagazine.org.
90. Commercially available mines can be deployed by two people on the back of a pickup truck. The mines detonate with sufficient force to flip over an amphibious tank.
91. "Army, Taiwan."
92. Cole, *Taiwan's Security*, p. 79.
93. For a careful explanation of other impediments to Taiwan's developing an effective, all-volunteer army, see *ibid.*, pp. 72–90, 102–103.
94. "The biggest unknown is, will they fight?" This is how one retired U.S. military officer who has extensively inspected the Taiwanese army, interviewing both leaders and rank-and-file members, summarized the issue in an interview with the author. See also Cole, *Taiwan's Security*, pp. 88–89.
95. In order to maximize the chances of success, such a campaign would likely be either preceded or accompanied by bombardments designed to destroy the air force and navy, by information warfare, and by decapitation.
96. For example, in 2007 Taiwan had only one LNG terminal, at Yungun, Kaohsiung. Another is being built in Taichung Harbor, with completion slated for 2009. Taiwan has only four oil refineries. See Taiwan Ministry of Energy, "Energy Supply," *The Energy Situation in Taiwan, Republic of China*, www.moeaboe.gov.tw; and U.S. Energy Dept., "Taiwan Country Analysis Brief," *Energy Information Administration*, www.eia.doe.gov.
97. "Taiwan Country Analysis Brief."
98. For example, Taiwan's current crude oil stocks are above ground in vulnerable tank farms. An alternative would be to stockpile refined oil products either underground or in numerous smaller tanks, including indoor tanks at the points of consumption.
99. Substitution, rationing, and cessation of non-essential activities can allow determined blockaded populations to resist for extended periods of time, as numerous historical examples, including Malta and Japan in World War II and Germany in World War I, have shown.
100. E-3 AWACS aircraft, which have 145-foot wingspans and are 144 feet long and 42 feet high, are too large to shelter; see David Shlapak, "Projecting Power in a China-Taiwan Contingency: Implications for USAF and USN Collaboration," in *Coping with the Dragon: Essays on PLA Transformation and the U.S. Military*, ed. Stuart Johnson and Duncan Long (Washington, D.C.: National Defense Univ. Center for Technology and National Security Policy, December 2007),

p. 90, available at www.ndu.edu/ctnsp/pubs/CopingwithDragon.pdf. P-3Cs, which have ninety-eight-foot wingspans and are 115 feet long and thirty-three feet high, may also be too large to shelter.

101. This is one of the fundamental points made by Ted Galen Carpenter in *Let Taiwan Defend Itself*, Cato Policy Analysis 313 (Washington, D.C.: Cato Institute, 24 August 1998), available at www.cato.org/pubs.

I agree with much of his analysis and reasoning but disagree on the subject of the United States making available weapons of offensive character.

102. “Joint Communiqué of the United States of America and the People’s Republic of China,” 17 August 1982, U.S. Information Access program, available at usinfo.state.gov/eap/.





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CHINA AND THE UNITED STATES IN THE INDIAN OCEAN

An Emerging Strategic Triangle?

James R. Holmes and Toshi Yoshihara

The Asian seas today are witnessing an intriguing historical anomaly—the simultaneous rises of two homegrown maritime powers against the backdrop of U.S. dominion over the global commons. The drivers behind this apparent irregularity in the Asian regional order are, of course, China and India. Their aspirations for great-power status and, above all, their quests for energy security have compelled both Beijing and New Delhi to redirect their gazes from land to the seas. While Chinese and Indian maritime interests are a natural outgrowth of impressive economic growth and the attendant appetite for energy resources, their simultaneous entries into the nautical realm also portend worrisome trends.

PROSPECTS FOR A STRATEGIC TRIANGLE

At present, some strategists in both capitals speak and write in terms that anticipate rivalry with each other. Given that commercial shipping must traverse the same oceanic routes to reach Indian and Chinese ports, mutual fears persist that the bodies of water stretching from the Persian Gulf to the South China Sea could be held hostage in the event of crisis or conflict.¹ Such insecurities similarly animated naval competition in the past when major powers depended on a common nautical space. Moreover, lingering questions over the sustainability of American primacy on the high seas have heightened concerns about the U.S. Navy's ability to guarantee maritime stability, a state of affairs that has long been taken for granted.

It is within this more fluid context that the Indian Ocean has assumed greater prominence. Unfortunately, much of the recent discourse has focused on future Chinese naval ambitions in the Indian Ocean and on potential U.S. responses

to such a new presence. In other words, the novelty, as it currently stands, of the Indian Ocean stems from expected encounters between extraregional powers. But such a narrow analytical approach assumes that the region will remain an inanimate object perpetually vulnerable to outside manipulation. Also, more importantly, it overlooks the possible interactions arising from the intervention of India, the dominant regional power. Indeed, omitting the potential role that India might play in any capacity would risk misreading the future of the Indian Ocean region.

There is, therefore, an urgent need to bring India more completely into the picture as a full participant, if not a major arbiter, in the region's maritime future. In order to add depth to the existing literature, this article assesses the longer-term maritime trajectory of the Indian Ocean region by examining the triangular dynamics among the United States, China, and India. To be sure, the aspirational nature of Chinese and Indian nautical ambitions and capabilities at the moment precludes attempts at discerning potential outcomes or supplying concrete policy prescriptions. Nevertheless, exploring the basic foundations for cooperation or competition among the three powers could provide hints at how Beijing, Washington, and New Delhi can actively preclude rivalry and promote collaboration in the Indian Ocean.

As a first step in this endeavor, this article examines a key ingredient in the expected emergence of a "strategic triangle"—the prospects of Indian sea power. While no one has rigorously defined this international-relations metaphor, scholars typically use it to convey a strategic interplay of interests among three nation-states. In this initial foray, we employ the term fairly loosely, using it to describe a pattern of cooperation and competition among the United States, China, and India. It is our contention that Indian Ocean stability will hinge largely on how India manages its maritime rise. On the one hand, if a robust Indian maritime presence were to fail to materialize, New Delhi would essentially be forced to surrender its interests in regional waters, leaving a strategic vacuum to the United States and China. On the other hand, if powerful Indian naval forces were one day to be used for exclusionary purposes, the region would almost certainly become an arena for naval competition. Either undesirable outcome would be shaped in part by how India views its own maritime prerogatives and by how Washington and Beijing weigh the probabilities of India's nautical success or failure in the Indian Ocean.

If all three parties foresee a muscular Indian naval policy, then, a more martial environment in the Indian Ocean will likely take shape. But if the three powers view India and each other with equanimity, the prospects for cooperation will brighten considerably. Capturing the perspectives of the three powers on India's maritime ambitions is thus a critical analytical starting point.

To provide a comprehensive overview of each capital's estimate of future Indian maritime power, this article gauges the current literature and forecasts in India, the United States, and China on Indian maritime strategy, doctrine, and capabilities. It then concludes with an analysis of how certain changes in the maritime geometry in the Indian Ocean might be conducive to either cooperation or competition.

INDIA'S SELF-ASSESSMENT

While Indian maritime strategists are not ardent followers of Alfred Thayer Mahan, they do use him to underscore the importance of the Indian Ocean. A Mahan quotation (albeit of doubtful provenance) commonly appears in official and academic discussions of Indian naval power, including the newly published *Maritime Military Strategy*.² That is, as an official Indian press release declared in 2002, "Mahan, the renowned naval strategist and scholar[,] had said over a century ago[,] 'whosoever controls the Indian Ocean, dominates Asia. In the 21st century, the destiny of the world will be decided upon its waters.'"³ Rear Admiral R. Chopra, then the head of sea training for the Indian Navy, offered a somewhat less bellicose-sounding but equally evocative version of the quotation at a seminar on maritime history: "Whoever controls the Indian Ocean controls Asia. This ocean is the key to the Seven Seas."⁴

Quibbles over history aside, India clearly sees certain diplomatic, economic, and military interests at stake in Indian Ocean waters. In particular, shipments of Middle East oil, natural gas, and raw materials are crucial to India's effort to build up economic strength commensurate with the needs and geopolitical aspirations of the Indian people. Some 90 percent of world trade, measured by bulk, travels by sea. A sizable share of that total must traverse narrow seas in India's geographic neighborhood, notably the straits at Hormuz, Malacca, and Bab el Mandeb. Shipping is at its most vulnerable in such confined waterways.

Strategists in New Delhi couch their appraisals of India's maritime surroundings in intensely geopolitical terms—jarringly so for Westerners accustomed to the notion that economic globalization has rendered power politics and armed conflict passé. The Indian economy has grown at a rapid clip—albeit not as rapidly as China's—allowing an increasingly confident Indian government to yoke hard power, measured in ships, aircraft, and weapons systems, to a foreign policy aimed at primacy in the Indian Ocean region.⁵ If intervention in regional disputes or the internal affairs of South Asian states is necessary, imply Indian leaders, India should do the intervening rather than allow outsiders any pretext for doing so.

Any doctrine aimed at regional preeminence will have a strong seafaring component. In 2004, accordingly, New Delhi issued its first public analysis of the

nation's oceanic environs and of how to cope with challenges there. Straightforwardly titled *Indian Maritime Doctrine*, the document describes India's maritime strategy largely as a function of economic development and prosperity:

India's primary maritime interest is to assure national security. This is not restricted to just guarding the coastline and island territories, but also extends to safeguarding our interests in the [exclusive economic zone] as well as protecting our trade. This creates an environment that is conducive to rapid economic growth of the country. Since trade is the lifeblood of India, keeping our SLOCs [sea lines of communication] open in times of peace, tension or hostilities is a primary national maritime interest.⁶

The trade conveyed by the sea-lanes traversing the Indian Ocean ranks first among the "strategic realities" that the framers of the *Indian Maritime Doctrine* discern. Roughly forty merchantmen pass through India's "waters of interest" every day. An estimated \$200 billion worth of oil transits the Strait of Hormuz annually, while some \$60 billion transits the Strait of Malacca en route to China, Japan, and other East Asian countries reliant on energy imports.⁷

India's geographic location and conformation rank next in New Delhi's hierarchy of strategic realities. Notes the *Indian Maritime Doctrine*, "India sits astride . . . major commercial routes and energy lifelines" crisscrossing the Indian Ocean region. Outlying Indian possessions such as the Andaman and Nicobar islands sit athwart the approaches to the Strait of Malacca, while the Persian Gulf is near India's western coastline, conferring a measure of influence over vital sea communications to and from what amounts to a bay in the Indian Ocean. While geography may not be destiny, the document states bluntly that "by virtue of our geography, we are . . . in a position to greatly influence the movement/security of shipping along the SLOCs in the [Indian Ocean Region] provided we have the maritime power to do so. Control of the choke points could be useful as a bargaining chip in the international power game, where the currency of military power remains a stark reality."⁸

The *Indian Maritime Doctrine* prophesies a depletion of world energy resources that will make the prospect of outside military involvement in India's geographic environs even more acute than it already is. The dependence of modern economies on the Gulf region and Central Asia "has already invited the presence of extra-regional powers and the accompanying Command, Control, Surveillance and Intelligence network. The security implications for us are all too obvious." Sizable deposits of other resources—uranium, tin, gold, diamonds—around the Indian Ocean littoral only accentuate the factors beckoning the attention of outside maritime powers to the region.⁹

Indian leaders, then, take a somber view of the international security environment. In the “polycentric world order” New Delhi sees taking shape, economics is “the major determinant of a nation’s power.” While “India holds great promise,” owing to its size, location, and economic acumen, its “emergence as an economic power will undoubtedly be resisted by the existing economic powers, leading to conflicts based on economic factors.” The likelihood that competitors will “deny access to technology and other industrial inputs,” combined with “the shift in global maritime focus from the Atlantic-Pacific combine to the Pacific–Indian Ocean region,” will only heighten the attention major powers pay to the seas.¹⁰

A buildup of Indian maritime power represents the only prudent response to strategic conditions that are at once promising and worrisome in economic terms. Maritime threats fall into two broad categories, in the Indians’ reckoning. First, judging from official pronouncements such as the maritime doctrine and the newly published *Maritime Military Strategy*, New Delhi is acutely conscious that such nontraditional threats as seagoing terrorism, weapons proliferation, or piracy could disrupt vital sea-lanes. Cleansing Asian waters of these universal scourges has become a matter of real and growing concern.¹¹

Second, Indians are wary not only of banditry and unlawful trafficking but also of rival navies. While Indian strategists exude growing confidence, increasingly looking beyond perennial nemesis Pakistan, they remain mindful of the Pakistani naval challenge, a permanent feature of Indian Ocean strategic affairs. Over the longer term, a Chinese naval buildup in the Indian Ocean, perhaps centered on Beijing’s much-discussed “string of pearls,” would represent cause for concern.¹² This is the most likely quarter from which a threat to Indian maritime security could emanate over the long term, once China resolves the Taiwan question to its satisfaction and is free to redirect its attention to important interests in other regions—such as free passage for commercial shipping through the Indian Ocean region.

But Indians remain acutely conscious that the U.S. Navy rules the waves in Asia, as it has since World War II. Despite closer maritime ties with the United States, Indian officials bridle at memories of the Seventh Fleet’s intervention in the Bay of Bengal during the 1971 Indo-Pakistani war. They also remain ambivalent about the American military presence on Diego Garcia, which they see as an American beachhead in the Indian Ocean region. Observes one Indian scholar, Diego Garcia and the Bengal naval deployment have “seeped into Indians’ cultural memory—even among those who know nothing about the sea.”¹³ Whatever the prospects for a U.S.-Indian strategic partnership, such memories will give rise to a measure of wariness in bilateral ties. On balance, the factors impinging on Indian and U.S. strategic calculations will make for some form of partnership—but perhaps not the grand alliance American leaders seem to assume. Even

partnership is not a sure thing, however, and sustaining it will require painstaking work on both sides.

HISTORICAL MODELS FOR INDIAN SEA POWER

The challenges it perceives as it surveys India's surroundings and the novelty of Indian pursuit of sea power have induced New Delhi to consult Western history. That Indians would look to American rather than European history for guidance, however, may come as a surprise. Given their skepticism toward American maritime supremacy—the residue of Cold War ideological competition, as well as a product of geopolitical calculations—nineteenth-century American history represents an unlikely source for lessons to inform the efforts of Indians to amass maritime power.

There is a theoretical dimension to India's maritime turn as well. Many scholars of "realist" leanings assume that the sort of balance-of-power politics practiced in nineteenth-century Europe will prevail in Asia as the rises of China and India reorder regional politics.¹⁴ If so, the coming years will see Asian statesmen jockeying for geopolitical advantage in the manner of a Bismarck or Talleyrand. There is merit to objections to the notion that strategic triangles and similar metaphors are artifacts of nineteenth-century thinking, and many Indians and Chinese think in geopolitical terms reminiscent of that age. Other scholars deny that European-style *realpolitik* is universal, predicting instead a revival of Asia's hierarchical, China-centric past.¹⁵ Chinese diplomats have skillfully encouraged such notions, hinting that a maritime order presided over by a capable, benevolent China—and excluding predatory Western sea powers such as America—would benefit all Asian peoples, now as in bygone centuries.¹⁶

Indians more commonly look for insight to a third model—the Monroe Doctrine, the nineteenth-century American policy declaration that purported to place the New World off limits to new European territorial acquisitions or to any extension of the European political system to American states not already under Europe's control. James Monroe and John Quincy Adams (the architects of the Monroe Doctrine), Grover Cleveland and Richard Olney (who viewed the doctrine as a virtual warrant for U.S. rule of the Americas), and Theodore Roosevelt (who gave the doctrine a forceful twist of his own) may exercise as much influence in Asia—particularly South Asia—as any figure from European or Asian history.

Soon after independence, Indian statesmen and pundits took to citing the Monroe Doctrine as a model for Indian foreign policy. It is not entirely clear why Indians adopted a Western paradigm for their pursuit of regional preeminence rather than some indigenous model suited to South Asian conditions. India's tradition of nonalignment surely played some role in this, however. For one thing,

Monroe and Adams announced their doctrine in an era when American nations were throwing off colonial rule, while India's security doctrine had its origins in the post-World War II era of decolonization. Thus the United States of Monroe's day, like newly independent India, positioned itself as the leader of a bloc of nations within a geographically circumscribed region, resisting undue political influence—or worse—from external great powers. This imparts some resonance to Monroe's principles despite the passage of time and the obvious dissimilarities between American and Indian histories and traditions.

Thus the diplomatic context was apt—especially since Indian statesmen intent on effective “strategic communications” designed their policy pronouncements to appeal to not only domestic but also Western audiences. Prime Minister Jawaharlal Nehru's speech justifying the use of force to evict Portugal from the coastal enclave of Goa is worth quoting at length:

Even some time after the United States had established itself as a strong power, there was the fear of interference by European powers in the American continents, and this led to the famous declaration by President Monroe of the United States [that] any interference by a European country would be an interference with the American political system. I submit that . . . the Portuguese retention of Goa is a continuing interference with the political system established in India today. I shall go a step further and say that any interference by any other power would also be an interference with the political system of India today. . . . It may be that we are weak and we cannot prevent that interference. But the fact is that *any attempt by a foreign power to interfere in any way with India is a thing which India cannot tolerate, and which, subject to her strength, she will oppose. That is the broad doctrine I lay down.*¹⁷

Parsing Nehru's bracing words, the following themes emerge. First, while a European power's presence in South Asia precipitated his foreign-policy doctrine, he forbade *any* outside power to take any action in the region that New Delhi might construe as imperiling the Indian political system. This was a sweeping injunction indeed. Second, he acknowledged the realities of power but seemingly contemplated enforcing his doctrine with new vigor as Indian power waxed, making new means and options available. Third, Nehru asked no one's permission to pursue such a doctrine. While this doctrine would not qualify as international law, then, it was a policy statement to which New Delhi would give effect as national means permitted. India did expel Portugal from Goa in 1961—affixing an exclamation point to Nehru's words.

Prime Ministers Indira Gandhi and Rajiv Gandhi were especially assertive about enforcing India's security doctrine.¹⁸ From 1983 to 1990, for example, New Delhi applied political and military pressure in an effort to bring about an end to the Sri Lankan civil war. It deployed Indian troops to the embattled island,

waging a bitter counterinsurgent campaign—in large part because Indian leaders feared that the United States would involve itself in the dispute, in the process obtaining a new geostrategic foothold at Trincomalee, along India’s southern flank. One commentator in *India Today* interpreted New Delhi’s politico-military efforts as “a repetition of the Monroe Doctrine, a forcible statement that any external forces prejudicial to India’s interests cannot be allowed to swim in regional waters.”¹⁹

India’s security doctrine also manifested itself in 1988, when Indian forces intervened in a coup in the Maldives, and in an 1989–90 trade dispute with Nepal. A Western scholar, Devin Hagerty, sums up Indian security doctrine thus:

The essence of this formulation is that India strongly opposes outside intervention in the domestic affairs of other South Asian nations, especially by outside powers whose goals are perceived to be inimical to Indian interests. Therefore, no South Asian government should ask for outside assistance from any country; rather, if a South Asian nation genuinely needs external assistance, it should seek it from India. A failure to do so will be considered anti-Indian.²⁰

This flurry of activity subsided after the Cold War, as the strategic environment appeared to improve and New Delhi embarked on an ambitious program of economic liberalization and reform. Even so, influential pundits—even those who dispute the notion of a consistent Indian security doctrine—continue to speak in these terms.

Indeed, they seemingly take the concept of an Indian Monroe Doctrine for granted. C. Raja Mohan, to name one leading pundit, routinely uses this terminology, matter-of-factly titling one op-ed column “Beyond India’s Monroe Doctrine” and in another exclaiming that “China just tore up India’s Monroe Doctrine.”²¹ Speaking at the U.S. Naval War College in November 2007, Rear Admiral Chopra vouchsafed that India should “emulate America’s nineteenth-century rise” to sea power. As India’s naval capabilities mature, matching ambitious ends with vibrant means, its need to cooperate with outside sea powers will diminish. Declared Chopra, New Delhi might then see fit to enforce “its own Monroe Doctrine” in the region.²² The doctrine has entered into India’s vocabulary of foreign relations and maritime strategy. Again, using nineteenth-century American history as a proxy, we can discern three possible maritime futures for India:

“*Monroe.*” Indian statesmen animated by Monroe’s principles as originally understood would take advantage of the maritime security furnished by a dominant navy (Great Britain’s Royal Navy then, the U.S. Navy now), dedicating most of their nation’s resources and energies to internal development. Limited efforts at suppressing piracy, terrorism, and weapons trafficking—the latter-day

equivalents to the slave trade, a scourge the U.S. and Royal navies worked together to suppress—would be admissible under these principles, as would disaster relief and other humanitarian operations intended to amass goodwill and lay the groundwork for more assertive diplomatic ventures in the future. This modest reading of the Monroe Doctrine would not forbid informal cooperation with the U.S. Navy, today's equivalent to the Royal Navy of Monroe's day.

“Cleveland/Olney.” In 1895, President Grover Cleveland's secretary of state, Richard Olney, informed Great Britain that the American “fiat is law” throughout the Western Hemisphere, by virtue of not only American enlightenment but also physical might—the republic's capacity to make good on Monroe's precepts.²³ This hypermuscular vision of the Monroe Doctrine would impel aspirants to sea power to avow openly their desire to dominate surrounding waters and littoral regions. From a geographic standpoint, the Cleveland/Olney model would urge them to make good on their claims to regional supremacy, employing naval forces to project power throughout vast areas. No international dispute would be off limits that national leaders deemed a threat to their interests, and they would evince a standoffish attitude toward proposals for cooperation with external naval powers.

“Roosevelt.” Theodore Roosevelt took a preventive view of the Monroe Doctrine, framing “an international police power” that justified American intervention in the affairs of weak American states when it appeared that Europeans might use naval force to collect debts owed their lenders—and, in the process, wrest naval stations from states along sea-lanes vital to U.S. shipping. TR's interpretation of the Monroe Doctrine, as expressed in his 1904 “corollary” to it, called for a defensive posture: Monroe's principles applied when vital national interests were at stake, and the would-be dominant power could advance its good-government ideals. These principles would apply, however, within circumscribed regions of vital interest and be implemented with circumspection, using minimal force, and that in concert with other tools of national power. Cooperation with outside powers with no likely desire or capacity to infringe on the hegemon's interests would be acceptable.²⁴

What form such a doctrine will assume, and how vigorously New Delhi prosecutes it, will depend on such factors as Indian history and traditions, the natures and magnitudes of the security challenges Indians perceive in the Indian Ocean, the vagaries of domestic politics, and the Indian Navy's ability to make more than fitful progress toward fielding potent naval weapon systems.²⁵ India will pursue its doctrine according to its needs and capabilities—just as each generation of

Americans reinterpreted the Monroe Doctrine to suit its own needs and material power.

AMERICAN VIEWS OF INDIAN SEA POWER

Curiously, given the importance they attach to the burgeoning U.S.-Indian relationship and their concerted efforts to forge a seagoing partnership, American policy makers and maritime strategists have paid scant attention to the evolution of Indian sea power or the motives and aspirations prompting New Delhi's seaward turn. One small example: the Pentagon publishes no Indian counterpart to its annual report *The Military Power of the People's Republic of China*, despite the growth of Indian power and ambition. To the contrary: American diplomats speak in glowing terms of a "natural strategic partnership" between "the world's biggest" and "the world's oldest" democracies, while the U.S. military has reached out to the Indian military on the tactical and operational levels—through, for example, the sixteen-year-old MALABAR series of combined maritime exercises.²⁶ Few in Washington have devoted much energy to what lies between high diplomacy and hands-on military-to-military cooperation, to analyzing the maritime component of Indian grand strategy.

True, the recently published U.S. Maritime Strategy, *A Cooperative Strategy for 21st Century Seapower*, proclaims that "credible combat power will be continuously postured in the Western Pacific and the Arabian Gulf/Indian Ocean," but its rationale for doing so is purely functional in nature: guarding American interests, assuring allies, deterring competitors, and so forth.²⁷ The multinational context for this pronouncement—how Washington ought to manage relations with regional maritime powers, such as India, on which the success of a cooperative maritime strategy ineluctably depends—is left unexplained. Why New Delhi has rebuffed such seemingly uncontroversial U.S.-led ventures as the Proliferation Security Initiative (PSI), a primarily maritime effort to combat the traffic in materiel related to weapons of mass destruction, and Task Force 150, the multinational naval squadron monitoring for terrorists fleeing Afghanistan, will remain a mystery to American officials absent this larger context.²⁸

Why the apparent complacency toward India on the part of U.S. officials? Several possible explanations come to mind. For one thing, the United States does not see India as a threat. The Clinton and Bush administrations have enlisted New Delhi in a "Concert of Democracies," and, as mentioned before, they view India as a natural strategic partner or ally. For another, other matters have dominated the bilateral relationship in recent years. The Bush administration lifted the sanctions imposed after the 1998 Indian and Pakistani nuclear tests and negotiated an agreement providing for transfers of American nuclear technology to the Indian commercial nuclear sector in exchange for partial international

supervision of Indian nuclear facilities. Legislative approval of this “123” agreement remains uncertain, in large part because of questions as to whether new Indian nuclear tests would terminate the accord.²⁹ Maritime cooperation has been subsumed in other issues. Also, and more to the point, India has been slow to publish a maritime strategy that American analysts can study. Its *Maritime Doctrine* appeared in 2004, but a full-fledged maritime military strategy appeared only in 2007—meaning that India watchers in the United States have had little time to parse its meaning and its implications for U.S.-Indian collaboration at sea, let alone to publish and debate their findings.

For now, absent significant policy attention, any maritime-strategic partnership will take place on the functional level, with “naval diplomacy” filling the void left by policy makers. How Washington will grapple with Indian skepticism toward the PSI and other enterprises remains to be seen. If New Delhi does indeed embark on a Monroe Doctrine—especially one of the more militant variants identified above—political supervision of U.S. naval diplomacy will be at a premium for Washington. Should the nuclear deal falter in Congress, for example, will that further affront the sensibilities of Indians intent on regional primacy? If so, with what impact on American mariners’ efforts to negotiate a good working relationship at sea? The opportunity to craft a close strategic partnership with New Delhi could be a short-lived one as Indian power grows, especially if Indian leaders take an ominous view of their nation’s geopolitical surroundings or if irritants to U.S.-Indian relations begin to accumulate.

CHINESE VIEWS OF INDIAN SEA POWER

If American analysts seem blasé about the intentions and capabilities of their prospective strategic partner, many Chinese analysts depict the basic motives behind India’s maritime ambitions in starkly geopolitical terms. Indeed, their assumptions and arguments are unmistakably Mahanian. Zhang Ming of *Modern Ships* asserts, “The Indian subcontinent is akin to a massive triangle reaching into the heart of the Indian Ocean, benefiting any from there who seeks to control the Indian Ocean.”³⁰ In an article casting suspicion on Indian naval intentions, the author states, “Geostrategically speaking, the Indian Ocean is a link of communication and oil transportation between the Pacific and Atlantic Oceans and India is just like a giant and never-sinking aircraft carrier and the most important strategic point guarding the Indian Ocean.”³¹ The reference to an unsinkable aircraft carrier was clearly meant to trigger an emotional reaction, given that for many Chinese the phrase is most closely associated with Taiwan.

Intriguingly, some have invoked Mahanian language, wrongly attributed to Mahan himself, to describe the value of the Indian Ocean to New Delhi. One Chinese commentator quotes (without citation) Mahan as asserting, “Whoever

controls the Indian Ocean will dominate India and the coastal states of the Indian Ocean as well as control the massive area between the Mediterranean and the Pacific Ocean.”³² In a more expansive reformulation, two articles cite Mahan as declaring, “Whoever controls the Indian Ocean controls Asia. The Indian Ocean is the gateway to the world’s seven seas. The destiny of the world in the 21st century will be determined by the Indian Ocean.”³³ (As noted before, a very similar, and likewise apocryphal, Mahan quotation has made the rounds in India—even finding its way into the official *Maritime Military Strategy*.) Faulty attribution notwithstanding, the Chinese are clearly drawn to Mahanian notions of sea power when forecasting how India will approach its maritime environs.

Zhao Bole, a professor of South Asian studies at Sichuan University, places these claims in a more concrete geopolitical context. Argues Zhao, four key geostrategic factors have underwritten India’s rise. First, India and its surrounding areas boast a wealth of natural resources. Second, India is by far the most powerful country in the Indian Ocean region. Third, the physical distance separating the United States from India affords New Delhi ample geopolitical space for maneuver. Fourth, India borders economically dynamic regions such as the Association of Southeast Asian Nations (ASEAN) states and China. Zhao quotes Nehru and K. M. Panikkar to prove that Indian politicians and strategists have long recognized these geopolitical advantages and that they have consistently evinced the belief that India’s destiny is inextricably tied to the Indian Ocean.³⁴ However, due to India’s insistence on taking a third way during the Cold War superpower competition, New Delhi was content to focus on its own subcontinental affairs.

In the 1990s, though, Zhao argues, India sought to shake off its nonaligned posture by increasing its geopolitical activism in Southeast Asia under the guise of its “Look East” policy. According to Zhao Gancheng, New Delhi leveraged its unique geographic position to make Southeast Asia—an intensely maritime theater—a “breakthrough point” (突破口), particularly in the economic realm. In the twenty-first century, Zhao argues, the Look East policy has assumed significant strategic dimensions, suggesting that India has entered a new phase intimately tied to its great-power ambitions. While acknowledging that the underlying strategic logic pushing India beyond the subcontinent is compelling, Zhao worries that Indian prominence among the ASEAN states could tempt the United States to view India as a potential counterweight to China.³⁵

To Chinese observers, these broader geopolitical forces seem to conform to the more outward-looking Indian maritime strategy on exhibit in recent years, and they tend to confirm Chinese suspicions of an expansive and ambitious pattern to India’s naval outlook. Zhang Xiaolin and Qu Yutao divide the evolution of Indian maritime strategy, particularly with regard to its geographic scope, into three distinct phases:

- Offshore defense (近海防御) (from independence to the late 1960s)
- Area control (区域控制) (from the early 1970s to the early 1990s)
- Open-ocean extension (远海延伸) (from the mid-1990s to the present).³⁶

During the first stage, the navy was confined to the east and west coasts of India and parts of the Arabian Sea and Bay of Bengal in support of ground and air operations ashore. The second phase called for a far more assertive control of the Indian Ocean. Indian strategists, in this view, divided the Indian Ocean into three concentric rings of operational control. First, India needed to impose “complete or absolute control” over three hundred nautical miles of water out from India’s coastline to defend the homeland, the exclusive economic zone, and offshore islands. Second, the navy had to exert “moderate control” over an ocean belt extending some three to six hundred nautical miles from Indian coasts in order to secure its sea lines of communications and provide situational awareness. Finally, the navy needed to exercise “soft control,” power projection and deterrent capabilities, beyond seven hundred nautical miles from Indian shores.³⁷

Chinese analysts differ over the extent of Indian naval ambitions in the twenty-first century. But they concur that India will not restrict its seafaring endeavors to the Indian Ocean indefinitely. Most discern a clear transition from a combination of offshore defense and area control to a blue-water offensive posture. One commentator postulates that India will develop the capacity to prevent and implement its own naval blockades against the choke points at Suez, Hormuz, and Malacca.³⁸ Unsurprisingly, the prospect that India might seek to blockade Malacca against China has attracted substantial attention. One Chinese analyst, using language that would have been instantly recognizable to Mahan, describes the 244 islands that constitute the Andaman-Nicobar archipelago as a “metal chain” (铁链) that could lock tight the western exit of the Malacca Strait.³⁹ Zhang Ming further argues that “once India commands the Indian Ocean, it will not be satisfied with its position and will continuously seek to extend its influence, and its eastward strategy will have a particular impact on China.”⁴⁰ The author concludes that “India is perhaps China’s most realistic strategic adversary.”⁴¹

While they pay considerable attention to the potential Indian threat to the Malacca Strait, Chinese observers also believe the Indian sea services are intent on

- Achieving sea control from the northern Arabian Sea to the South China Sea
- Developing the ability to conduct SLOC defense and combat operations in the areas above
- Maintaining absolute superiority over all littoral states in the Indian Ocean

- Building the capacity for strategic deterrence against outside naval powers⁴²
- Amassing long-range power-projection capabilities sufficient to reach and control an enemy's coastal waters in times of conflict
- Fielding a credible, sea-based, second-strike retaliatory nuclear capability
- Developing the overall capacity to "enter east" (东进) into the South China Sea and the Pacific, "exit west" (西出) through the Red Sea and Suez Canal into the Mediterranean, and "go south" (南下) toward the Cape of Good Hope and the Atlantic.⁴³

Clearly, the Chinese foresee the emergence of a far more forward-leaning Indian Navy that in time could make its presence felt in China's own littoral realm. Moreover, the Chinese uniformly believe that New Delhi has embarked on an ambitious modernization program to achieve these sweeping aims. Interestingly, some have pointed to America's apparent lack of alarm at India's already powerful navy. This quietude, they say, stands in sharp contrast to incessant U.S. concerns over the People's Liberation Army Navy (PLAN), representing a blatant double standard.⁴⁴ In any event, China's assessments of Indian capabilities and its emerging body of work tracking India's technological and doctrinal advances are indeed impressive. For instance, *Modern Navy*, the PLAN's monthly periodical, published a ten-month series on the Indian Navy beginning in November 2005. Subjects of the articles ranged widely, from platforms and weaponry to basing and port infrastructure.⁴⁵ Not surprisingly, given the decades-long debate within China surrounding its own carrier acquisition plans, India's aircraft carriers have attracted by far the most attention.⁴⁶

A number of Chinese analysts, however, hold far less alarming, if not sanguine, views of India's rise. The former Chinese ambassador to India, Cheng Ruisheng, argues that policy makers in Beijing and New Delhi have increasingly abandoned their antiquated, zero-sum security outlooks. Indeed, Cheng exudes confidence that improving U.S.-Indian ties and Sino-Indian relations are not mutually exclusive, and thus he holds out hope for a balanced and stable strategic triangle in the region.⁴⁷ Some Chinese speculate that India's burgeoning friendships with a variety of extraregional powers, including the United States and Japan, are designed to widen India's room for maneuver in an increasingly multipolar world without forcing it to choose sides. As Yang Hui asserts, "India's actions smack of 'fence-sitting.' This is a new version of non-alignment."⁴⁸ On balance, then, strategic continuity might prevail over the potentially destabilizing forces of change.

Even those projecting major changes in the regional configuration of power seem confident that India's rise will neither upend stability nor lead automatically to strategic advantages for New Delhi. To be sure, a small minority in China

believes that an increased Indian presence in the Indian Ocean would generate great-power “contradictions” that could in time lead New Delhi to displace the United States as the regional hegemon, consistent with more forceful conceptions of an Indian Monroe Doctrine.⁴⁹ But a far more common view maintains that growing Indian sea power will likely compel Washington and other powers in Asia to challenge or counterbalance New Delhi’s position in the Indian Ocean region.⁵⁰ Structural constraints will tend to act against Indian efforts to wield influence beyond the Indian Ocean. Zhao Gancheng, for example, argues that China’s firmly established position in Southeast Asia and India’s relative unfamiliarity with the region will prevent New Delhi from reaping maximum gains from its Look East policy.⁵¹

On the strictly military and technological levels, some Chinese analysts believe that Indian naval aspirations have far outstripped the nation’s concrete capacity to fulfill them. Noting that increases in the defense budget have consistently outpaced the annual growth rate of India’s gross domestic product, Li Yonghua of *Naval and Merchant Ships* derides India’s ambition for an oceangoing naval fleet as a “python swallowing an elephant” (蟒蛇吞象).⁵² Similarly, Zhang Ming identifies three major deficiencies that cast doubt on India’s ability to develop a fleet for blue-water combat missions. First, India’s current comprehensive national power simply cannot sustain a “global navy” and the panoply of capabilities that such a force demands. Second, India’s long-standing dependence on foreign technology and relatively backward industrial base will severely retard advances in indigenous programs—especially plans for domestically built next-generation aircraft carriers. Finally, existing Indian Navy surface combatants are unequal in both quantitative and qualitative terms to the demands of long-range fleet operations. In particular, insufficiently robust air-defense constitutes the “most fatal problem” for future Indian carrier task forces.⁵³ Interestingly, key aspects of Zhang’s critique apply equally to the PLAN today.

This brief survey of Chinese perspectives suggests that definitive conclusions about the future of Indian sea power would be premature. On the one hand, evocative uses of Mahanian language and worst-case extrapolations of Indian maritime ambitions certainly represent a sizable geopolitically minded school of thought in China. On the other, the Chinese acknowledge that India may not be able to surmount for years to come the geopolitical and technological constraints it confronts. Such mixed feelings further suggest that Sino-Indian maritime competition in the Indian Ocean or the South China Sea is not fated. Neither side has the credible capacity—yet—to reach into the other’s nautical backyard. At the same time, the broader geostrategic climate at the moment favors cooperation. There should be ample time—until either side acquires naval forces able to influence events beyond its own maritime domain, and as long as New Delhi’s and

Beijing's extraregional aims remain largely aspirational—to shape mutual threat perceptions through cooperative efforts.

AN UNCERTAIN GEOMETRY

This initial inquiry into the maritime geometry of the Indian Ocean region suggests that conditions are auspicious for shaping a mutually beneficial maritime relationship among India, China, and the United States. For now, New Delhi seems at once sanguine about its maritime surroundings and conscious that it lacks the wherewithal to make good on a muscular Monroe Doctrine. While in principle India asserts regional primacy, much as James Monroe's America did, it remains content to work with the predominant naval power, the United States, in the cause of maritime security in South Asia. If nothing else, this is a matter of expediency.

It is worth noting, however, that there is little prospect that India will join the United States to contain Chinese ambitions in the Indian Ocean as Japan joined the United States to contain Soviet ambitions. India's independent streak, codified in its policy of nonalignment, predisposes New Delhi against such an arrangement. Nor does India resemble Cold War-era Japan, dependent on an outside power to defend it against an immediate, nearby threat to maritime security, and indeed national survival. The geographic conformation of Japan's threat environment significantly heightened the urgency of a highly alert strategic posture. The Japanese archipelago closely envelops Vladivostok, home to the Soviet Union's Pacific Fleet and the base from which commerce-raiding cruisers had harassed Japanese trade and military logistics during the Russo-Japanese War. Tokyo had to develop the capacity to monitor Soviet hunter-killer submarines lurking in the Sea of Japan and to repel a massive amphibious invasion against Hokkaido. India, by contrast, enjoys two great oceanic buffers—the eastern Indian Ocean and the South China Sea—vis-à-vis China. As a simple illustration, several thousand nautical miles separate the fleet headquarters of China's South Sea Fleet, located in Zhanjiang, Guangdong Province, from Vishakhapatnam, the eastern naval command of the Indian Navy. Geography alone, then, constitutes a major disincentive for New Delhi to enlist prematurely in an anti-China coalition.

For its part, Washington has not yet dedicated serious attention and energy to analyzing the future of Indian sea power or the likely configuration of great-power relations in the Indian Ocean. It remains hopeful that a durable strategic partnership with New Delhi will take shape. Should the three sea powers manage to draw in other powers with little interest in infringing on India's Monroe Doctrine or capacity to do so—say, Australia, an Indian Ocean nation in its own right, or Japan, which depends on Indian Ocean sea-lanes for energy security—the regional geometry could become quite complex. But the participation of such

powers might also reduce the propensity for competition among the three vertices of the Sino-Indian-U.S. triangle. A wider arrangement, then, warrants study in American strategic circles.

Also, as we have seen, China views India's maritime rise with equanimity for now, doubting both New Delhi's capacity and its will to pose a threat to Chinese interests in the region. American hopes and Chinese complacency may not add up to an era of good feelings in South Asia, but they may form the basis for cooperative relations in the near to middle term.

But this inquiry also suggests that the opportunity to fashion a tripartite sea-going entente may not endure for long. If India succeeds in building powerful naval forces, it may—like Cleveland's or Roosevelt's America—set out to make the Indian Ocean an Indian preserve in fact as well as in principle. If so, China would be apt to take a more wary view of Indian naval ambitions, which would seem to menace Chinese economic, energy, and security interests in South Asia. Its hopes for a strategic partnership dashed, the United States might reevaluate its assumptions about the viability of a consortium of English-speaking democracies. This too would work against a cooperative strategic triangle.

Maritime security cooperation, then, is by no means foreordained. A host of wild cards could impel New Delhi toward a more forceful security doctrine. Should, say, the United States use the Indian Ocean or the Persian Gulf to stage strikes against Iranian nuclear sites, New Delhi might see the need to expand its regional primacy at America's expense. A failure of the U.S.-Indian civilian nuclear cooperation accord would have an unpredictable, if indirect, impact on the bilateral relationship, fraying Indian patience and potentially loosening this "side" of the strategic triangle. Similarly, if China began deploying ballistic-missile submarines to the Indian Ocean, India might redouble its maritime efforts, working assiduously on antisubmarine warfare and its own undersea nuclear deterrent. Competition, not cooperation, could come to characterize the strategic triangle—perhaps giving rise to some other, less benign regional geometry.

NOTES

The views voiced here are the authors' alone.

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17. Jawaharlal Nehru, *India's Foreign Policy: Selected Speeches, September 1946–April 1961* (Delhi: Government of India, 1961), pp. 113–15 [our emphasis].
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REFLECTIONS ON FUTURE WAR

Mackubin Thomas Owens

Part of preparing for war is to understand it. What is the nature of war? What is the character of war? Will war in the future be like war in the past? These are critical questions that today's military professional must attempt to answer. Unfortunately, our track record is not very good. To envision the future is to "look through a glass darkly." A case in point is the debate that took place a decade ago in the wake of the Cold War's end and Operation DESERT STORM, the first Gulf War, of 1991.

BACK TO THE FUTURE: THINKING ABOUT WAR DURING THE 1990S

During the 1990s, some argued that the age of war had finally come to an end.¹ These "international optimists" claimed that the collapse of the Soviet Union and the subsequent globalization and increasing interdependence of the international system had converged with the recognition of the destructiveness of modern war to render the idea of large-scale, interstate conflict more or less unthinkable. They contended that while small-scale strife remained a possibility, it could be curbed by means of preventive diplomacy and cooperative structures based on liberal principles. This view prevailed during much of the Clinton administration.

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Others argued that the future would not be that different from the past, that indeed the causes of war remained the same as during the time of Thucydides—"fear, honor, and interest"—and that therefore "bad times [would] return."² For example, Colin Gray predicted then, and continues to argue today, that the future security environment will feature the

reemergence of great-power politics, regional nuclear wars, and traditional territorial conflict.³

Still others contended that while conflict was still possible, it would differ from war in the past. This view took two forms. On the one hand were the *technological optimists*, who believed that the United States could maintain its dominant position in the international order by exploiting the “revolution in military affairs” (RMA). On the other were the *technological pessimists*, who rejected the idea of a technological El Dorado, a “golden city of guaranteed strategic riches.”⁴

The rapid coalition victory over Saddam Hussein that drove Iraqi forces out of Kuwait led some influential defense experts to argue that emerging technologies and the RMA had the potential to transform the very nature of war. One of the most prominent advocates of this position was Admiral William Owens, vice chairman of the Joint Chiefs of Staff from 1994 to 1996, who contended that these emerging technologies and “information dominance” would eliminate “friction” and the “fog of war,” providing the commander and his subordinates nearly perfect “situational awareness,” thereby promising “the capacity to use military force without the same risks as before.”⁵ Owens argued that “technology could enable U.S. military forces in the future to lift the ‘fog of war.’ . . . [B]attlefield dominant awareness—the ability to see and understand everything on the battlefield—might be possible.”⁶ Furthermore, “if you see the battlefield, you will win the war.”⁷

A publication of the National Defense University fleshed out this claim. “In short,” it said, “we will move from a situation in which decision making takes place under uncertainty, or in the presence of incomplete and erroneous information, to a situation in which decisions are made with nearly ‘perfect’ information.”⁸ The chief of staff of the Air Force at the time echoed this view, saying, “In the first part of the 21st century, you will be able to find, fix or track, and target—in near real-time—anything of consequence that moves or is located on the face of the Earth. Quite frankly, I can tell you we can do most of that today. We just can’t do it in real-time.”⁹

Those who made this argument were essentially arguing that the classic Clausewitzian trinity of primordial violence, chance and probability, and the subordination of war to policy had been superseded by a new technological trinity: intelligence, surveillance, and reconnaissance (ISR) technologies; advanced command, control, communications, and computer (C4) systems; and precision strike munitions. During the 1990s, the technological optimists prevailed. The collapse of the Soviet Union and the rapid U.S. victory in the first Gulf War gave rise to an era of strategic optimism. Analysts concluded that because of its edge in emerging technologies, especially information technologies, the position of the United States in the world was unassailable for the foreseeable future.

At the same time, there was no “peer competitor” on the horizon capable of replacing the Soviet Union as an existential threat.

This apparent national security situation led U.S. planners in many cases to adopt simplified—if not simplistic—defense-planning assumptions:

- Challenges to U.S. security would arise primarily from regional powers and involve regional/theater contingencies featuring conventional major combat operations (MCOs).
- These likely adversaries would be smaller, less capable versions of the USSR.
- The American monopoly in strike, information technology, and stealth would constitute a barrier to entry for adversaries and would continue into the foreseeable future.

These assumptions led to major changes in U.S. force structure, including the “conventionalization” of the U.S. strategic bomber force and a shift in the focus of space and C3I* programs from the strategic level to the operational/technological level. Planners assumed that since future wars would be short, “strategic speed” had become critical. Thus joint planners stressed such concepts as “rapid halt,” “rapid decisive operations,” and “shock and awe.” One consequence of this perspective was a lack of focus on “phase V” operations: security, stabilization, transformation, and reconstruction.

The technological pessimists, on the contrary, rejecting the prevailing optimism, claimed that America’s technological edge would be of little use in dealing with the most likely future security environment, one in which conflict characterized by brutal, nasty, and merciless ethnic and religious warfare, large-scale banditry and the reemergence of the “warlord,” and transnational crime and terrorism would be the order of the day. They argued that the United States was ill prepared for the most likely conflicts of the future. While preparing for the wars it *wished* to fight—large-scale interstate wars for which it possessed unmatched capabilities—it ignored the conflicts that it would *have* to fight, those forced on it by the asymmetric strategies of future adversaries.¹⁰ Other rejected the claim that information “dominance” is sufficient in and of itself to provide the winning edge in future wars.¹¹

In early 1996, Colonel (now Major General) Charles Dunlap, USAF, wrote a remarkably prescient critique of the technology-as-panacea vision of future war that then dominated the Pentagon.¹² In his article, entitled “How We Lost the High-Tech War of 2007: A Warning from the Future,” Dunlap imagines a future speech by an enemy leader explaining how his movement had used

* Command, control, communications, and intelligence.

“asymmetric” means to negate American technological superiority—indeed, had used information technology itself against the United States: “Praise the One Above, the microchip ended the educational and training advantage the American military had enjoyed.”¹³

This enemy had also employed “information warfare” to defeat the United States. “We were confident we could influence the American public and its poll-sensitive decision-makers. . . . Thus it became part of our strategy to capitalize on television’s power to influence decision-makers by aiming to wage war in the most brutal—and public—way.” In Dunlap’s telling, this enemy even purposely detonates a nuclear device on its own holy city and then blames it on the United States. In retaliation for this purported American atrocity—which, of course, turns the international community against the United States—the enemy deliberately and viciously mutilates female POWs, subsequently returning them to the United States as part of an information campaign. “In no way did we try to hide what we did; to the contrary, we advertised it—using video clips on the Internet—as a warning of things to come.”

In this fascinating excursion into the future, Dunlap imagines a number of techniques that have become reality, now being employed by our enemies against us in Iraq and elsewhere. “America too often assumed that the [RMA] would favor technologically advanced nations like herself. She failed to consider how enemies with values and philosophies utterly at odds with hers might conduct war in the information age. Despite what many technology-infatuated strategists thought in 1995, cyberscience cannot eliminate the vicious cruelty inherent in human conflict.”

THINKING ABOUT FUTURE WAR

While the American experience in Iraq and other episodes of the “Long War” have failed to validate the more extreme claims of the technological optimists who largely dominated the debate in the 1990s, those claims continue to exert substantial influence on the debate.¹⁴ Indeed, it seems clear that the vision of the technological optimists essentially underpinned the efforts of President George W. Bush’s first secretary of defense, Donald Rumsfeld, to “transform” the U.S. military from a Cold War force to one that would be more responsive to the demands of the post–Cold War security environment. But is this the correct vision of future war, and should it constitute the primary guide for U.S. strategists and force planners?

In attempting to answer this question, it is important to recognize that, as the discussion above illustrates, planners do not have a stellar record when it comes to predicting the future.¹⁵ Indeed, as Loren Thompson of Washington’s Lexington Institute has observed, the United States has suffered a major strategic surprise on the average of once a decade since 1940.

In 2005, Secretary Rumsfeld issued *The National Defense Strategy of the United States of America*, which breaks the challenges that the United States may face in the future into four categories: *traditional, irregular, catastrophic, and disruptive*.¹⁶ The first is almost always associated with states employing armies, navies, and air forces in long-established forms of military competition. The second category describes the use of insurgency and other such approaches to erode American influence, patience, and political will. The insurgent threat in Iraq and Afghanistan is, of course, an example of irregular warfare.

The third category describes the troublesome nexus of transnational terrorism, proliferation, and problem states seeking weapons of mass destruction (WMD). The fourth category is concerned with possible revolutionary technologies and technological breakthroughs—such as biotechnology; cyber operations; space operations, including space-based weapons; or directed-energy weapons—that can exploit U.S. vulnerabilities and counter current advantages.¹⁷

Critics of Defense Department investment categories argue that the Pentagon spends too much on systems for the arena in which the United States already is dominant—traditional threats—and not enough on the others, especially the irregular category. Critics observe that even as the war in Iraq was shifting to an insurgency, the Department of Defense issued its *Transformation Planning Guidance* (2003), a document that purported to provide a template for transforming the Cold War military into

information age military forces [that] will be less platform-centric and more network-centric. They will be able to distribute forces more widely by increasing information sharing via a secure network that provides actionable information at all levels of command. This, in turn, will create conditions for increased speed of command and opportunities for self-coordination across the battlespace.

Critics claim that this proves that the Pentagon does in fact seek a technological El Dorado.

A counterargument to the prevailing techno-centric view has been advanced by those who espouse “fourth-generation warfare” (4GW).¹⁸ For instance, in *The Sling and the Stone*, T. X. Hammes argues that the Pentagon’s emphasis on high-tech warfare has prevented the U.S. military from adapting to a style of warfare in which guerrillas and terrorists employ low-technology tactics to counter American strengths and exploit American vulnerabilities.¹⁹

According to its advocates, the goal of fourth-generation warfare is to convince the enemy that its strategic objectives are unachievable at acceptable cost. The methodology of 4GW is to use all available networks—political, economic, social, and military—to attack directly the will of the enemy. Hammes contends that 4GW has been the most successful form of warfare of the last half-century,

defeating the United States three times (Vietnam, Lebanon, and Somalia), the Soviet Union/Russia twice (Afghanistan and Chechnya), and France twice (Indochina and Algeria). Indeed, only 4GW, he argues, has succeeded against superpowers. Despite this, discussion of what Hammes calls 4GW has been largely absent from the debate within the Defense Department.

WHAT'S NEW?

As skeptics predicted and events such as 9/11 and Iraq have demonstrated, adversaries have adapted to American power by adopting asymmetric responses to U.S. advantages.²⁰ The result has been the emergence of trends that undermine the older planning assumptions and require a rethinking of the character of future war.

Driving Forces and Areas of Future Military Competition

Several years ago, Peter Schwartz outlined a methodology for thinking about the future.²¹ He suggested that planners can best understand the emerging security environment by positing scenarios based on an assessment of *driving forces*, *pre-determined elements*, and *critical uncertainties*. The first category—assessing future trends—is really the key to the methodology.

What are the dominant emerging trends in the security environment? They include—but are not limited to—the proliferation of militarily useful technology; unlimited access to information technologies, including lightweight movie cameras, cell phones, portable laptop computers, and satellite modems that ensure that everyone (including adversaries) has the capability to deliver images of conflict in real time; and aspects of globalization that permit terrorists and other armed groups to employ cheap means to achieve costly effects by exploiting the vulnerabilities of advanced, especially liberal, societies.

Indeed, the changing cost equation may be the most consequential trend of all. During the Cold War, the United States possessed a decided cost advantage in its competition with the Soviet Union. The Reagan administration took advantage of this by adopting an asymmetric and cost-incurring strategy to exploit the mismatch between the large and growing American economy and the much smaller Soviet economy. This cost-incurring strategy forced the USSR to expend resources the Soviet economy could not afford. The combination of the U.S. defense buildup, support for anti-Soviet forces in Afghanistan, and such programs as the Strategic Defense Initiative, which threatened to render obsolescent or even obsolete the Soviet nuclear arsenal, was more than Moscow could withstand.²²

As Donald Rumsfeld acknowledged in 2003, this advantage has dissipated. “The cost-benefit ratio is against us! Our cost is billions against the terrorists’ cost of millions.”²³ In fact, Rumsfeld understated the cost ratio. John Robb

contends that on 9/11 “a \$250,000 attack was converted into an event that cost the United States over \$80 billion (some estimates are as high as \$500 billion).”²⁴

Another important aspect of thinking about the future is making educated guesses about the types of military competition that may take place in the future. Examples include power projection versus antiaccess strategies, “hider” versus “finder,” and precision strike versus active defense.²⁵ We can also expect greater competition in space and cyberspace. Indeed, adversaries will seek the capability to launch difficult-to-detect electronic or information attacks from great distances.

Another emerging military competition involves countering the threat of attack on the homeland from either a large peer competitor or from terrorists who are able to wield much greater destructive power than in the past. To deal with the former, the United States must be prepared to counter “traditional” threats—for example, ballistic- and cruise-missile attack, which may occur with substantially less warning than was anticipated only a few years ago. Addressing the latter requires the capability to counter terrorists or other armed groups who may well gain access to chemical and biological weapons.

Changing Character (Not Nature) of War

As noted above, it was not unusual during the 1990s for planners to claim that emerging technologies had changed “the very nature of war.” But it seems clear that the nature of war—as best described by the Prussian “philosopher of war,” Carl von Clausewitz—remains constant. Clausewitz reminds us that war is a violent clash between opposing wills, each seeking to prevail over the other. In war, the will of one combatant is directed at an *animate object that reacts*, often in unanticipated ways. This cyclical interaction between opposing wills occurs in a realm of chance and chaos. He also identified as the enduring characteristics of war the persistence of “general friction” as a structural component of combat, the seeming impossibility of eliminating uncertainty, and the critical importance of “moral factors.”²⁶

On the other hand, the “character” of war is infinite. Thus a weaker adversary can adopt various modalities of war to engage and defeat a stronger power. Success in war has traditionally gone to the more adaptive side, the one that can bear the costs of the conflict relative to what Clausewitz called “the value of the object.” Accordingly, the record shows, the materially weaker side has prevailed in a conflict in a surprisingly large number of instances—around 40 percent of the time since World War II.²⁷

As Philip Bobbitt has observed, for five centuries it has taken the resources of a state to destroy another state. Only states could muster the huge revenues, conscript the vast armies, and equip the divisions required to threaten the survival

of other states. Indeed, meeting such threats *created* the modern state. In the past, every state knew that its enemy would be drawn from a small class of nearby potential adversaries with local interests. But because of globalization, global reach, advances in international telecommunications, rapid computation, and methods of mass destruction, this is no longer true.²⁸

The Emerging Security Environment

The present and still evolving security environment exhibits a number of characteristics that affect the character of war and will most likely continue to do so in the future. These include such phenomena as expanded global interdependence, which although seen as a boon to globalization, also permits terrorists and other violent ideologues to inflict damage at very low cost and risk to themselves. In the words of Shamil Basayev, a Chechen commander and mastermind of the Beslan massacre, “We are not bound by any circumstances, or to anybody, and will continue to fight as convenient and advantageous to us and by our rules.”²⁹

Citing this passage, John Robb observes that “this new method of warfare . . . offers guerrillas the means to bring a modern nation’s economy to its knees and thereby undermine the legitimacy of the state sworn to protect it. Furthermore, it can derail the key drivers of economic globalization: the flow of resources, investment, people, and security.” Those who adopt this form of warfare, says Robb, are not really terrorists but *global guerrillas*, who represent “a broad-based threat that far exceeds that offered by terrorists or the guerrillas of the past.”³⁰ Such global guerrillas are able to exploit the dissonance caused by “spikey” economic development and urbanization, the diffusion of and impact of technology (especially information technology), and the dislocation caused by globalization and demographic bulges. They are able to effect “systems disruption” in advanced economies, by causing “cascading” failures in the system: “If attackers can disrupt the operations of the hubs of a scale-free infrastructure network, the entire network can collapse in a cascade of failure.”³¹

Because of interdependence, furthermore, failures within a single network can cause the failure of others. In a tightly interconnected infrastructure, not only do the transportation network, the water network, and the fuel network depend on the electricity network, but the electricity network depends on the fuel and transportation. “Global guerrillas have proven to be increasingly adept at using these interconnections to cause cross-networks of failure.”³²

Categories of War: Multidimensional Conflict

The categorization of war—*traditional*, *irregular*, *catastrophic*, and *disruptive*—by the 2004 Defense Strategy and the Quadrennial Defense Review represents an advance in thinking about future war, but it implied that adversaries

would focus on only one category. War, however, properly understood, is always *multidimensional*. In a past dominated by state-on-state warfare, the traditional or conventional category was central, but combatants also pursued strategies to exploit irregular capabilities, such as guerrilla warfare and insurgency, or disruptive—attempts to undermine an enemy's public support for the war, by, say, acts of terrorism. But a particular form of multidimensional warfare may constitute the most demanding challenge to American planners in the future: "complex irregular warfare" (CIW).³³

One characteristic of CIW is the likelihood that future adversaries will be "hybrids." These hybrid threats will seek to raise the potential cost of U.S. military action by adopting aspects of all of the warfare categories.³⁴ An example of a prototype hybrid is Hezbollah. During the 2006 war with Israel, Hezbollah exhibited both statelike capabilities—long-range missiles, antiship cruise missiles, sophisticated antiarmor systems, armed unmanned aerial vehicles, and signals intelligence—while still skillfully executing guerrilla warfare. Such a hybrid has the potential to complicate future U.S. military planning and execution. Hezbollah was able to stand up to the Israel Defense Forces (IDF) because it was able to adapt skillfully to the particular circumstances that it faced. For instance, unlike U.S. forces, which must be prepared to fight in a variety of environments and under various conditions, Hezbollah was able to tailor its forces specifically to counter the IDF. Since Hezbollah did not have to organize for offensive operations, it was able to concentrate on defense in depth.

With decades of experience in low-intensity conflict with the IDF, Hezbollah understood its enemy's strengths and vulnerabilities. The IDF's ground forces remain structured for swift, conventional thrusts toward Damascus or Cairo. So Hezbollah leaders didn't attempt to build traditional brigades or battalions equipped with armored vehicles—the classic Arab error. Instead, they concentrated on stockpiling the most sophisticated defensive weapons they could acquire, such as the Kornet, a lethal late-generation Russian antitank missile, as well as a range of rockets, from long-range, Iranian-made weapons to man-portable point-and-shoot Katyushas. Thanks to the Katyushas, an Arab military force was able to create a substantial number of Israeli refugees for the first time since 1948.

Hezbollah exhibited flexibility by fielding modular units and adopting mission-type orders. It was effective in its innovative use of weapons. Although most Hezbollah fighters did not seek death, the organization was willing to accept casualties. Hezbollah was perfectly willing to accept a loss ratio of about five of its fighters to one IDF soldier. Hezbollah's intelligence performance was surprisingly effective. As Ralph Peters has observed, "Israel fought as a limping stepchild of Clausewitz. Hezbollah fought as Sun Tzu's fanatical son."³⁵

As suggested above, the sort of hybrid threats generated by CIW and illustrated by Hezbollah may well constitute the most probable, most demanding, and potentially most costly type of future conflict. Implications of wars against hybrid threats include the likelihood that they will be extremely lethal and protracted and the prospect that since they will often take place in contested urban zones (“feral cities”), they will be manpower intensive.³⁶ They will be widely distributed by distance, complexity, and mission. In most cases, these hybrid threats will seek to win the war of perceptions, waging a “conflict among the people.” To prevail against such a threat requires “cultural intelligence” and exploitation of the “human terrain.”

The operational environment in such conflicts very likely will be characterized by close encounters between friendly forces and an enemy that seeks to blur the distinctions between the conventional and the unconventional, between combatants and noncombatants, between conflict and stability operations, and between the physical and the psychological. After all, hybrid war is a competition for influence and legitimacy, in which perceptions are paramount. As the current conflict in Iraq illustrates, in the battle for legitimacy religious identity may trump or negate better governance and economic benefits.

In general, hybrid foes utilizing complex irregular warfare will attempt to exploit the political effects of a conflict, seeking to undermine the legitimacy of U.S. military actions. Thus these enemies will try to leverage “lawfare,” the use of the rules of warfare against the United States (while ignoring these rules themselves), by, for example, taking refuge among the civilian population in an attempt to maximize civilian casualties.³⁷ In turn, adversaries employing CIW will take advantage of the fact that such casualties are magnified by the proliferation of media assets on the battlefield. Again, CIW is above all a battle of perceptions. As Lawrence Freedman has observed, “In irregular warfare, superiority in the physical environment is of little value unless it can be translated into an advantage in the information environment. . . . Our enemies have skillfully adapted to fighting wars in today’s media age, but for the most part we, our country, our government, has not.”³⁸

Preempting Preemption

The best way to counter such threats is through preemption. To do so, the United States needs to establish favorable conditions for access, including a flexible forward-basing posture and an effective means to counter the asymmetric antiaccess strategies that hybrid opponents are likely to adopt. Such strategies would be designed to undermine the cornerstone of American global military power: the ability to project and sustain substantial military forces at great distances from the continental United States. In general, there

are four points at which an adversary may attempt to derail U.S. power projection.

First, as the United States is deciding to project power, an adversary may attempt to deter it by threatening actions that would make the cost of power projection too high, perhaps attacking targets in the homeland in order to undermine public support for an overseas intervention. Second, as the United States is deploying its forces to ports and airfields, an adversary may attempt to disrupt the deployment by terrorist attacks and sabotage of transportation means and the like. Such attacks in both of these phases would force the United States to use forces intended for power projection to defend against attacks at home.

Third, as the United States is transporting its forces to the theater of action and attempting to debark, an adversary will try to deny entry by military and political means—say, attacks and threats against allies in the region. Finally, as U.S. forces establish a lodgment and begin offensive operations, an adversary will seek to defeat them.

In the past, adversaries have focused their efforts on the last two points, denial and defeat. But in the future, an adversary's most cost-efficient actions may be to deter and disrupt the projection of U.S. forces. This possibility is the result of another emerging characteristic of future conflict, "360-degree warfare." Past wars have usually been characterized by the existence of "fronts" and secure "rear areas," whether at the strategic, operational, or tactical level. Of course, airpower provided a means of attacking the enemy's rear, and long-range airpower and missiles threatened to extend the ability to attack the rear to the homeland. Nonetheless, actual attacks against the strategic rears of both sides were deterred by the likelihood of mutual destruction.

Guerrillas, insurgents, terrorists, and other armed groups have long sought to wage "war without fronts," but the strategic emergence of true 360-degree warfare is a recent development. The 9/11 attack indicated that the ability of the United States to deter attacks against its homeland is no longer assured. Iraq and Afghanistan illustrate that our adversaries have adopted this approach at the operational and tactical levels of war as well. Thus multidimensional war in the future is likely to be characterized by distributed, weakly connected battlefields; unavoidable urban battles and unavoidable collateral damage exploited by the adversary's strategic communication; and highly vulnerable rear areas. On such battlefields, friends and enemies are commingled, and there is a constant battle for the loyalty of the population. All of this is exacerbated by the proliferation of militarily useful technology, including nuclear weapons and delivery systems.

A Large Peer Competitor?

Some contend that the American intelligence community during the 1990s and the early 2000s was so focused on the rise of China to great-power status that it was blind to the threat that manifested itself on 11 September 2001. But has the pendulum now swung too far to the other extreme? Are we now so fixated on counterinsurgency and terrorism that we will not take the steps necessary to counter the military of a “large peer competitor?”³⁹

The leading candidate for the role of future peer competitor is China. According to the Department of Defense’s annual report to Congress on Chinese military power,

much uncertainty surrounds the future course China’s leaders will set for their country, including in the area of China’s expanding military power and how that power might be used. The People’s Liberation Army (PLA) is pursuing comprehensive transformation from a mass army designed for protracted wars of attrition on its territory to one capable of fighting and winning short-duration, high-intensity conflicts against high-tech adversaries—which China refers to as “local wars under conditions of informatization.” China’s ability to sustain military power at a distance, at present, remains limited but, as noted in the 2006 *Quadrennial Defense Review Report*, it “has the greatest potential to compete militarily with the United States and field disruptive military technologies that could over time offset traditional U.S. military advantages.”⁴⁰

The report states that China’s economic growth has permitted it to accelerate the pace and scope of its military transformation. “The expanding military capabilities of China’s armed forces are a major factor in changing East Asian military balances; improvements in China’s strategic capabilities have ramifications far beyond the Asia Pacific region.” China has enhanced its strategic strike capabilities and pursued a robust counterspace program, “punctuated by the January 2007 successful test of a direct-ascent, antisatellite weapon.” Thus its continued pursuit of area-denial and antiaccess strategies has expanded from “the traditional land, air, and sea dimensions of the modern battlefield to include space and cyber-space.”

The case of China illustrates that hybrid warfare is not only a phenomenon associated with the “low end” of the spectrum of conflict. There is no reason that a future peer competitor would restrict military competition with the United States to the “traditional” category alone. It would logically also try to confront the United States asymmetrically in those areas where the United States is perceived to be less capable than in the traditional category. The publication in China several years ago of *Unrestricted Warfare* indicates the potential of hybrid complex irregular warfare at the “upper end” of the spectrum of conflict.⁴¹

THE FUTURE OF FUTURE WAR

As the foregoing discussion illustrates, any future adversary, whatever his preferred mode of warfare, will at a minimum attempt to employ all the dimensions of warfare to counter critical U.S. military capabilities asymmetrically in such areas as conventional warfare, force projection, C4ISR (including space operations), and precision strike.

In the area of irregular warfare, opponents will attempt to impose untenable costs on the United States by using time-tested techniques against superior force, threatening a protracted war of attrition to undermine domestic public support, raising the level of violence and brutality, and expanding and escalating the conflict by targeting the U.S. homeland and those of its key allies. In the area of power projection, opponents will attempt to raise the cost of access by increasing the risk to the United States of naval and air operations, by, in turn, expanding the area of a “contested zone,” seeking to destroy high-value assets—for instance, aircraft carriers—dissuading allies and partners from providing bases and other forms of support to U.S. forces, and degrading the ability of the United States to deploy forces into an area of interest.⁴²

In the area of C4ISR, adversaries will attempt to “bring down the network” by attacking American space assets, degrading information systems, disrupting command and control, denying surveillance and reconnaissance, and deceiving intelligence. In the area of precision strike, the enemy will seek to reduce stand-off range, spoof guidance systems that enable precision attack, and disperse targets, including into populated areas. All of these methods have already been employed by adversaries; they represent manifestations of the changing cost equation that will likely make it more difficult for the United States to use military force in the future.⁴³

The best way to think about the future is not to try to predict it but to project a number of plausible alternative futures against which to test strategies and force structures. To do so, planners must develop a representative—not exhaustive—set of plausible contingencies that encompass the principal challenges the military might encounter “over the planning horizon” (more than fifteen to twenty years out). This approach is particularly relevant to the United States, which, given its global responsibilities, must be prepared for a variety of contingencies across the entire range of military operations.⁴⁴

Andrew Krepinevich has suggested a useful methodology for addressing areas of future military competition—the reintroduction of the concept of “color plans” reminiscent of those the United States employed during the interwar period.⁴⁵ His scenarios include

- China (disruptive peer) (Plan YELLOW)

- North Korea (nuclear rogue) (Plan RED)
- Pakistan (failed nuclear state) (Plan GREEN)
- Radical Islam (Plan PURPLE)
- Global energy network defense (Plan BLACK)
- Global commons defense (Plan ORANGE)
- Nuclear/biological homeland attack (Plan BLUE).

These illustrative scenarios seek to identify a representative array of contingencies encompassing the principal military challenges U.S. planners may confront over the planning horizon. As such, they presumably enable strategists and force planners to hedge against uncertainty by testing concepts of operations and force structures against plausible alternatives—not the most familiar ones or the contingencies believed to be the most likely—permitting planners to assess realistically the potential impact of a range of possible futures on relative military effectiveness.⁴⁶

General James Mattis, USMC, the new commander of U.S. Joint Forces Command, who also has responsibility for transformation, hit the nail on the head when he remarked several years ago, “We are not likely to get the future right. We just need to make sure we don’t get it too wrong.” One way to ensure that we do not get the future “too wrong” is not to confuse the *nature* of war—which is immutable—with the *character* of war—which is infinitely variable. In thinking about future war, planners cannot afford to make this mistake.

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 13. Although no mention is made of the religion that this leader professes, his speech adumbrates the sort of rhetoric favored by Osama Bin Laden and other Islamists after 9/11. Of course, in 1996 few Americans outside of the intelligence community had ever heard of Bin Laden.
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 18. William S. Lind, Col. Keith Nightengale [USA], Capt. John F. Schmitt [USMC], Col. Joseph W. Sutton [USA], and Lt. Col. Gary I. Wilson [USMCR], "The Changing Face of War: Into the Fourth Generation," *Marine Corps Gazette* (October 1989).
 19. Thomas X. Hammes, *The Sling and the Stone: On War in the 21st Century* (St. Paul, Minn.: Zenith, 2004). In Hammes' metahistory, the first three generations of war were 1GW—the era in which the tactics of the line and column were employed to mass manpower at the point of the main effort; 2GW—the era of massed firepower arising from advances in weapons technology (rifled muskets, breechloaders, machine guns, and indirect-fire artillery) that shifted the advantage from the offense to the defense; and 3GW—the era of maneuver warfare, which permitted the offensive to reclaim the ascendancy it lost during the second generation of warfare.
- Hammes' metahistorical excursion is unpersuasive and is not really necessary to his argument. His critique of the Pentagon's emphasis on high-tech warfare does not depend upon it. The idea of clearly identifiable generations of warfare obscures rather than clarifies the true evolution of war and its implications for future defense policy. To begin with, one form of war does not arise directly from its predecessor and eventually displace it, as Hammes implies. Instead, advances in warfare usually develop in parallel: firepower was as important during the era of so-called third-generation warfare as it was in the second.
- In addition, Hammes conflates the strategic and operational levels of war by portraying the first three "generations" of war in terms of military methods and operational concepts, viz., massed manpower, firepower/attrition, and maneuver, while describing "4GW" as an approach that applies the full panoply of means during war—information, cultural, social, religious, economic, and political as well as military—something states have been doing since at least the eighteenth century. In addition, insurgency and unconventional warfare, which lie at the heart of Hammes' concept of 4GW, predate 2GW and 3GW. During the first part of the nineteenth century, both Carl von Clausewitz and Baron

- Antoine-Henri de Jomini addressed the nature of insurgency.
20. A number of the points developed by the author in this section were incorporated into *The Future of War as We Know It*, the final report of the "Future of War" panel of the 2007 Defense Science Board Summer Study, on which the author served.
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 44. See Mackubin Thomas Owens, "The Logic of Force Planning" (briefing to the 2007 Defense Science Board Summer Study "Future of War" panel, 24 April 2007).
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DEVELOPING THE NAVY'S OPERATIONAL LEADERS

A Critical Look

Commander Christopher D. Hayes, U.S. Navy

Everything starts and ends with leadership. Nothing else we accomplish, no other priority we pursue, is of much consequence if we do not have sound and effective leadership in place to enact it. We all have a responsibility to develop our own leadership potential and that of the Sailors.

ADMIRAL MICHAEL G. MULLEN, CNO GUIDANCE FOR 2006

Admiral Mullen's words accurately reflect the Navy's traditional pronouncement on leadership. Yet for most of the past century the Navy has struggled to define formally and institutionalize its development process for naval leaders. Just as the Navy accepts that "everything starts and ends with leadership," it comfortably assumes that leadership "just happens," as a natural derivative of operational assignments. More than ninety studies, reviews, and boards have examined the Navy's officer leadership, training, and education practices, in a continuing effort to produce an enduring and integrated system of officer development.¹ Nevertheless, the Navy has been unable to reconcile the symbiotic relationship among training, education, and experience, and this inability has left it unprepared to meet the challenges inherent in the vision of the Chief of Naval Operations (CNO) to "develop 21st century leaders."²

The Navy's concept of an officer's development continuum traditionally

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culminated in promotion to flag rank and the command of battle groups—the pinnacle of naval leadership, exercised in a naval context.³ Today, operational leadership at flag rank demands much more. Twenty-first-century operational leadership is synonymous with joint leadership. Further, as aptly stated by Admiral Mullen, "The future of national and international security relies on the interoperability and cooperation among the services, the interagency, international partners and non-government organizations. . . . But

Naval War College Review, Summer 2008, Vol. 61, No. 3

we are only as good as the contribution *we* make to the overall effort.”⁴ The Navy’s greatest challenge, and one of Admiral Mullen’s enduring top three priorities in his tenure as CNO, is to cultivate leaders prepared to meet the challenges inherent in the twenty-first-century security environment.

Admiral Mullen articulated his vision of “joint officer development” in a professional military education (PME) continuum designed to develop naval leaders. The continuum defines distinct blocks of education broadly aligned with officer career progression from pay grade O-1 to O-9.* The key elements of the PME system are “leadership, professionalism, military studies including naval and joint warfare, and national, maritime, and global security.”⁵ The CNO’s emphasis on formal officer development, coupled with alignment of the Navy’s manpower, personnel, training, and education domains into an “MPTE Domain,” suggests that the Navy is primed to address the challenges at hand in a meaningful way. However, as evidenced by the scores of similar initiatives over the past thirty years, unless there is an enduring change in doctrine and Navy culture, there is little prospect for success. The Chief of Naval Personnel (CNP), like the CNO, has articulated a plan for producing leaders.⁶ However, if the disparate organizations and processes responsible for essential portions of the PME continuum are not aligned, the proposed programs will likely suffer the same fate as the “Covenant Leadership,” “Leadership and Management Education and Training,” and “Total Quality Leadership” of decades past. Leadership development is inextricably wed to training and education. As the Navy moves forward to execute its vision, leadership must be integrated into the PME curriculum and not be left to languish on its own. Further, the Navy must focus on intraservice officer development before it can fully realize effective operational leadership in an interservice joint operating environment.

Unless tied to an integrated system linking assessment, career management, and advancement selection criteria, initiatives to reform the Navy’s processes will fall out of favor as the helm is passed to the next cohort of Navy leaders. Real, enduring change is required to meet the challenges of twenty-first-century leadership. Change of this magnitude requires systematic execution and incurs significant risk. In the absence of execution, vision, no matter how well articulated or intended, amounts to little more than grandiloquence.

OPERATIONAL LEADERSHIP

The security environment of the twenty-first century presents new challenges and places unprecedented demands on leadership. The complexity of the battle space, the speed of change, and the cognitive demands of integrated information

* The Navy’s officer pay grades are O-1, ensign; O-2, lieutenant (junior grade); O-3, lieutenant; O-4, lieutenant commander; O-5, commander; O-6, captain; O-7, rear admiral (lower half); O-8, rear admiral (upper half); O-9, vice admiral; and O-10, admiral.

networks all conspire to burden leadership in ways inconceivable less than a generation ago. In the wake of the Cold War, the lid has been lifted from long-simmering regional tensions. The fluidity of asymmetric warfare and adaptive application of technology have conspired to alter dramatically traditional notions of state-to-state conflict. America's strategic buffer zone has been largely eliminated by the advent of globalization and the proliferation of affordable technology. The role of the United States in the world is different than at any other point in history.

Moreover, the roles that American forces are compelled to accept abroad are increasingly complex, multicultural, joint, and interagency in nature. Even a cursory review of recent engagements illustrates this point: combat operations in Iraq and Afghanistan; missions in Bosnia, Somalia, and Kosovo; antipiracy and maritime interdiction operations in the southwestern Pacific and Horn of Africa; humanitarian relief operations in Indonesia and Pakistan; and noncombatant evacuation operations in the eastern Mediterranean. These operations reflect a disparate array of nontraditional missions in complicated operating environments. All pose operational challenges that the Navy's current system does not adequately prepare its leaders to meet.

LEADERSHIP VERSUS OPERATIONAL COMPETENCY

The term *operational leadership* implicitly requires the confluence of two discrete concepts. Operational leadership is leadership exercised at the operational level, requiring both leadership and operational competency. There is a subtle but powerful distinction between the two. Operational competency requires mastery of the tactical domain and a deft understanding of the strategic. A recent working definition of operational leadership, tacitly endorsed by 107 flag and general officers with operational leadership experience, reads: "The art of direct and indirect influence—both internal and external to the organization—based on a common vision that builds unity of effort while employing tactical activities and capabilities to achieve strategic objectives."⁷ In the twenty-first-century context, as described by the *Capstone Concept for Joint Operations* (CCJO), operational functions are inherently joint.⁸ Nonetheless, the concept of jointness in itself has been described as inadequately reflecting the complexity of current operations and those of the foreseeable future. The term *joint* is evolving to imply "the integrated employment of . . . multinational armed forces and interagency capabilities" and the conduct of operations in a "multi-Service, multi-agency, multi-national environment."⁹ Leadership is expected to synthesize integration of actions so as to realize cumulative effects greater than those achievable by the individual actors. Creating a comprehensive almanac of joint leader requirements is therefore a

challenging endeavor, but it is under way in earnest across the services and within joint institutions.

Ultimately, joint leaders must be prepared to engage and execute with agility the innumerable and complex tasks demanded by the joint operational environment. They must be thoroughly competent in the execution of military affairs at the operational level. More than that, they must be operationally competent *leaders*. It is perhaps easier to focus on what a battle space looks like, who the actors are, and which sequence of tactical actions would best produce strategic objectives than on the seemingly pedantic concept of leadership.

Leadership is required regardless of the nature of the endeavor; whether at the tactical, operational, or strategic level, leadership is the common essential ingredient. The uniqueness of each situational context seems to make it possible to enumerate mechanically the demands of leadership as series of didactic competency lists. Who the leaders are and how they execute the art of leading are more vexing subjects.

If cultivating operational leaders requires development of both operational competency and leadership, however, the Navy's current strategy for joint leader development is misaligned. Admiral Mullen has declared, "The Navy's PME Continuum provides a systematic way to develop leaders."¹⁰ This is accurate, to the extent the proposed PME continuum depicts an institutional approach to identifying opportunities for service and joint professional military education in accordance with joint officer-development doctrine. However, the proposed continuum attends to only one of the four required pillars—joint professional military education (JPME).¹¹ It falls short of fully realizing the need to develop leaders, not just officers educated in joint operating concepts. It fails to demonstrate the Navy's comprehension that systematically developing leaders requires systematically developing leadership.

JOINT OFFICER DEVELOPMENT AND THE CCJO

The 2005 Ronald Reagan National Defense Authorization Act formally set in motion a process to develop and execute a plan to manage both joint officer development and joint professional military education. The August 2005 *Capstone Concept for Joint Operations*

describes how future joint forces are expected to operate across the range of military operations in 2012–2025 in support of strategic objectives. It applies to operations around the globe conducted unilaterally or in conjunction with multinational military partners and other government and non-government agencies. It envisions military operations conducted within a national strategy that incorporates all instruments of national power.¹²

The CCJO and the subsequent *Vision for Joint Officer Development* (JOD) from the chairman of the Joint Chiefs of Staff (CJCS) fully articulate the chairman's vision and proposed strategy to achieve the espoused goals. The chairman's guidance sets forth three broad domains of required joint leader competency: "Strategically Minded," "Critical Thinker," and "Skilled Joint Warfighter."¹³

These primary domains lay the groundwork for further exploration and development by the individual services and the Joint Staff itself. In that connection, the Joint Staff J7* has solicited the assistance of a consulting firm, Caliber Associates.¹⁴ Central to the chairman's plan for creating joint leaders is a commitment to measurement mechanisms that can support quantitative assessment of critical competency-based education as an integral element in "a lifelong continuum of learning."¹⁵ The JOD articulates four interdependent supporting pillars: "Joint Individual Training," "Joint Professional Military Education," "Joint Experience," and "Self-Development."¹⁶

Recognizing the inherent value of the individual services' warfighting competencies and the Title 10 responsibilities of the service chiefs, the JOD does not expect service-specific officer development to be wholly subordinated to development of joint officers. Rather, it stipulates that the services "adjust their officer development models to fit the new JOD paradigm."¹⁷ This requires a full examination of a service's officer-development continuum and restructuring as necessary to meet the challenges inherent in providing fully qualified, competent, and capable joint officers. The architecture for achieving educational requirements is established in CJCS Instruction 1800.01C, "Officer Professional Military Education Policy" (OPMEP). This comprehensive document promulgates the policies, procedures, and responsibilities for execution and certification of the joint professional military education continuum. It clearly establishes the tiers of education, scope, and focus of each building block, as well as the specific learning objectives required at each stage of the PME continuum.

Specifically focused on the educational institutions that constitute the PME and JPME continua, the intent of the Officer Professional Military Education Program is to foster the growth of organizational learning by regulating the "education needed to complement training, experience, and self-improvement to produce the most professionally competent individual possible."¹⁸ However, it addresses hardly at all the fundamental leadership education required in support of professional development; the subject of leadership is introduced only in appendix D to enclosure E, the service "Senior-Level Colleges (SLC) Joint Learning Areas and Objectives" (JPME Phase I), in this context:

*Director for Operational Plans and Joint Force Development.

Learning Area 6—Joint Strategic Leader Development

- a. Synthesize techniques for leading in a joint, interagency and multinational environment.
- b. Synthesize leadership skills necessary to sustain innovative, agile and ethical organizations in a joint, interagency and multinational environment.¹⁹

No leadership learning areas or objectives are prescribed among the precommissioning, primary JPME, or service intermediate-level-college objectives. The chairman's *Vision for Joint Officer Development* is focused on O-6s (colonels and Navy captains), the point in an officer's career where joint and individual-service development converge.²⁰ It is appropriate that when leadership is first introduced in a required learning area, the objectives are clearly directed at the operational level, as those required of the "joint, interagency and multinational environment."²¹ It is implicit in the CCJO and JOD that leadership and execution at the tactical level of military operations are inherently service-oriented endeavors. At the grade of captain or colonel, service leader competencies are assumed; therefore, the obligation to develop "techniques for leading" and the "leadership skills necessary to sustain innovative, agile and ethical organizations" is fundamentally that of the individual service.

Although not specifically required for certification through the OPMEP Process of Accreditation of Joint Education (PAJE), the service colleges are expected to provide leadership education to their students. Ironically, however, the service institutions do not focus conspicuously on leadership education; the only PAJE-certified institution with leadership education as a core element of its curriculum is the Industrial College of the Armed Forces (ICAF), a fundamentally joint establishment within the National Defense University, in Washington, D.C. ICAF instructs leadership as a core course in the syllabus. The stated mission of ICAF's Leadership and Information Strategy Department is to "educate and develop leaders to bring strategic thinking skills and innovative approaches to the challenges of transforming organizations and of formulating and resourcing our future national security strategy."²² Its syllabus is organized around twenty modules, including a two-part capstone exercise (see figure 1). There is no comparable course or content at the Naval War College or anywhere else in the Navy's PME continuum. At the Naval War College, and apart from the Stockdale Group Advanced Research Project, the newly established College of Naval Leadership has no direct relationship with core courses and no formal role in leadership education at the school. There is no compulsory leadership education in the Naval War College's curriculum; in fact, aside from one module of elective offerings, there is no specific instruction in the subject. Each of the College's three core courses claims to provide leadership education as an integral part of its

curriculum, but learning modules and objectives directed to that end are conspicuously absent.

FIGURE 1 ICAF SYLLABUS

1. The Challenge of Strategic Leadership
2. Conceptual Capacity (Mental Models, Reframing and Systems Thinking)
3. Critical Thinking, Assessing Risk and Uncertainty
4. Creative Thinking and Innovation
5. Interpersonal Skills (Social Competence)
6. Managing Decision Making: Strategies for Consensus & Conflict Management
7. Strategic Negotiations
8. Interagency Decision Making Exercise
9. Transformational Leadership and Leading Organizational Change
10. Shaping the International Environment: Organizational Processes and Change
11. Shaping Organizational Culture
12. Leveraging Power and Politics in Organizations
13. Building and Leading Strategic Teams
14. Building and Communicating a Strategic Vision
15. Aligning Vision and Strategy
16. Leading Organizational Change
17. Building a Learning Organization
18. Establishing Organizational Ethics and Values
19. Capstone—Leading Transformation
20. Strategic Leader Challenges

Source: ICAF *Strategic Leadership: Leading Transformation and Change in the Information Age*, abbreviated syllabus.

DEFINING THE ROLE OF COMPETENCIES

The term *competency* means, simply, competence and, beyond that, “the state or quality of being competent.” The definition of *competent*, in turn, is “properly or well qualified; capable.” The difficulty of directly defining *competency* is multiplied in the context of a lack of common definition among the services. Not only do the services claim their own definitions of competency, but they apparently consider interchangeable a list of words: competency, skill, characteristic, trait, ability, attitude, etc. Yet each of these has a slightly different connotation, and each requires a unique apprenticeship.

The Navy has long relied on competencies as a tool to frame the discussion of leadership development and subsequent attempts to engineer systematically a process to implement it. Nearly a hundred years ago, early editions of the classic *Command at Sea* enumerated seven competencies under the heading of

“Leadership Training.”²³ The context and notions seem antiquated by today’s standards, yet competency models generated within the past two decades draw striking parallels to these same centuries-old ideals. According to the 1984 edition of *Fundamentals of Naval Leadership*, there are seven essential characteristics of naval leaders. In 1979, the Navy’s Leadership and Management Education Training (LMET) program proclaimed twenty-seven, but by 1992 that number had been revised to sixteen concurrent with the integration of the Navy Leadership Development Program (NAVLEAD), discussed below. The LMET/NAVLEAD curriculums were based on these competency lists and were designed to introduce concepts that students would pursue on their own during their careers.²⁴ However, while incorporating the LMET/NAVLEAD curriculums into the Surface Warfare Officer School syllabus, the surface community elected to subdivide competencies based on rank and position; thus the division-officer course taught ten competencies, the department-head course thirteen, and the executive-officer and commanding-officer courses covered eleven, characteristics deemed appropriate for senior leaders.²⁵ In 1995, the Navy reexamined its competency list in light of the operating environment and crafted yet another compilation. Those competencies laid the groundwork for the Navy’s 1996 Officer Development Continuum.²⁶

The Navy’s new continuum brought the establishment of the Center for Naval Leadership (CNL) in 2003. The CNL is responsible for generating the new “Navy Leadership Competency Model.” According to the CNL, “a competency is defined as a behavior or set of behaviors that describes excellent performance in a particular work context. These characteristics are applied to provide clarification of standards and expectations. In other words, a competency is what superior performers do more often, with better on the job results.”²⁷ The new model is built on twenty-five competencies organized into five “core” clusters. Despite claims of “comprehensive research” devoted to this latest model, little is known about the efforts or methodology that went into it; CNL staff members themselves point out a striking resemblance to the Office of Personnel Management’s model for the Senior Executive Service.²⁸ Further, the CNL’s courses do not teach to these competencies directly and appear to be largely built upon a legacy syllabus, that of Leadership and Management Education Training.²⁹

The Navy is certainly not alone in embracing competency models as frameworks for leadership development. Each service has its own lists of competencies, each tracing its own heritage from inception through iterative evolution to the current model. The *Capstone Concept for Joint Operations* firmly establishes competency modeling as the preferred paradigm for leader development. The *Vision for Joint Officer Development* defines a competency as “the higher level of assessing learning outcomes described by specific knowledge, skill, ability, and

attitude (KSAA).³⁰ Further, the JOD describes joint leader competencies as the “heart” of officer development. The CCJO directs that the joint officer-development process produce “knowledgeable, empowered, innovative, and decisive leaders, capable of leading the networked joint force to success in fluid and perhaps chaotic operating environments . . . [requiring] more comprehensive knowledge of interagency and multinational cultures and capabilities.”³¹ This directive serves as the genesis of the chairman’s commitment to “identify and inculcate a set of joint leader competencies,” and it establishes the impetus for individual services to align leadership development architecture based on competency modeling.

Caliber Associates’ work under the Joint Staff J7 produced a four-month study to determine the competencies required for performance at the joint operational and strategic levels.³² The methodology included two concurrent, yet distinct, efforts. One was a review of each service’s current leadership model and existing literature on service and joint competency requirements. For the Army, Air Force, Marine Corps, and Coast Guard, the firm examined leadership doctrine and officer-development continua. For the Navy, possessing neither leadership doctrine nor formal process, the researchers relied primarily on the most recent version of the Navy Leadership Competency Model.³³ The researchers then expanded their study to the U.S. Joint Forces Command and Special Operations Command. Caliber Associates then looked for overlaps, correlated service models and core values, and—this was the focus of the endeavor—identified competencies that were distinctly joint, common to all services. The resulting draft model was then refined in interviews with subject matter experts, who, responding to a standard interview protocol, made specific comments and recommendations for improvement.³⁴ The Caliber study, *Identification of the Competencies Required of Joint Force Leaders*, was completed in February 2006 but has not been formally released or endorsed by the Joint Staff.

COMPETENCY MODELING

Competency modeling fits well with the military’s systematic approach to problem solving. By thoroughly examining the competencies required for any given event, an analyst can, theoretically, design a system to produce them through training and education. For the military, competency mapping supports a prescriptive methodology for aligning education and training events with measurable results. But if there is value in defining competencies, there is a danger in presuming that every nuance of a function can be reduced to a series of singular descriptors, assigned to a training syllabus, and then mass-produced. Also, the lack of a consistent definition of “competency” and the variety of terms and descriptors mentioned above as used interchangeably with it suggest how

problematic competency mapping would be as the primary driver in leadership development.

The *Vision for Joint Officer Development*, as we have seen, speaks of “assessing learning outcomes described by specific knowledge, skill, ability, and attitude,” but it is difficult to see how methodology applicable to a specific *skill* would produce a desired *attitude*.³⁵ In the Navy’s view, the new competency model applies wholesale, across the service, regardless of rank, degree of authority, or level of operation. “Leadership is leadership is leadership,” the thinking seems to be—thus the competency model applies equally to every officer and every sailor, all the time.³⁶ Yet the Navy’s own historical use of competency models indicates the contrary. The continuous, iterative review and updating of naval competencies makes clear both the adaptive, evolutionary nature of leadership requirements and the difficulty of establishing an enduring, comprehensive list.

Computer modeling and learning technologies profess to make competency mapping more reliable, measurable, and predictable; however, competencies themselves represent only one approach to the development of leaders. It may be more instructive to conduct a regressive review of naval competencies, identifying enduring elements common to Navy culture. Relying on these core competencies, one might trace these core competencies through evolving models, in the framework of then-current operational environments. Such a study would likely validate enduring competencies and demonstrate the relationship between the value of competencies and a given situational context.

A 2004 article in the quarterly journal of the U.S. Army War College cautions, “We should be very circumspect of our ability to identify an adequate, much less complete, list of competencies applicable to a rapidly changing operational environment.”³⁷ Its coauthors develop a thoughtful and sound argument against sole reliance on competency modeling, aptly characterizing competency modeling as a measure of “single loop” learning and advocating instead “double loop” learning within a “multiple lens strategy.”³⁸

The argument for a multiple-lens strategy and against competency modeling illustrates a broader point—that elusiveness of a universally accepted prescription for leadership or leader development. The sheer abundance and variety of leadership theories point to the complexity of the subject. Definitions of leadership and the means to develop it are so contentious because leadership itself means different things, in different contexts, to different people. Competency modeling identifies and maps desired end states but does not point to the best methodology for cultivating the qualities they represent. Alone, competency modeling is inadequate to capture or teach the totality of leadership. It is incumbent upon a profession in which everything “starts and ends with leadership” to find a practical way to expose developing

leaders to the full range of leadership resources available. A single solution is not enough.

LEADERSHIP EDUCATION VERSUS EDUCATING LEADERS

There is a subtle difference between *leadership education* and *educating leaders*. They are complementary, but they are not mutually inclusive. Leadership education is a subordinate element of leadership development. *Leadership education* is instruction in leadership theory, concepts, and models of action. It refers to those elements of a leader's development process designed and provided explicitly to inculcate knowledge in the domain of leadership-specific educational material. The intent of this material is to give individuals an opportunity to examine and learn the various theories, models, concepts, and principles of leadership and a comprehensive exposure to the enormous body of knowledge in the field of leadership research. The objective of this education is to help leaders evaluate their own styles, strengths, weaknesses, preferred situational approaches, etc., so they can develop their own highly personalized ways to exercise the coveted art of leadership. Leadership education should be not prescriptive but rather descriptive of the range and depth of material available to help leaders realize their full potentials. *Educating leaders*, in contrast, includes everything else. Together these endeavors arm individuals with the knowledge and heuristics essential to leadership in unpredictable settings.

The Navy's Center for Naval Leadership and the Industrial College of the Armed Forces' strategic leadership course are examples of leadership education. Yet the difference between them in organizational approach is significant. In the Navy's vision of leadership development, leadership education is a stand-alone process. In ICAF's approach, leadership education is an integral part of a larger effort to educate leaders through the joint officer development program and the professional military education continuum. This is a fundamental tenet of Marine Corps, Air Force, and Army professional development continua. "The Marine Corps," for example, "believes that it is critical to nest its leadership development processes into its overall professional development continuum, which, in turn, is nested in the institution's mission, culture and core values."³⁹

THE CHALLENGE OF NAVY CULTURE

It might be argued that World War II was the single most significant crucible of change for the U.S. Navy in its history. For the 150 years prior to World War II, the Navy had been solidly fixed in a culture of sailors and ships at sea. However, by the war's close the future course of the Navy and naval culture had irreversibly changed. Battleships and surface gunnery engagements no longer represented the foundation of naval doctrine; aircraft carriers and aviation had

emerged to challenge their dominance and tradition. The submarine force too had become prominent, forming a triad of naval culture and power. At the same time, advances in communication technology marked the beginning of a revolution in maritime command and control. The close of the Second World War marked for the Navy the end both of a myopic concept of independent operational command at sea and of a singular core competence of dominance on the sea's surface.

"A ship at sea is a distant world in herself and in consideration of the protracted and distant operations of the fleet units the Navy must place great power, responsibility and trust in the hands of those leaders chosen for command. . . . This is the most difficult and demanding assignment in the Navy."⁴⁰ These words, redolent of a romanticized and somewhat antiquated notion of independent command at sea, convey a cultural ethos still prevalent in today's surface community and still very much ingrained in the Navy's subcultures. Over the intervening decades, while the world evolved around it, the service has perpetuated a uniquely naval culture anchored in the notion that commanders on, above, or below the sea are bastions of independence and immune to the prescriptions of doctrine. But all the while, technology and emergent rival subcultures have been insidiously and permanently eroding this fundamental precept of naval service.

The early years of the Cold War marked a subtle but profound shift, the beginning of divergence from a cohesive culture based on the traditional role of the surface combatant. That core competency now had to assimilate growing distinctions among the surface, subsurface, and aviation communities. The ensuing six decades entrenched these subcultures within the Navy; evolution in and attendant demands of technology, in turn, divided subcultures into microcultures. The submarine force fractured, to some extent, between fast attack and ballistic missile forces. Aviation witnessed a proliferation of "stovepipes": fixed-wing aviation divided into patrol, support, and tactical platforms, the latter splitting further into attack (bomber) and fighter communities; similar divisions evolved in the helicopter community, where, like the fixed-wing divisions, splits occurred largely along aircraft-platform lines. Throughout the Cold War, the Navy as a whole fractured and splintered among technical and tactical competencies. Each new community evolved its own language, its own operating doctrine, and its own personnel management priorities. Even in the surface community, whose culture remained largely intact, the pressures and influence of emerging technology and the growing complexity of warfighting systems, sensors, and communications brought significant change to perceptions of command at sea.

At the height of World War II, the Navy had been fully integrated in joint campaigns, supporting combined-force warfare on two oceans. Before that, in the lull between world wars, the Navy placed a premium on leadership education and development. As a result, with rare exceptions, its senior leaders in the Second World War were all graduates of the Naval War College. However, technology and the bipolarity of the Cold War eroded service-college education. Rapidly increasing operational demands forced an emphasis on tactical competency and reinforced the divisions among subcultures. The aviation, surface warfare, and submarine communities looked increasingly inward as they struggled to master the sophisticated hardware that now defined both the fleet's capability and their own respective credibilities. Navy leadership supported and in many cases advocated this fixation.

That the Navy maintained a forward-deployed posture throughout the Cold War further exacerbated the drift from an operational focus and a unifying ship-centric heritage. So paramount were the perceived demands of operating advanced aircraft, complicated surface combatants, and nuclear propulsion systems that the Navy abdicated its responsibility to institutionalize formal officer development and prepare its leadership to meet the joint challenges of the future operational environment. So compelling were the Navy's cultural proclivities and operational tempo that not even the 1986 Goldwater-Nichols Department of Defense Reorganization Act could compel it to look beyond its insular, single-service boundaries. Despite that congressional mandate to engage fully in joint officer development, a full twenty years later only 20 percent of the Navy's flag officers were graduates of a senior service-college resident course.⁴¹ That 80 percent of the Navy's current flag officers are *not* service-college graduates speaks directly to the relative value the Navy places on education, on one hand, and operational assignment, on the other.

THE NAVY'S ENDURING TRANSFORMATION

We are holding you [the Naval Aviation Enterprise] up as the poster child for the way things ought to be done. We are encouraged by the progress that you are making.

ADMIRAL VERN CLARK, MAY 2005

The Navy's recent transformational commitment to institutionalizing an "enterprise" framework perpetuates and solidifies the cultural alignments of the service's warfighting communities.⁴² "Our Vision is to create management and personnel development solutions for the 21st century Naval Aviation Enterprise workforce—our Total Force."⁴³ These words, from *Naval Aviation Vision 2020*, emphasize the point. The aviation community enterprise, hailed as a standard

for other communities to emulate, is directing its efforts almost exclusively toward personnel and equipment readiness. The technical and tactical demands of aviation are so burdensome that this approach is easily justifiable. The personnel training requirements are proportionately extensive. It is logical for community enterprises to manage the training elements specific to their communities.

However, leadership and the development continuum required to cultivate it are not community specific and should not be subordinated to the agendas of service subcultures. For too long the Navy focused on missions and leadership in the context of each of its communities' parochial views. Now, reacting to joint requirements, the Navy is in danger of neglecting the fundamental processes necessary to develop leaders. Before the Navy can realize its ambition to create joint leaders, it must achieve competence in developing fully qualified *naval* leaders. This requires a dimension of intraservice competence not present in the current force and not achievable under the current vision.

New naval officers today, upon completing accession programs, enter their community enterprises, where for the next fifteen to twenty years they have no opportunity to interact in institutional training or educational experiences with other naval officers (aside from the select minority who attend the Naval War College or Command Leadership School). Until they reach the rank of captain, naval officers are largely defined by their tactical and technical competencies. Certainly, the demands and priorities of the individual communities justify placing a premium on leadership within the context of the warfighting system. The core culture and competency of officers, the ones they are rewarded for cultivating, are linked first to their communities, only secondarily to the Navy. The 2001 *Executive Review of Navy Training* recognized the challenge the Navy's cultural stovepipes:

Training problems are cumbersome to deal with due to fragmentation at the OPNAV level. . . . [T]he Fleet CINC(s), CNET, and the SYSCOMs all own and operate commands that conduct training in major Fleet concentration areas. For the most part, these commands act as independent agencies, each using its resources to conduct training in support of its own mission. Although these training facilities are seldom fully utilized, the Navy rarely looks across the different commands to accomplish training missions.⁴⁴

Admiral Walt Doran, USN (Ret.), addressing a joint assembly of students at the Naval War College in 2007, characterized the priorities facing junior and field-grade (generally O-4 through O-6) officers: "At the tactical level, your responsibility is to learn your craft. If you are a naval officer, you are expected to learn how to fight your ship or fight your aircraft or fight your sub. As an Air Force officer, you must know how to fight your jet. As a Marine or Army Officer,

you must know how to lead your troops.”⁴⁵ Admiral Doran’s comments were intended to comment on the pressures placed on officers to master the tactical skills of their respective services. Yet his comments illustrate a powerful difference in service cultures and competencies. At the tactical level, Air Force and Navy officers are focused almost exclusively on their *machines*; Marine and Army officers are focused on *leadership*—the fundamental expectation is that every officer is a leader of soldiers or Marines. The common measure of officers’ value to their institutions is their astuteness in wielding the instrument of leadership to accomplish the mission. The common, unifying competency of the ground forces revolves around the individual weapon system manifested in the soldier. Leadership is the cornerstone of execution.

The commitment to professional excellence as soldiers and Marines is evidenced in the extensive continuum of training and educational opportunities conspicuously woven into each officer’s career. Further, an extensive leadership development continuum is not a distinct training domain but the foundation of each training and education opportunity. A fundamental and revealing difference between the Navy’s leadership development system and that of the Army, Air Force, and Marines is the relative cultural emphasis on integrated leadership and professional military education. The Army, Marine Corps, and Air Force have made PME and leadership education integral parts of their career tracks. Their cultures and career models support mandatory, recurrent schoolhouse experiences. In this way they not only foster leadership development along with tactical military development but provide forums that integrate officers of all communities and nurture service competency. In the Navy there is no parallel institutional experience. Aviators, surface warriors, and submariners all keep to their own unique career paths, their individual priorities tied to the technical and tactical demands of their community enterprises. Outside the “luck of the draw” of individual operational assignments, the first intraservice institutional opportunity occurs only when naval officers are eligible for resident war college seats; even then, only a handful are afforded the opportunity to attend.

EDUCATION, TRAINING, AND LEADERSHIP

Training and education are distinct aspects of officer development. They are not mutually exclusive, nor are they synonymous. Education, integrated with training, experience, and self-development, forms the basis of the chairman of the Joint Chiefs of Staff vision for officer development. These same four ingredients are essential to the cultivation of leadership. The Navy acknowledges the intrinsic value of education but falls into the trap of attempting to quantify its return on education investment, by applying methodology more appropriate to measuring training objectives. The *Officer Professional Military Education Policy*

clearly makes a distinction between education and training: “In its purest form, education fosters breadth of view, diverse perspectives and critical analysis, abstract reasoning, comfort with ambiguity and uncertainty, and innovative thinking. . . . This contrasts with training, which focuses on the instruction of personnel to enhance their capacity to perform specific functions and tasks.”⁴⁶

Plainly described, training attempts to achieve a measurable skill, and education seeks to mature a way of thinking. The Navy’s tradition of lumping training and education organizations into the same command structure makes it difficult to distinguish the unique requirements and outcomes of each endeavor. Similarly, the Navy’s repeated attempts to correct perceived deficiencies in its training and education system focus on blended solutions. A principal aim of the Navy’s “revolution in training” has been to identify the competencies associated with each job in the Navy in order to refine and systematically engineer measurable training programs to produce readiness. Education too is viewed in this vein. The Commander, Naval Education and Training Command, discussing the implications of the “revolution in training” for fleet readiness, has emphasized the significance of cost savings, related in terms of time to competency. According to Vice Admiral J. Kevin Moran,

With the prevalent time-is-money mentality in the Navy, getting sailors back to their posts quickly is a key goal of the educational initiative. This means a minimal amount of time in our part of the organization. Time spent in a classroom comes out of . . . the individual’s account. . . . That’s a bundle of money. If I reduce the time to train, I save the Navy money and can return that money to “big” Navy to do other things with. Over the five years of the defense plan, I owe the CNO \$2.2 billion back out of those individuals’ accounts.⁴⁷

It is difficult to imagine the Navy’s new business enterprise leaders justifying the intrinsic value of education in terms of the obligation to “return money to ‘big’ Navy” (that is, in effect, to the Navy’s operational forces). In a fiscally constrained environment, valuing education above weapon systems and operational training may appear even more difficult. This is perhaps part of the reason the Navy has been remiss in filling service-college seats, including at its own Naval War College. Although recent statistics indicate that joint professional military education opportunities are on the rise, they also paint a bleak picture of the Navy’s success to date in PME generally: as of May 2007, only 48 percent of Navy officers in pay grades O-5 and O-6 had completed JPME Phase I, and only 21 percent were JPME II qualified.⁴⁸ At the same time, there is currently no mechanism to track in-residence attendance at service colleges, and community support of attendance at the resident courses has been traditionally weak.

The faculty at the Marine Corps University pointed out that the Navy's unwillingness to fill their seats at their sister Service PME schools with credible officers from their operational line communities undermines the educational experience of all the students. Not only do the Navy officers not attain the PME, but their fellow officers in the other Services miss an opportunity to gain insight into naval warfare at sea, under the sea and in the air.⁴⁹

To distinguish the source of JPME, a naval officer's records must be individually screened for entries under "Service Schools Attended." Aside from cumbersome record reviews or culls of registrars' records, there is no qualification discriminator, no quick reference, to determine which officers studied in residence and which earned JPME credit through distance-learning programs.⁵⁰

The challenge for the Navy Personnel Command is even starker when it comes to leadership education. Despite CNO-directed "mandatory attendance" in the Navy's leadership training courses, the Center for Naval Leadership struggles to fill its seats, and the number of line officers attending is abysmally low—though the curriculum has been cut in half, in a patent attempt to boost attendance.⁵¹ Further, a call to the Officer Assignments branch at the Navy Personnel Command would likely reveal that few officer detailers are aware of the existence of a formal requirement to send officers to CNL-taught courses, or even of the CNL itself.⁵² Moreover, there is currently neither oversight of the Navy's leadership continuum nor a mechanism to track or compel attendance. In the current system, each community is left to determine for itself the value and usefulness of leadership education and training.

THE NAVY'S VISION OF PROFESSIONAL MILITARY EDUCATION

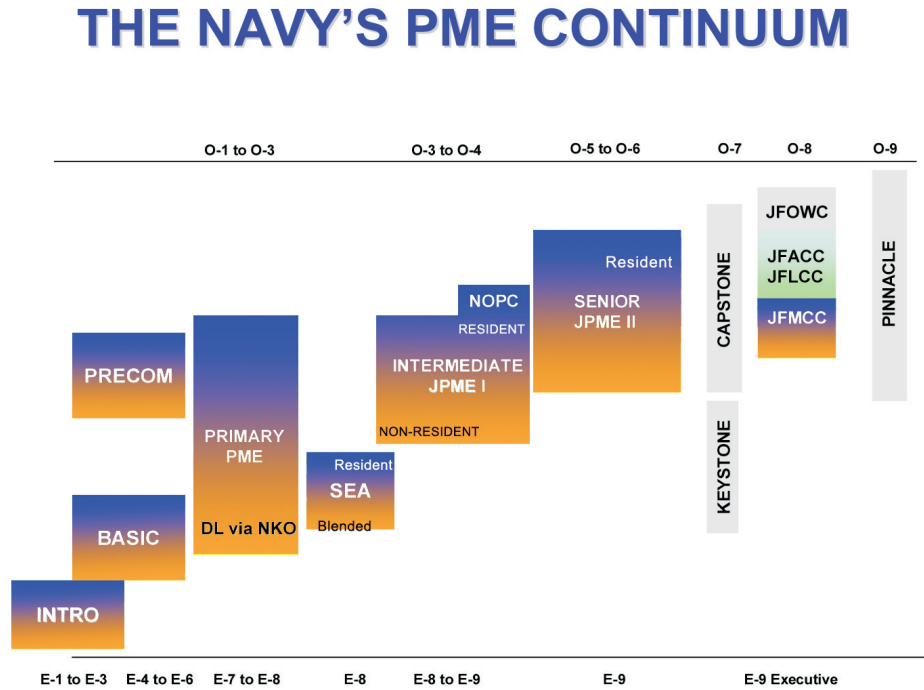
Admiral Mullen's predecessor as Chief of Naval Operations, Admiral Vern Clark, identified the elements of a PME continuum, and in so doing he established the Navy's fundamental paradigm of officer professional development:⁵³

PME = NPME + JPME + Leadership + Advanced Education.

As we have seen, professional military education is the cumulative result of service-specific education (NPME), joint education (JPME), leadership development (education), and graduate-level education. However, the Navy's latest model for PME development fails to reflect these fundamentals.

The Navy's PME continuum is designed to achieve the goals established in the CNO's *Guidance* and the *Vision for Joint Officer Development*. According to Rear Admiral Jacob L. Shuford, President of the Naval War College and executive agent of the Navy's PME continuum, "The Navy's PME Continuum provides a succession of educational opportunities designed to prepare each individual for challenges at the tactical, operational, and then strategic levels of war. . . . The

FIGURE 2
THE NAVY'S PME CONTINUUM, AUGUST 2004



Source: Brief to CNO, August 2004.

continuum's key elements of PME are leadership, professionalism, military studies including naval and joint warfare, and national, maritime, and global security.”⁵⁴

Admiral Mullen expects the Navy to take the lead in development of joint leaders. Accordingly, “the Navy will do so for its officers and senior enlisted through a mix of Joint and Navy-specific Professional Military Education (PME), Joint and naval experience, and Joint and naval individual training. *PME is at the heart of this process; the schoolhouses are lynchpin to producing the effects that I seek.*”⁵⁵ However, when we examine the Navy's PME Continuum, we find that the foundational element of Navy professional military training, “Primary PME,” is not tied to a schoolhouse but rather is relegated to distance learning, through the Internet. Moreover, there is no mechanism for leadership education or training. The Navy's model speaks to the joint education requirements established in the OPMEP but falls well short of the intent of fully developing naval leaders.

RECURRING FAILURE TO ALIGN TRAINING AND EDUCATION INSTITUTIONS

In October 2000, the formal Executive Review of Navy Training convened to examine the Navy's training program—specifically, to align organizational structure more closely, incorporate best practices and technology used in the civil

sector, and recommend a continuum based on lifelong learning and career professional development.⁵⁶ Many of the recommendations included in its report, *Revolution in Training: Executive Review of Navy Training*, are identical to those made almost a decade earlier by the Zero-Based Training and Education Review. Completed in 1993, the Zero-Based Review argued that a central problem with leadership training was a lack of standardization or central control, whereby individual communities were being allowed to define their own priorities and methods for providing leadership training.⁵⁷ Among its findings were the following references to the leadership continuum:

- A low proportion (38 percent) of Navy officers receiving NAVLEAD (leadership) training, primarily surface and submarine officers at the division- and department-head levels
- A nonsequential, nonprogressive, and disjointed education and training continuum, resulting from differing perceptions about leadership requirements across communities
- Absence of a single authority responsible for program management, resources, and curriculum control
- Absence of an assessment system for individual/curriculum effectiveness
- Lack of subject-matter experts for the development of curriculum.⁵⁸

Not only was the continuum inadequate, but the staffing of its institutional elements reflected the low value assigned to education. Nonetheless, and despite these findings and the *Revolution in Training* report, the same complaints and problems are clearly evident today. In fact, according to Professor Richard Suttie of the Naval War College, the Navy has been the beneficiary of nearly a hundred such reviews since 1919, and 80 percent of their recommendations for corrective action have been the same.⁵⁹ The repetitiveness of these findings and the persistence of the need for such reviews, each followed by a brief eruption of action, indicates a doctrinal failure of the Navy's system. The service's approach has not been adequately focused on identifying an enduring continuum.

THE ROLE OF DOCTRINE

A fundamental but missing ingredient is naval doctrine. It is a running joke in the halls of the Naval War College that what little doctrine the Navy has it ignores in favor of operational flexibility. The Navy does in fact have formal doctrinal manuals (known, straightforwardly, as Naval Doctrine Publications), a series running from NDP 1, *Naval Warfare*, through NDP 6, *Naval Command and Control*. However, these documents have not been updated since they were first published over a decade ago. It is significant that NDP 3, *Naval Operations*,

has yet to be published and that there is no doctrine addressing naval leadership at all.

Moreover, even the formal naval doctrine that physically exists fails to achieve the purpose declared in its own pages: “The success of an organized military force is associated directly with the validity of its doctrine. Doctrine is the starting point from which we develop solutions and options. . . . Doctrine is conceptual—a shared way of thinking. . . . To be useful, doctrine must be uniformly known and understood.”⁶⁰ There is no mechanism, formal or informal, to ensure that naval doctrine is known or understood. Unlike those of the other services, which place a premium on indoctrinating members on the value and content of doctrine, naval tradition eschews doctrine.

Air Force Doctrine Document 1-1, *Leadership and Force Development*, carefully articulates the Air Force’s vision and priorities for leadership development. The Chief of Staff makes clear in his foreword, “This document is *the* Air Force statement of leadership principles and force development, enabled by education and training, providing a framework for action ensuring our Airmen can become effective leaders.”⁶¹ Similarly, in Marine Corps Warfare Publication 6-11, *Leading Marines*, the first sentences of the Commandant’s foreword are, “The most important responsibility in our Corps is leading Marines. If we expect Marines to lead and if we expect Marines to follow, we must provide the education of the heart and of the mind to win on the battlefield and in the barracks, in war and in peace.”⁶² For its part, Field Manual 6-22, *Army Leadership: Competent, Confident, and Agile*, is the Army’s “keystone field manual on leadership. It establishes leadership doctrine and fundamental principles for all officers. . . . Leaders must be committed to lifelong learning to remain relevant and ready during a career of service to the Nation.”⁶³

These leadership doctrines establish the cornerstones of their respective services’ entire concepts of leadership and leader development. Each formally recognizes the interdependent and essential ingredients of education and training. In view of the considerable role doctrine has played in establishing and supporting the Army, Marine Corps, and Air Force officer development continua, it is indefensible that the Navy’s process continues to languish without a similar guiding document. The Navy is the only service without leadership doctrine.

THE NAVY’S CURRENT LEADERSHIP DEVELOPMENT COMPENDIUM

The Navy’s leadership-development philosophy is rooted in cultivation of leadership competency through operational experience, anchored solidly in a fundamental cultural bias toward “on-the-job training.” As clearly evidenced in survey data collected by the Naval War College’s Stockdale Group, experience

and observation of others are the two most important factors in learning naval leadership.⁶⁴ This reliance on experiential leadership development, however, has impeded commitment to institutionalized, dedicated leadership training and education. For nearly a hundred years, the Navy has struggled to define its method of formal leadership development meaningfully. A relatively recent attempt, General Order 21 of 1958, laid down a unifying definition of naval leadership and ordered commanding officers to inculcate leadership training in their commands.⁶⁵ This model of leadership development is further endorsed in the classic commanding officer's "bible," *Command at Sea*. Under the heading of "Leadership Training," commanding officers are admonished to spearhead the leadership training of their officers. The U.S. Naval Academy, they are told, is a primary resource of leadership materials: "All USNA graduates have had extensive grounding in leadership and can be used as instructors."⁶⁶ It further goes on to describe seven readily identifiable categories (competencies) of leadership: "Personal Characteristics, Moral Leadership, Gentlemanly Conduct, Personal Relations with Seniors, Personal Relations with Juniors, Technique of Counseling, the Role of the Officer in Training."⁶⁷ Throughout, and consistent with the traditional construct of the sea service, responsibility for officer leadership development rests solely with the ship's commanding officer.

The early 1970s witnessed the creation of a formal two-week course titled Leadership Management Training. In 1974, Admiral Holloway, as Chief of Naval Operations, directed a formal review of all leadership training. Its recommendations included a serious need for a system of leadership training. To create one, the Navy solicited input from several civilian contractors, ultimately selecting the competency-based approach proposed by McBer and Company. McBer's system built on a series of leadership courses, which evolved into the Navy's Leadership and Management Education Training program, already mentioned, in 1979.⁶⁸ The LMET curriculum was initially structured around sixteen leadership competencies grouped into five "skill areas." A subsequent study conducted by McBer distilled the model to thirteen core competencies organized in three subareas: People, Relationships, and Activities.⁶⁹ The courses were directed variously at commanding officers, executive officers, department heads, division officers, chief petty officers, and senior petty officers.⁷⁰ The system was transformed again in the early 1990s, with the addition of a one-week NAVLEAD course.

In 1994, the Navy concluded another comprehensive review of the LMET/NAVLEAD process and issued a press release announcing the establishment of a formal continuum directed at the cultivation of leadership at every level of the Navy, from entry through the grade of admiral:

The Navy has recently approved the development and resourcing of a Navy Leadership Education and Training Continuum which will provide sailors with a systematic program of leadership training throughout their careers. The continuum . . . is designed to provide formal, consistent and progressive training to all Navy members at key points in their careers. Its goal is to prepare Navy leaders for the future by making leadership training a continuous process.⁷¹

In a further demonstration of renewed commitment to a formal, institutionalized process of leadership development, in 1997, CNO required formal leadership training for all hands: “Attendance and successful completion of the appropriate leadership training course (LTC) is MANDATORY for all hands at specific career milestones. Leadership training begins at accession training . . . and continues with LTC attendance and other professional/military training throughout a Sailor’s career.”⁷² The CNO’s order was a critical link between the Navy’s new vision of a leadership continuum and its execution. One of its ultimate results was creation of the Center for Naval Leadership, the Navy’s “center of excellence” for leadership development.

Today, the CNL’s catalogue of leadership development courses lists six officer-development courses. To date, however, only two are fully developed and being taught to the fleet at the CNL’s twenty-three sites. Moreover, a decade after the establishment of a formal continuum and an infrastructure to support it, little progress has been made in solidifying the process by which personnel are assigned to attend. The Navy’s organizational hierarchy further complicates implementation; in the absence of doctrine, or a governing manpower vision, embracing education, training, experience, and self-development, there is no core continuum to guide naval leadership development in an officer’s career. Each element in the current organization is a snapshot, designed to provide just-in-time education in functional roles about to be assumed.

There is in fact a glaring lack of a formal, institutionalized, and linked continuum to cultivate leadership from accession through flag. The array of officer development institutions existing today resembles a child’s building blocks strewn across the playroom floor:

- Accessions: U.S. Naval Academy, Reserve Officer Training Corps, Officer Training Command
- Leadership training: Center for Naval Leadership
- PME: Naval War College (College of Command and Staff, College of Naval Warfare)
- Graduate education: Naval Postgraduate School

- Flag development: Executive Learning Officer/Flag University, in addition to CAPSTONE, KEYSTONE, PINNACLE, and the Joint Force Maritime Component Commander course
- Web-based training and education: Navy Knowledge Online (NKO), including Primary PME.

This list does not include the myriad of technical schools and warfare-community centers of excellence dedicated to the cultivation of tactical acumen. There are implied relationships between many of the individual elements; however, the organizations listed do not fit into a structured model of officer development. They are not aligned vertically or horizontally to integrate or coordinate curriculums. Neither is there any alignment of funding, manpower resources, program management, or curriculum development, or, most importantly, any vehicle to direct an officer's path through the developmental process or reward progress. For example, the Naval Education and Training Command, despite its title, does not own the Navy's three vanguard educational institutions—the Naval Academy, Naval War College, and Naval Postgraduate School.

The services are accountable for rewarding excellence in achievement of professional military education competencies; accordingly, they must be able to track and assess each officer's progression through the development process. The Navy lacks the capability to do so. More broadly, its current process, including Admiral Mullen's vision for a PME continuum, cannot achieve the desired outcomes. Unless the appropriate changes are effected, the Navy's program will undoubtedly continue to spiral in recurring cycles of Review, Recommend, React, Review, Recommend—and Repeat.

NAVY OFFICER PROFESSIONAL DEVELOPMENT

In the spring of 1919, Captain (later Fleet Admiral) Ernest King was ordered to Annapolis to reopen the Naval Postgraduate School. In August the following year, the U.S. Naval Institute *Proceedings* published "Report and Recommendations of a Board Appointed by the Bureau of Navigation, Regarding the Instruction and Training of Line Officers," coauthored by King and two of his peers, Captains Dudley Knox and W. S. Pye.⁷³ The report of this group, commonly known as the Knox-King-Pye Board, held that, it being "impractical and impossible to equip an officer for the whole period of his Service with a working knowledge of a multiplicity of arts, industries, and sciences, whose advance is continuous and progressive, it [thus] becomes necessary to provide for his further instruction and training at recurring periods."⁷⁴ The report defined the key phases of a naval officer's career as:

Inferior subordinate—division officer

Superior subordinate—head of department

Commanding officer—command of a single ship

Flag officer—command of group of ships.⁷⁵

Based on these phases, the board recommended four periods of officer instruction, beginning with the Naval Academy and ending with the Senior War College at the rank of captain. Between these extremes the report recommended the creation of a one-year “General Line Course” before accession to the “Superior subordinate” phase, and establishment of a Junior War College to prepare lieutenant commanders for command.⁷⁶ The report went on to propose how these courses might be best integrated into an officer’s career progression as a continuum of learning and education.

These recommendations led to the establishment of the Junior War College in 1923 and the General Line Course in 1927. The Knox-King-Pye group of 1919 was the first of the seventy-seven significant boards, task forces, and panels convened that, as we have seen, the Navy has set to reexamine its officer development and education system. The thrust of their cumulative recommendations and conclusions is a formal continuum of professional military education, aligned under an executive agent with both the power and resources to supervise execution, compel compliance, and ensure enduring institutionalization within Navy culture. Yet despite the best efforts of so many flag officers, PhD’s, and paid consultants, and even Congress, the Navy’s PME continuum today is less credible and less meaningful than it was over three-quarters of a century ago.

MPTE ALIGNMENT

The CNO’s 2006 guidance announced the alignment and consolidation of manpower, personnel, training, and education (MPTE) under the leadership of the Navy’s Chief of Naval Personnel, Vice Admiral John Harvey. The MPTE business strategy is to anticipate the fleet’s needs, identifying required personnel capabilities and applying capabilities in an “agile, cost-effective manner.”⁷⁷ As the head of the Navy’s “MPTE Domain,” Vice Admiral Harvey is responsible for aligning and integrating all Navy personnel management, training, and education programs, from recruiting through retirement. His strategy focuses prominently on developing twenty-first-century leaders; though there is no mention of a strategy for leadership development, one of its critical elements is formulation of a “Navy Education Strategy.” Vice Admiral Harvey testified before Congress in February 2007 that the Navy had studied career progression to lay the foundation for the education strategy and that there would be a another study later in 2007.⁷⁸

According to MPTE's "Strategic Vision and Priorities Brief," the planned organizational architecture will emphasize measurable competency outcomes and training measures of performance:

1.2 *Competency Management*. Define, describe and manage Navy's work and workforce by the observable, measurable pattern of knowledge, skills, abilities, behaviors and other characteristics an individual needs to perform successfully. . . .

4.3 *Domain Performance Management*. Be a performance-based organization that sets clear expectations against measurable objectives, enables performance, institutes accountability and rewards success.⁷⁹

There is also a call for an "Education Strategy and Policy Alignment"; however, there is no specific tasking or direction involving the Navy's current educational institutions. In any case, significant action is in abeyance pending the "extensive data gathering, model building, and data analysis" involved in the planned follow-on study.⁸⁰

According to Vice Admiral Harvey, the priorities and focus areas identified in CNP's *Guidance 2007* are aligned with the CNO's guidance, "with special emphasis on taking ownership of CNO's priority to Develop 21st Century Leaders."⁸¹ Despite this "special emphasis," there is no obvious effort in or reference to formal leadership development.⁸² The Navy's leadership development continuum is not among CNP's six strategic goals, nor is it a task assigned in the MPTE initiatives and objectives framework.

NECESSITY FOR CHANGE: RECOMMENDED ACTIONS

The Navy acknowledges that it must change in order to adapt to the demands of the twenty-first century. Nine major studies of the Navy's training establishment have generated five major reorganizations since 1971.⁸³ The language in the most recent comprehensive review, *Revolution in Training*, is evidence that the Navy fully understands the comprehensive nature of the change now required. Further, the report indicates, the Navy fully appreciates the necessary dynamics in organizational and cultural change. Nonetheless, much of *Revolution in Training* is merely a restatement of preceding reports.

As we have seen, the other services already have integrated processes to achieve the goals the Navy still seeks. The Army, Air Force, and Marine Corps have documents that govern their leadership development paradigms, as well as mature mechanisms to develop service competent, joint-qualified officers. There are important differences in the organizations and cultures, but the confluence of competency rankings revealed in the Stockdale survey instrument clearly indicates that leadership at the operational level is not service-centric. If the point is to produce the most capable operational leaders, perhaps the Navy should examine and incorporate the best practices of its peers.

Leadership Doctrine

The Navy must determine a path for leadership development, one that includes leadership training and education, joint professional military education, and Navy professional military education. Navy leadership and PME must be defined in terms broader than the typically myopic focus of the “enterprises.” Leadership development and the Navy’s education priorities must be articulated in terms of Navy leadership development and not that of aviation, surface warfare, submarines, or the numerous other community associations. In the absence of leadership doctrine, each enterprise is left to chart its own course, set its own career priorities and milestones, and establish its own concept of officer development. The insular nature of each community dilutes the strength of the naval service as a whole. Naval leadership doctrine must be written to establish a leadership development and education continuum that complements, but is not subordinate to, the tactical training demands of the individual communities.

A General Line Officer Course

The current strategy to implement Primary PME through a seventy-hour distance-learning, Web-based protocol is inadequate to equip naval officers for the twenty-first century. As a fundamental building block of the CJCS *Vision for Joint Officer Development*, Primary PME must be the bedrock of both leadership and service competence. The JOD and the *Capstone Concept for Joint Operations* rely on the services’ ability to provide fully qualified colonels and captains. The Navy has established institutional competence standards for naval officers only within community specialties or subspecialties. It has yet, therefore, to perceive intraservice competence as an essential stepping-stone to interservice competence—that is, to jointness.

At the same time, the Navy must address its largely defunct leadership development continuum. To recall the words of Rear Admiral Shuford, “The continuum’s key elements of PME are leadership, professionalism, military studies.” The Navy now has an opportunity to integrate naval military education and leadership-development courses into a comprehensive system of professional development; such integration is an essential strength of leadership development programs of the other services. Further, by bringing together officers from across stovepipe boundaries in an academic environment, the Navy would be better able to effect the essential cultural changes identified in the *Revolution in Training* report.

The simple issuance of leadership doctrine is insufficient. The Navy routinely promulgates doctrinal papers—*Naval Operating Concept for Joint Operations*, . . . *From the Sea, Forward* . . . *from the Sea*, and *Naval Operations Concept 2006* are all examples—but there is no adequate system to institutionalize such

visions in the service culture. A resident General Line Officer's course, implemented as Primary PME, would afford officers a *naval* perspective, unconstrained by community or enterprise. It would inculcate cultural change, align priorities, and develop leaders who are naval officers in the fullest sense, prepared for the challenges and demands of joint service. A new paradigm is required to reestablish common naval culture; resident PME supports that paradigm.

A Navy Education Command

Much effort has been expended to align the Navy's disparate education programs, predicated on formulation of a coherent education strategy, alignment of educational organizations, empowerment of an education enterprise, and assignment of a single cognizant executive agent. Ignoring the recurrent recommendations, the Navy's MPTE consolidation forces educational programs and institutions to compete with manpower, personnel, and training priorities. Formal command relationships, resource allocations, and the roles and responsibilities of individual educational institutions remain unresolved. In this morass, the Center for Naval Leadership, the executive agent for leadership education and training, is left to fend for itself.

The Navy recognizes education as a strategic investment, but if it is to realize a return, it must accept that dividends realized from education cannot be assessed against the metrics used for training. To achieve a meaningful transformation

FIGURE 3 U.S. MARINE CORPS EDUCATION COMMAND PROGRAMS

<p><u>MCU Degree Programs</u></p> <ul style="list-style-type: none"> • Marine Corps War College • Command and Staff College • School of Advanced Warfighting • Compliance Certification • Quality Enhancement Plan (QEP) 	<p><u>Academic Support</u></p> <ul style="list-style-type: none"> • Alfred M. Gray Research Center • Historical Division • National Museum of the Marine Corps • Marine Corps University Foundation • International Military Students Office • MCU Surveys • Academic Chairs
<p><u>Professional Military Education</u></p> <ul style="list-style-type: none"> • PME Policy/PME Order • Marine Corps Professional Reading Program • Additional resources: <ul style="list-style-type: none"> - Enlisted PME Information - Officer PME Information - Reserve Officer PME - College of Continuing Education - Marine Corps Institute 	<p><u>MCU Schools & Programs</u></p> <ul style="list-style-type: none"> • Professional Development Division • Lejeune Leadership Institute • Expeditionary Warfare School • School of MAGTF Logistics • Senior Leader Development Program (SLDP) • Commanders Program • Enlisted PME (EPME)

Source: *Marine Corps University*, www.mcu.usmc.mil.

and the success that has escaped previous restructuring attempts, the Navy must establish a “Navy Education Enterprise” on a par with the warfare enterprises.⁸⁴ The Education Command/Marine Corps University has already achieved this standing within the Marine Corps. Advanced education, Marine Corps PME, JPME, and leadership development are all aligned, resourced, and empowered within its architecture. Its mission statement directly reflects the Navy’s own need—a command that would “develop, deliver, and evaluate professional military education and training through resident and distance education programs to prepare leaders to meet the challenges of the national security environment.”⁸⁵

EVERYTHING STARTS AND ENDS WITH LEADERSHIP

As the youth progresses onward to mature manhood, he reaps a harvest from experience, he gleans much knowledge from his studies, he learns concisely what the laws of the seaman require, and the rules of the art of war demand. . . . But who is there to tell him that toward the end of your career you cannot pick up new tools and use them with the dexterity of the expert unless you have spent a lifetime with them, tested the temper of their steel, and made them a part of your life’s equipment

REAR ADMIRAL WILLIAM PRATT, *LEADERSHIP*

In 1934, when Rear Admiral Pratt published these thoughts in the Naval Institute *Proceedings*, the Navy’s leadership development envisioned the four phases of an officer’s career that had been listed in the Knox-King-Pye report of 1919. Accordingly, the Navy recognized the requirement to prepare its officers in their professional growth with respect to leadership and professional military education at each of these critical stages. There have been tremendous contextual changes since Rear Admiral Pratt’s article, but the same four stages of officer development remain central to the Navy’s continuum of PME. The Navy PME model institutionalized between the world wars has served the Navy and the nation very well indeed, and it is congruent with the *Vision for Joint Officer Development*, written three generations later.

The current focus on operational leadership and operational competencies is appropriate, then, but only if the system of officer development it serves is otherwise robust. But is it? On the cover of the 21 May 2007 *Navy Times*, above (and overshadowing) a photograph of the Navy’s prospective fifth concurrently serving combatant commander, was an ominous “teaser”—“4 COs Fired in 4 Weeks.”⁸⁶ By the following Monday morning, two more commanding officers had been relieved.⁸⁷

There is a leadership crisis in the Navy, but it is not at the operational level. The real crisis exists at the tactical level, and it is a consequence of a misaligned,

fragmented, and marginalized system of officer professional development. The Navy's recent attempts to transform officer development from the top down have fallen well short. The Navy should direct its best efforts to institutionalize a leadership and professional development continuum that focuses on the bulk of its officer corps, not only the cohorts well into their careers. If "everything starts and ends with leadership," the Navy's paradigm of leadership cultivation must start at the beginning.

NOTES

1. Based on author's research and conversations with Professor Richard Suttie, Captain, USN (Ret.), Naval War College, College of Naval Leadership, Newport, R.I., 21 May 2007. According to Professor Suttie's documented research, seventy-seven studies, boards, and reports have been conducted since 1919 on the subject of education and naval officer development. The author's research indicates an additional thirteen studies and reports address the subject of leadership development.
2. *CNO Guidance for 2007: Focus on Execution* (Washington, D.C.: Navy Staff, 2 February 2007), p. 1.
3. Ernest King and Walter Whitehill, *Fleet Admiral King: A Naval Record* (New York: W. W. Norton, 1952), p. 150.
4. Adm. Michael Mullen to the Vice Chief of Naval Operations, "Joint Officer Development," draft memorandum, circa 2004, p. 1 [emphasis original].
5. *Ibid.*, p. 2.
6. The Chief of Naval Personnel (CNP), Vice Admiral Harvey, is also the Navy's Deputy Chief of Naval Operations for the MPTE Domain.
7. The Stockdale Group definition of *operational leadership*. This definition was developed during a directed elective at the Naval War College, College of Naval Warfare, 2007. The definition was subsequently promulgated and validated through 107 survey responses from flag and general officers.
8. *Capstone Concept for Joint Operations*, version 2 (Washington, D.C.: Joint Staff, August 2005) [hereafter CCJO], p. 1.
9. *Chairman of the Joint Chiefs of Staff Vision for Joint Officer Development* (Washington, D.C.: Joint Staff, November 2005) [hereafter JOD], p. 1.
10. Mullen, "Joint Officer Development," p. 2.
11. JOD, p. 5.
12. CCJO, p. 1.
13. JOD, p. 2.
14. The Caliber Associates study is described more completely below. Caliber's report, like the Joint Leadership Competency Model it proposed, has yet to be adopted or endorsed by the Joint Staff.
15. JOD, p. 2.
16. *Ibid.*, p. 5.
17. *Ibid.*, p. 9.
18. "Officer Professional Military Education Policy," CJCS Instruction 1800.01C, 22 December 2005 [hereafter OPMEP], p. A-1.
19. *Ibid.*, p. E-D-3.
20. JOD, p. 3.
21. OPMEP, p. E-D-3.
22. National Defense University, *Strategic Leadership: Leading Transformation and Change in the Information Age*, Syllabus (Abbreviated) AY 2006–2007 (Washington, D.C.: Industrial College of the Armed Forces, n.d.), annex D.
23. William P. Mack and Albert H. Konetzni, Jr., *Command at Sea*, 4th ed. (Annapolis, Md.: Naval Institute Press, 1982), pp. 143–45.
24. Toraiheeb Al Harbi, "Navy Definitions of Leadership and LMET/NAVLEAD Competency Clusters Compared to Selected Leadership Theories" (master's thesis, Naval

- Postgraduate School, Monterey, California, 1995), pp. 58–61.
25. *Ibid.*, pp. 64–69.
 26. Conversation with Professor John Meyer, Captain, USN (Ret.), Naval War College, College of Naval Leadership, Newport, R.I., 22 March 2007.
 27. This definition was presented in a brief during a visit to the Center for Naval Leadership [hereafter CNL], Virginia Beach, Virginia, 27 March 2007.
 28. Conversations during CNL visit, 27 March 2007. When asked for reference information supporting the “comprehensive research” conducted to develop the new Navy Leadership Competency Model, CNL’s staff indicated that there was no empirical evidence. The author was encouraged to review the Office of Personnel Management competency model for the Senior Executive Service, which bears an unmistakable resemblance to the Navy Leadership Competency Model.
 29. Based on comparison of the LMET curriculum and current CNL division-officer and department-head curriculums. While the organization is somewhat restructured in the CNL courses, the content and objectives are largely the same as in the predecessor courses taught in the LMET curriculum.
 30. JOD, p. 2.
 31. CCJO, p. v.
 32. Caliber Associates, *Identification of the Competencies Required of Joint Force Leaders* (Fairfax, Va.: 2006), p. 5.
 33. *Ibid.*, p. 6.
 34. Of note, while all respondents were in grades O-6 through O-9 or senior civilians, the overwhelming preponderance of SMEs were U.S. Army officers: Army 39 percent, Air Force 24 percent, Navy 15 percent, Marine Corps 13 percent, and Coast Guard 9 percent. Additionally, the Army’s SMEs represented six of nine combatant commanders, compared to the Navy’s three of nine.
 35. JOD, p. 2.
 36. Cdr. Vanessa Wyndham, USN, interview by the author, CNL, 27 March 2007.
 37. George Reed et al., “Mapping the Route of Leader Education: Caution Ahead,” *Parameters* 34, no. 3 (Autumn 2004), p. 53.
 38. *Ibid.* According to Reed et al., “double-loop learning” requires a multiple-lens strategy to evolve the organization’s approach to learning into one focused on applying different frameworks, based on context. “Single-loop learning,” in contrast, focuses on finding solutions to problems framed in a singular context, without a holistic appreciation of the factors contributing to the original problem.
 39. Lt. Col. Norm Cooling, USMC, “An Analysis of the U.S. Marine Corps Officer Leadership Development Continuum” (working collection document presented to the Stockdale Group, College of Naval Warfare, Newport, Rhode Island, 6 May 2007), p. 1.
 40. Mack and Konetzni, *Command at Sea*, p. xi.
 41. Rear Adm. Jacob L. Shuford, USN, “Commanding at the Operational Level,” U.S. Naval Institute *Proceedings* (May 2007), p. 24. According to Rear Admiral Shuford, only 20 percent of Navy flag officers were graduates of resident senior service colleges as of January 2007, up from only 12 percent in 2004.
 42. The Navy’s “enterprise” concept was first introduced by Admiral Clark in 2001 as a vehicle supporting the Navy’s transformation into an efficient and effective twenty-first-century fighting force by refining organizational alignment, operating requirements, and reinvestment strategies.
 43. U.S. Navy Dept., “The Right Force: Our People,” in *Naval Aviation Vision 2020* (Washington, D.C.: Naval Aviation Enterprise, 2005), p. 108.
 44. *Revolution in Training: Executive Review of Navy Training* (Washington, D.C.: Navy Staff, 2001), p. 47.
 45. Adm. Walter Doran, USN (Ret.), discussion and interview with the Stockdale Group, 3 May 2007.
 46. OPMEP, pp. A-1, A-2.
 47. Brian Summerfield, “Vice Admiral J. Kevin Moran: Winning the Navy’s War for People,” *Chief Learning Officer*, www.clomedia.com.
 48. Author’s conversation and subsequent e-mail exchange with Ms. Barb Cusak, Pers-45J2,

- Navy Personnel Command, Bureau of Naval Personnel, 14 May 2007.
49. Cooling, "An Analysis of the U.S. Marine Corps Officer Leadership Development Continuum," p. 13.
 50. Based on author's conversations with Pers-45J1 (Schools/Waivers) and Pers-440C (Fellowships and Service College Placement), Bureau of Naval Personnel, regarding tracking of resident service college attendance and JPME, 8 May 2007.
 51. Based on author's conversations with staff personnel during CNL visit, 27 March 2007.
 52. Author's informal telephone poll of O-3 and O-4 community detailers in Pers-41 (Surface), Pers-42 (Submarine), and Pers-43 (Aviation) regarding the integration of Center for Naval Leadership's Leadership Development Courses in conjunction with career milestones and orders generation, 8 May 2007.
 53. The PME equation was presented in a brief to, and subsequently approved by, the CNO, Adm. Vern Clark, in August 2004.
 54. Shuford, "Commanding at the Operational Level," p. 28.
 55. Mullen, "Joint Officer Development," p. 1 [emphasis added].
 56. *Revolution in Training*, p. i.
 57. *Zero-Based Training and Education Review: ZBT&ER Final Report* (Washington, D.C.: Navy Staff, 1993), p. IV-4.
 58. *Ibid.*
 59. Conversation with Professor Richard Suttie, 21 May 2007; see note 1. Professor Suttie provided research material and reference data produced in support of Naval University (NavU) concept development.
 60. U.S. Navy Dept., *Naval Warfare*, Naval Doctrine Publication (NDP) 1 (Washington, D.C.: Navy Staff, 1994), p. ii.
 61. *Leadership and Force Development*, Air Force Doctrine Document (AFDD) 1-1 (Washington, D.C.: U.S. Air Force Dept., 18 February 2004), p. iii [emphasis original].
 62. *Leading Marines*, Marine Corps Warfare Publication (MCWP) 6-11 (Washington, D.C.: Headquarters U.S. Marine Corps, 3 January 1995), foreword.
 63. *Army Leadership: Competent, Confident, and Agile*, Field Manual (FM) 6-22 (Washington, D.C.: U.S. Army Dept., October 2006), foreword.
 64. The Naval War College established the College of Naval Leadership in 2006 as an adjunct to its two principal PME colleges. Subsequently, in the fall of 2006, the College of Naval Leadership created the Stockdale Group Advanced Research Project (ARP). The purpose of the Stockdale ARP was to conduct a critical examination of current operational leadership and to provide recommendations to the Chief of Naval Operations on how best to structure the Navy's training and education system to develop proficient and capable operational-level leaders in a continuum that builds throughout an officer's career. The Stockdale Group's research included two survey instruments designed to assess operational leadership. These two survey responses (experience and observation of others) parallel the overall U.S. (non-Navy) response.
 65. John Noel, Jr., ed., *The Bluejackets' Manual*, 16th ed. (Annapolis, Md.: Naval Institute Press, 1960), p. 549.
 66. Mack and Konetzni, *Command at Sea*, p. 143.
 67. *Ibid.*, p. 144.
 68. Al Harbi, "Navy Definitions of Leadership and LMET/NAVLEAD Competency Clusters Compared to Selected Leadership Theories," p. 55.
 69. *Ibid.*, p. 58.
 70. Mack and Konetzni, *Command at Sea*, p. 278.
 71. U.S. Navy Dept., "Naval Leadership Education and Training Enhanced," press release, 1994, available at Findarticles.com.
 72. Chief of Naval Operations, "Navy Leadership Continuum," NAVADMIN 189/97, naval message, date-time group 301130Z July 97, p. 3.
 73. King and Whitehill, *Fleet Admiral King*, p. 150.
 74. *Ibid.*
 75. *Ibid.*
 76. *Ibid.*, p. 151.

77. Vice Adm. J. C. Harvey, USN, *Guidance 2007: Year of Execution* (Washington, D.C.: Office of the Chief of Naval Personnel, 2007), p. 3.
78. Vice Adm. John Harvey, Chief of Naval Personnel and Deputy Chief of Naval Operations (Manpower, Personnel, Training and Education), statement before the Subcommittee on Military Personnel of the House Committee on Armed Services, 110th Cong., 1st sess., 15 February 2007, p. 19.
79. Deputy Chief of Naval Operations for Manpower, Personnel, Training, and Education, "MPTE Strategic Vision and Priorities Brief," 25 April 2007.
80. Harvey, statement.
81. Harvey, *Guidance 2007*, p. 5.
82. Review of CNP *Guidance*, congressional testimony, and reference documents accessible through CNP's MPTE website (www.npc.navy.mil/AboutUs/MPTE/) failed to reveal any MPTE plan to strengthen or align the Navy's leadership development continuum within current or future training and education strategies.
83. *Revolution in Training*, p. 49.
84. The enterprise framework comprises five "warfare enterprises" (Aviation, Undersea, Surface, Navy Expeditionary, and Net Warfare) and the "Provider Enterprise." MPTE is one of nine domains within the Provider Enterprise.
85. U.S. Marine Corps, "MCU Mission Statement," *Education Command*, available at www.mcu.usmc.mil.
86. Andrew Scutro, "4 Sacked in 4 Weeks," *Navy Times*, 21 May 2007. Vice Adm. Eric T. Olson was pictured as the prospective relief of Gen. Bryan D. Brown, USAF, at U.S. Special Operations Command. As of mid-August 2007, the other combatant commands led by Navy officers were the U.S. Central, Northern, Pacific, and Southern; see DefenseLink.mil.
87. Zachary Peterson, "Grounding, Firing, Alleged Bar Fight Scar Sea Services," *Navy Times*, 28 May 2007.

ADMIRAL RICHARD G. COLBERT

Pioneer in Building Global Maritime Partnerships

John B. Hattendorf

Most people who serve in navies or devote their days to writing and thinking about naval power take almost for granted the concept that navies are an expression of national power and therefore, in modern terminology, reinforce nationalism. We have become almost hypnotized by the idea that there is a continuum from national policy to naval strategy and tactics. Indeed, that is one powerful thought that lies at the foundation of Alfred Thayer Mahan's writings and Sir Julian Corbett's analysis. Yet it is not the only way to view the matter. Mahan and William S. Sims in the U.S. Navy of the early twentieth century had

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Naval War College Review, Summer 2008, Vol. 61, No. 3

thought about possibilities for an Anglo-American maritime alliance. But there is an even older thought: the idea that there is an essential commonality among those who go down to the sea in ships. Richard Colbert has been one of a very few senior admirals in the U.S. Navy to champion this other view. At the first International Seapower Symposium, in 1969, an occasion that brought together for the first time many heads of free-world navies, Colbert outlined his own view:

The experience of this conference has strongly confirmed what all of us already knew by instinct and experience: that the common aspects of so many of the problems we each face in operating at sea creates a strong fraternal bond. This unites all of us in blue suits who share similar professional concerns.

We recognize that there are political problems and interests which sometimes limit our co-operation. But it is equally clear that the broad interests of the world community we serve are enhanced by bringing our common perspective to bear on common problems. Much can be done on a Navy-to-Navy basis.¹

An acquaintance of Colbert's in the Italian Navy defined the concept even more sharply when he wrote, "Probably the underlying philosophy lies in the *idea of considering navies of the world as a social system* to a degree separated or divorced from the states they defend."² In other words, it is possible to discern a kind of global brotherhood of naval officers, indoctrinated with a concept of international naval cooperation and nurtured by close, personal relations.

In a sense it seems an idealistic concept, founded on a belief in peace and friendship on a global scale that should be the basis for all human relations.³ Yet at the same time, Colbert's notion can be viewed as a realistic, pragmatic strategy for the free world as the United States and its allies faced Soviet naval power.⁴ As some of his contemporaries noted, Colbert was not a theoretician given to working out new concepts in abstract form, but once someone else had formed a concept, he was superb at developing it further and bringing it to fruition.⁵ It is in this sense that Colbert was accurately described in an honorary degree citation as "Sailor-Statesman of the Navy, creator, innovator, educator."⁶

In the thirty-six years of his naval career, Colbert slowly but increasingly became interested in concepts and ideas relating to international naval cooperation. By the time of his death in 1973 he had reached the rank of full admiral and had truly earned the title that Admiral Elmo Zumwalt gave him: "Mr. International Navy."⁷

EARLY CAREER

Colbert came from an unusual family background. He was born in Brownsville, Pennsylvania, on 12 February 1915, the son of Charles F. Colbert, Jr., and Mary Louis Benford Colbert. His father, a prominent leader in the coke, coal, and alloy business, was president of the Pittsburgh Metallurgical Company. Colbert attended Shady Side Academy, an established college preparatory school in Pittsburgh. During his years there he developed a passionate desire to become a naval officer, despite his father's fond hope that he would join the family business. Young Colbert decided to test out his desire and, with his father's help, obtained a berth on board the steamship *Robert Luckenbach* for the summer of 1931, on a voyage from New York to Seattle and back via the Panama Canal. It was an eventful trip that gave Colbert the experience of a hurricane and of hard work at sea. At the end of it, having firmly established his love for ships and the sea, the sixteen-year-old boy wrote in his diary, "I can honestly say I have never enjoyed a summer as much as this one."⁸

After proving himself at sea, the next hurdle was to obtain an appointment to the Naval Academy following his graduation from school in June 1933. It was no easy task. Starting more than a year in advance, his father began writing letters to friends, business associates, local politicians, and his congressman asking their help. Disappointingly, they all replied that no appointments were available that had not already been promised to other, equally good candidates.⁹ Finally, in desperation, a friend of the family and the chancellor of Syracuse University, Charles W. Flint, wrote to President-elect Franklin D. Roosevelt asking his assistance. Roosevelt gave Flint the formula that eventually won the boy his commission.

“The only chance for young Colbert,” Roosevelt wrote, “is to find some other Congressman or Senator who has a vacancy and who would be willing to have him move into the district or state in which the vacancy exists for the purpose of establishing a residence there, even though it be a temporary one.”¹⁰ In the end, Colbert did not have to look too far afield. Congressman Harry A. Estrep of Pennsylvania’s Thirty-fifth District appointed Colbert to the U.S. Naval Academy in the class of 1937. This early incident is illuminating because it reveals the Colbert family’s ease in approaching influential people, a skill that Richard Colbert often used later in life.

Colbert was a Naval Academy midshipman from 1933 to 1937; his class started with 440 and graduated 331. On graduation, he stood only 247 in the class. He was neither a great scholar nor an athlete, but he clearly stood out as a leader and as someone well trained in the social graces. He commanded the 3rd Battalion of midshipmen in the first third of his senior year and again for the final third of the year, when the best and most successful leaders of the class were chosen. Throughout his academy years he was busy in extracurricular activities, particularly social ones. On one occasion during the Midshipman’s Practice Cruise in 1936, Colbert was selected from among the other midshipmen on board the flagship USS *Arkansas* to receive distinguished civilian guests. “I seem to be getting a name for being a Majordomo,” he wrote to his father.¹¹ Indeed, he served on the hop committee and the Christmas card committee, was codirector of the musical clubs show, and finally, served as chairman of the most important social event of his four years at Annapolis, the Ring Dance.¹² Those experiences and social training helped Colbert develop his approach and style, so important later in his life.

While social events were prominent, one can find even in his midshipman days the first traces of his interest in foreign affairs.¹³ He reflected this in a speech he prepared for the academy’s public-speaking group, the Quarterdeck Society, in January 1935. The prizewinning speech, entitled “The War Peril,” reflected for the first time Colbert’s appreciation of foreign opinion. In his speech, he

declared that there was one great overwhelming fear in Europe, the fear of a war that, no matter where it started, would spread and destroy the Western world. "America cannot afford to be indifferent to this universal opinion of Europe," Colbert concluded.¹⁴ It was a thought that echoed throughout his career.

Upon graduation from Annapolis in June 1937, Colbert went to his first sea assignment, the commissioning crew of the new aircraft carrier USS *Yorktown*. In 1939, he was reassigned, this time to the Asiatic Fleet, where he received orders to the flush-deck four-piper USS *Barker*. Colbert served in *Barker* for five years, rising from junior ensign to lieutenant commander and commanding officer. The ship saw duty in Southeast Asian and Australian waters as well as escort duty in the Atlantic and as part of the carrier USS *Core*'s successful hunter-killer group. His years in *Barker* brought him the first experience of cooperation with other navies. In early 1942, *Barker* was one of the ships in ABDA-FLOAT (American-British-Dutch-Australian), the Allied naval command under Admiral Thomas C. Hart, USN, and later under Vice-Admiral C. E. L. Helfrich, Royal Netherlands Navy. *Barker* served in the striking force along with British, Dutch, and Australian ships in the unsuccessful attempts to intercept the Japanese invasion fleet off Bali and Bangka Island in February 1942. The experience of those actions impressed Colbert, who was then the ship's communications officer. Despite the current view of historians who see the Java Sea campaign as a mismanaged affair, Colbert often discussed with his colleagues how relatively smoothly he believed the ship-to-ship communications between ships of different navies had functioned in that critical situation.¹⁵

Despite the defeat of the ABDA command, Colbert's memory of his experience stayed with him and convinced him not only of the practicality of multinational forces but also of the real advantage that multinational arrangements had for securing the seas. Looking back in 1966, he argued against those who wished to replace NATO with a series of bilateral treaties, saying that such treaties had not worked in "slow-motion" wars such as the Second World War. They could not be responsive to the complex, fast-moving events that could lead to nuclear war. Thinking of the events leading up to the Second World War naval engagements in the Dutch East Indies, Colbert commented that those were "desperate times, and I saw this lesson first hand. It was a bitter lesson."¹⁶ Through that experience, Colbert came to believe that there was greater potential for success through the combined efforts of many nations than through following only the individual interests of single nations.

From *Barker*, Colbert went on to command the destroyer *Meade* in both the Atlantic and the Pacific, remaining in command until the end of the war. Promoted to commander, Colbert was assigned after the war to the Bureau of Naval Personnel, where he worked on plans for the postwar naval reserve. During that

period, he also served as a social aide in the Truman White House. He kept up his interest in foreign affairs through membership in the United Nations Club, but in these years he had not settled down fully to concentrate on international issues.

MATURATION OF A CONCEPT

The real turning point in Colbert's career came in 1948, when he was selected as aide and flag secretary to Admiral Richard L. Conolly, USN, Commander in Chief, U.S. Naval Forces Eastern Atlantic and Mediterranean, based in London. Commenting on his new orders, Colbert told a friend, "Am not sure whether I like it or not. I guess I will find out."¹⁷ He did like it, and Conolly's ideas and approach came to have a marked influence on Colbert.

Conolly was a superb negotiator, and Colbert accompanied him in meetings with naval leaders in most of the Western European and Mediterranean nations and learned much from the way Conolly handled problems and dealt with other leaders. One incident in particular seemed to summarize Conolly's approach and influenced Colbert's way of thinking. During a cruise in the Mediterranean on board his flagship in 1949, USS *Columbus*, Conolly arranged a tabletop war game in which he posed the problem of an allied naval command in the Mediterranean; it was one of the first steps in the arduous process of creating what would become the NATO Mediterranean naval command. In order to examine carefully the issue of whether the command headquarters should be afloat or ashore and what forces should participate, Conolly gathered senior officers from a number of countries. Each cooperated but clearly showed his national bias. Conolly finished the exercise without solutions but made all who participated feel that they were part of a team dealing with a common problem.¹⁸ That was a theme basic to Richard Colbert's way of thinking.

By all accounts, Colbert's association with Conolly provided the basic insight upon which Colbert built his later work. At the same time, there was a parallel and personal development that helped to shape his international outlook further. At a New Year's ball in 1949, Colbert met Prudence Ann Robertson, daughter of E. J. Robertson, the managing director of Lord Beaverbrook's newspapers the London *Daily Express*, the *Evening Standard*, and two Scottish newspapers. A Canadian who had gone to live in London after the First World War, E. J. Robertson nurtured Colbert's instinctive feeling for international cooperation as the most viable means of achieving world peace, and Colbert returned his interest with admiration and devotion. At the end of Colbert's tour of duty in London, he and Prudence Robertson were married at St. Paul's Church, Knightsbridge. Throughout their married life, Colbert felt that England was his second home; at the same time, he learned

from his wife how to be sensitive to differences in points of view between Europeans and North Americans.¹⁹

COLBERT IN WASHINGTON

Leaving England in December 1950, Colbert accompanied Admiral Conolly to his new position as President of the Naval War College, then Colbert moved on to his own new assignment in the political-military affairs division of the Office of the Chief of Naval Operations.

Shortly after Colbert's arrival, the division received a new director, Rear Admiral Bernard L. Austin. Colbert obviously liked the work in his new assignment under Austin, much of which was dealing with foreign issues and with people of other nationalities.²⁰ During this period Admiral Austin became concerned with the problem of providing instruction for naval officers from nations who wanted training in the United States. There had already been a move to put service education on a more systematized basis through the establishment of the NATO Defense College in Paris, but this was not sufficient to meet all the demand. In the late 1940s and early 1950s, there were many requests made to the U.S. Navy for use of its service schools, but no regularized arrangements had been made. In light of this, Austin directed Colbert to make a staff study of the best way in which a course could be developed for foreign naval officers.²¹ This work was the seed from which much would grow later in Colbert's career.

While Colbert was at work on this and other projects, he came to the attention of Admiral Forrest Sherman, Chief of Naval Operations. Sherman selected Colbert to become his aide later in the year, undoubtedly on Admiral Conolly's recommendation. Before that could become a permanent assignment, however, Sherman needed Colbert as an experienced and knowledgeable aide on temporary assignment with him for overseas trips. One important assignment came in 1950–51, when Sherman was a member of an interallied committee negotiating how the new NATO military commands would be structured. After each negotiating session, Sherman would relax with his aides and unwind by discussing the events of the day. Through this method Sherman taught Colbert about national sensitivities and current issues as well as successful methods of international negotiation.²²

In July 1951, another issue arose in which Admiral Sherman used Colbert's experience and expertise. Some years earlier, while with Admiral Conolly, Colbert had been closely involved in the staff work leading to the U.S. proposal for obtaining American naval-base rights in Spain. As early as 1948, Franco had said that he would make bases available, but President Truman and the National Security Council had initially rejected the proposal.²³ Despite qualms about associating their country with fascist Spain, Sherman and Conolly, among others,

believed that NATO's southern flank would be vulnerable without friendly bases in Spain. As the only member of the Joint Chiefs to take this view, Sherman went ahead, having finally persuaded Truman that it was an important strategic issue.²⁴ With Colbert at his side, Sherman traveled to Spain for talks with Franco, and afterward he filled in the details and the rationale behind all his agreements in discussion with his aide. Continuing on from Spain to Naples for further talks with European leaders, Admiral Sherman suddenly died of a heart attack before he could prepare any written reports of his conversations. Colbert was the U.S. naval officer with the most thorough knowledge of what Sherman and Franco had agreed upon, and thereby Colbert became a direct link in the chain that led to the U.S. Navy's use of Rota, Spain, as a naval base.²⁵

COLBERT AT THE NAVAL WAR COLLEGE

Upon completion of his tour of duty in Washington, Commander Colbert reported to the heavy cruiser USS *Albany* as executive officer. During his two years on board, *Albany* served as flagship for Commander, Battleship-Cruiser Force, Atlantic, and was deployed to the Mediterranean. Colbert distinguished himself as an exceptionally capable administrator, a good shipmate;²⁶ as one of his commanding officers recalled, he was "the best executive officer any ship had had (or the good fortune to have)."²⁷

Upon completion of his sea duty, Colbert had to choose between assignment as either head of an academic section at the Naval Academy or a student at the Naval War College. Seeking advice, Colbert wrote to his old boss, Admiral Conolly, who was by then retired. Conolly gave him sound advice that was to prove remarkably true. "In regard to the possibilities for duty," Conolly wrote, "I would say by all means take the Naval War College if you have the opportunity. . . . I have always considered it a turning point in a naval career."²⁸ In the autumn of 1955, Colbert reported to the Naval War College as a student in the naval warfare course. Recently promoted to captain, Colbert stayed on for two more years as a staff member.

The background for Colbert's new assignment stretched back to the early 1950s, when he had done his staff study on training foreign naval officers under Admiral Austin in the political-military affairs branch. In 1955–56, the President of the Naval War College was Vice Admiral Lynde McCormick, who had taken up the College presidency after having been the first Supreme Allied Commander, Atlantic. In this role, McCormick had commanded several NATO exercises, including MAINBRACE, the largest allied peacetime exercise up to that time. These experiences taught McCormick the fundamental need for developing better understanding among NATO navies. His experience paralleled that of Admiral Arleigh Burke.

During 1955, Burke's first year as Chief of Naval Operations, he began to lay the groundwork for closer coordination between the United States and other NATO navies. At the same time, he saw the need for similar coordination with friendly navies in Asia, Africa, and throughout the Americas. In addition, he wanted to create a way in which naval officers from nations that had fought against the United States during the Second World War could shed their unspoken sense of inferiority following defeat and become full-fledged allies.

One of the options Burke saw was the chance to offer a year's study at the Naval War College, modeled upon the lines of the curriculum already in place for the first year of the naval warfare course. Burke made contact with the leaders of several allied navies, who were generally enthusiastic about this idea. By the spring of 1956, twenty-three navies had accepted Burke's invitation, with Admiral McCormick's full cooperation in implementing the course at the Naval War College.

At the time these plans were coming to fruition, Colbert was just finishing his first year as a student in the naval warfare course. When Burke selected Colbert to head up the new course, there was some jealousy on the part of others at the College. But Burke had full confidence in Colbert, having known him while he was in the political-military affairs division, where his office had been directly across the hall from Burke's.²⁹

Colbert's first task was to choose a name for the course. He was firmly opposed to the idea of using the word "foreign" in the name, wanting instead to select a name that would reflect a positive and mutual goal. After about a month, he selected the name "Naval Command Course for Free World Naval Officers."³⁰

The purpose of the course was multifaceted. Basically it was to prepare officers for higher command responsibilities within their own navies while at the same time familiarizing them with U.S. Navy doctrines, methods, and practices. But its purpose was much broader than that, as Professor August Miller reflected after his first year's experience under Colbert's direction:

At the Naval War College in an atmosphere of complete freedom of thought and expression, the foreign officers both symbolize and interpret their own navies and their countries not only to Americans but to each other; and on the basis of this free inquiry it can be readily recognized that such an open exchange of ideas will help to allow friendly nations to cooperate with one another in maximum efficiency in time of world stress.³¹

Colbert himself was well satisfied with the course and privately wrote to a friend, "All goes well—almost too smoothly. The capability of the students is far beyond our expectations—they really look like the 'future CNO's [Chiefs of Naval Operations] of the Free World' as Admiral Burke describes them."³²

Colbert took great pains with the course, designing an appropriate curriculum and nurturing close personal contacts among the students. The social side of the course was an essential element, and the Colberts spent a large sum of their own money to ensure that all went well, not only with cocktail parties but also with flowers for sick family members or small farewell gifts. For all of this, Burke consistently gave Colbert full credit for the course's success. As he wrote to Colbert privately a decade later, "The idea was good, but a lot of good ideas come a cropper, and this one did not, because of you. You were the man who started it properly, who nursed it and nurtured it along the proper lines."³³

Yet in this period, Colbert's ideas were very much in the process of development. The experience of being the director of the Naval Command Course for its first two classes very clearly became the foundation upon which his later career was built. At this stage, however, he did not seem to have a clear vision of what could practicably be done with the cooperation he was then nurturing.

EXPERIENCE IN INTERALLIED AND INTERAGENCY NAVAL ASSIGNMENTS

After three years at the Naval War College, Colbert left for Washington, where he was assigned to the staff of the Joint Chiefs of Staff in the Long Range Plans and Basic War Plans Branch. In 1960, Colbert became commanding officer of the Sixth Fleet's general stores ship USS *Altair*, based in Barcelona, Spain. This proved a formative and influential phase of his career, which reinforced some of his experience with the Naval Command Course. The ship spent much time at sea in support of the operations of the Sixth Fleet and in developing an early approach to vertical replenishment at sea by helicopter; Colbert's experimentation with this new idea was a major contribution to its use and led to its becoming standard for ships at sea. While engaged in these operations, Colbert was also intensely concerned with his ship's relationship to its home port and in developing cooperation with the Spanish Navy. This, he thought, was a key element in the alliance system.

When word reached him that the very small U.S. naval facility at Barcelona might be abolished and the fleet supported by a more "cost-effective," larger base, Colbert objected strongly. His reasoning reflected his growing belief in the importance of personal relationships across national and cultural boundaries. He pointed out to his superiors that it was important for the U.S. Navy's sailors and their families to develop close relationships with the peoples of the countries in which their bases were located, through an appreciation and recognition of their hosts' customs and ways of life. *Altair's* home port in Barcelona gave such an opportunity. "It would appear," Colbert wrote, "that every opportunity should be grasped by the U.S. Navy to establish and maintain more small

unobtrusive United States representation of this type in friendly countries, rather than closing them and concentration at installations which already are criticized as large and conspicuous overseas bases.”³⁴

Colbert was selected for his major command while still in command of *Altair*. He had asked for assignment to “a cruiser out of Boston,” and the Bureau of Naval Personnel had obliged by giving him command of the guided-missile heavy cruiser USS *Boston*. Under Colbert’s command, *Boston* deployed to the Mediterranean and, for a brief period, served as the flagship for Commander, Sixth Fleet. Admiral David L. McDonald later recalled that “Colbert and his crew in the *Boston* went out of their way to make their ship a most outstanding Flagship.”³⁵

It was while in command of *Boston* that Colbert decided he wanted to develop his experience further in political-military affairs. In 1962, Colbert became interested in the possibility of obtaining one of the two military billets on the State Department’s Policy Planning Council, then headed by Walt W. Rostow. The council had been established in 1947 by Secretary of State (and General) George C. Marshall to be a long-range planning and advisory staff whose task would be to analyze major foreign policy problems. Among its functional responsibilities the council was particularly charged with coordinating political-military policy and interagency planning.

Rostow wanted to fill his military billets with the best-qualified officers. Because he did not want to accept just any officer that the Department of Defense might assign, Rostow wanted to have a competition that would produce “real Rhodes Scholarship type of thinking.” During this search, Rostow interviewed Colbert in November 1962 and later received from him what Rostow described as “a very moving letter.” Rostow later recalled that Colbert wanted to have the experience that the Policy Planning Council assignment would give him, but Colbert was aware that the Navy’s personnel bureau did not think it was good for his career. However, Colbert persisted in applying, believing that military and naval officers needed to have a deep knowledge of the problems of diplomacy. In his letter to Rostow, Colbert remarked that at the Naval War College he had been closely involved with officers from other countries and that the experience had had a marked effect on his attitude. Above all, he wanted to build upon the sense of fraternity that he had experienced.³⁶

In 1962, Assistant Secretary of Defense for International Security Affairs Paul H. Nitze was particularly interested in getting high-caliber military and naval officers into other agencies of the government, particularly the State Department. A dozen years earlier, Nitze had headed the Policy Planning Council and knew well its importance and its role. The Navy had never sent an officer to the Policy Planning Council, but Nitze’s assistant, Captain Elmo R. Zumwalt, Jr., USN, shared Nitze’s view and also wanted to see the Navy increase its influence.

Both Zumwalt and Nitze believed that an assignment to the State Department would be career broadening. Colbert too shared this belief, but the detailing officers in the Bureau of Naval Personnel consistently told him that such an assignment would irreparably damage his career. Colbert's ability obviously impressed Rostow, while within the Department of Defense, Zumwalt as Nitze's aide "pulled the necessary levers" and got Colbert the assignment he wanted.³⁷

Colbert's work ranged widely and deeply in foreign policy issues during his two years with the Policy Planning Council, including work on topics such as multilateral forces, Vietnam, the Inter-American Military Force, a U.S.-Australian squadron, and nuclear arrangements east of Suez in the face of a Chinese communist nuclear threat.³⁸ The Inter-American Military Force was an idea that specifically reflected Colbert's ideas; it was a subject on which he wrote a number of papers. Colbert had in mind a force that, though primarily naval, included army and air components. As he visualized it, the force would be of modest size, involving a few thousand people drawn from seven or eight countries in Latin America, with U.S. participation limited to no more than 15–20 percent of the total force. In Colbert's view "it would be important that the U.S. not be any more than just a partner in the project."³⁹ Colbert envisaged that its primary mission would be ocean surveillance and sea control, but it could also be a peacekeeping force, thus providing a place for the participation of armies. An important aspect of this force was its training; significantly, Colbert believed that it would be provided by the force itself at a base set up in some convenient place in Latin America. This would have an advantage in keeping the force's training independent of the United States and in limiting the number of officers who would be brought into the United States for training.⁴⁰

In 1964, at the end of his State Department duty, Colbert began to be involved in developing the concept for the Multilateral Force, a concept that he believed might be attractive to NATO countries whose navies had surface ships but no aircraft carriers. Colbert believed it would form a much less costly alternative to American nuclear submarines, by placing Polaris missiles in merchant ships, manned by mixed NATO crews with joint responsibility among all NATO nations for nuclear deterrence. This proposal, which implied that the nuclear nations would delegate a certain amount of their sovereignty to an allied committee, was never implemented.

The idea of mixed manning was tried out, however. Colbert was one of the small group with Rostow that recommended to Secretary Nitze that the U.S. Navy demonstrate the feasibility of manning a single ship with officers and men from different nations. The short-term experiment was successfully carried out by the USS *Claude V. Ricketts* in 1964–65.⁴¹

Reflecting on their time together in the State Department, Colbert and his colleague Colonel Robert N. Ginsburg, USAF, wrote:

To participate in the work of the Council . . . can be an exhilarating experience for the military man who follows the path and precepts of George C. Marshall. For the Council's work is almost daily vindication of the dedicated military officers' unuttered creed. It is not, he knows, the man that is important, nor is it the idea, nor the military service or branch of government, nor the government itself. It is only the Republic and its perpetuation that really matter.⁴²

While Colbert was off in the depths of the State Department, some of his fellow officers thought he had been forgotten by the Navy, but it was not so. In May 1964 he was one of five of his class selected for rear admiral. Also, to show the importance of his work, the Navy promoted him while still on the Policy Planning Council rather than waiting for him to assume his next naval command.

In June 1964, he reported as Commander, Cruiser-Destroyer Flotilla 6, based at Charleston, South Carolina. The fifty or so ships under his command gave him the responsibility, as one friend commented, equivalent to the commander in chief of a smaller navy. A year later, Colbert became deputy chief of staff and assistant chief of staff for policy, plans, and operations to the Supreme Allied Commander, Atlantic (SACLANT), Admiral Thomas H. Moorer.

Colbert's first assignment after he reported to SACLANT was to establish the Iberian-Atlantic Command. When Moorer became SACLANT in April 1965, he had pointed out that NATO had agreed several years before to establish a command covering the sea approaches to the Strait of Gibraltar but that neither the money nor the men necessary to carry this task out had been authorized. Moorer told the NATO Military Committee that he wished either to have the directive canceled or to receive the resources necessary to do the job. The committee agreed to provide what was needed, and this task, in turn, was given to Colbert. In short order, Colbert brought IBERLANT (Iberian-Atlantic Command) into being. In Moorer's words, "This action not only significantly enhanced the capability of NATO to deal with naval operations in the area, but also significantly increased the morale, prestige and overall interest of the Portuguese allies. I give Admiral Colbert all of the credit for this important move."⁴³

Simultaneously, Colbert began to develop a proposal to create a Standing Naval Force, Atlantic. For three years NATO had run an operation called MATCHMAKER, in which ships of various allied navies joined in an exercise for a six-month period. In late November 1966, Colbert, as a result of a discussion with Admiral Moorer, prepared a concept paper that proposed a permanent MATCHMAKER force that could serve as a naval contingency force for the Allied Command, Atlantic.⁴⁴ In May 1967, the NATO Defense Committee agreed in

principle to establish a standing naval force, and this was approved in a ministerial meeting in December 1967. The force was activated in January 1968. In Colbert's view, this was only the beginning. He had already written that

with this as a prototype conceivably we can follow suit with similar forces in time in the Mediterranean, the Indian Ocean, the Western Pacific, and very importantly Latin America. As the Soviet Union continues to expand its sea power world wide, I can think of no more pragmatic and meaningful counter to their activities than the United States participating as partners with friendly countries in their various areas.⁴⁵

In Colbert's mind, the crisis that led up to the June 1967 Arab-Israeli War would have been the ideal proving ground for a multinational standing naval force. "If a few of the maritime nations had formed a squadron of destroyers and contested the closure of the Gulf of Aquaba—perhaps by escorting an Israeli ship through—in support of the principle of freedom of the seas and Innocent Passage, the situation there might have been pacified and the Arab-Israeli war, such as it was, averted for a time or altogether."⁴⁶

PRESIDENT OF THE NAVAL WAR COLLEGE

After the activation of the Standing Naval Force, Atlantic, and its first visit to the United States, in the spring of 1968, Colbert was unexpectedly selected to be President of the Naval War College. Promoted to vice admiral in a sudden jump over some ten of his classmates, Colbert was delighted to be returning to Newport. "It is a dream come true—a dream that I would never have mentioned to anyone, for fear of being precocious," he remarked.⁴⁷

As President of the Naval War College Colbert made a remarkable imprint on the institution. He was largely responsible for implementing new plans to expand the scope of the College's academic programs as well as to improve its physical plant. Like other colleges, the Naval War College had several academic chairs named for distinguished naval men in specific subject areas. Colbert continued the policy of that time by inviting distinguished civilian academics to hold these positions for a short time. He also wanted to increase the number of academic areas they represented.

In particular, Colbert took special interest in two of the civilian academic chairs that had been proposed by his senior academic adviser, Professor Frederick H. Hartmann. Colbert's interest in these particular positions reflected his deep-seated appreciation for different cultural outlooks. First he brought to fruition the proposals to establish the Claude V. Ricketts Chair of Comparative Cultures. He appointed an anthropologist, John M. Roberts of Cornell University, to hold this chair in 1969–70.⁴⁸ Second, and for similar reasons, he supported an unsuccessful proposal to establish a chair in oriental studies. Explaining his

view, Colbert wrote, "There are some leading contemporary thinkers who believe that the twenty-first century will be the Asian Century." With this increased awareness of the importance of the Far East in world power politics, economically, socially, and strategically, such a scholar "would be able to add perspective to every point on the Asian scene where we as a nation have been and remain very much involved."⁴⁹

Then, after expanding the civilian faculty, he and his staff established a number of military chairs that were designed to extend the concept of the civilian academic chairs and ensure that the best-qualified officers in each area of professional naval interest were brought to the College as instructors in those areas.

In developing the curriculum, Colbert continued along the lines of his predecessors, but he stressed the historical importance that the Naval War College had placed on international law since its founding in 1884. In the pages of the *Naval War College Review*, Colbert asked rhetorically, "Why should the Naval War College alone amongst service colleges, place such emphasis on the study of international law?" The answer was obvious to Colbert, for at sea, "international law is the only law." But also, "the inter-relationship of legal, political, economic and social factors which are operative on a global scale and increasing significance of our international commitments require a clear understanding of the rules governing the relations between states."⁵⁰

In the specific area of international naval cooperation, Colbert took four major initiatives at the Naval War College. He established the first of several exchange visits between the presidents of the U.S. Naval War College and the Royal Naval College, Greenwich, supplemented by a week-long visit of forty U.S. Naval War College students to Greenwich in 1970.⁵¹ Second, he proposed the establishment of a Naval Staff Course for middle-grade free-world naval officers, complementing the Naval Command Course but at a lower level and emphasizing the participation of smaller navies that did not have comparable educational facilities. Colbert particularly had in mind that this course would primarily develop the professional and managerial skills for the student officers to use in their own navies, emphasizing the naval decision-making process, naval planning, and the broad understanding of the roles of sea power. At the same time, it could familiarize the students with the methods, practices, and doctrines of the U.S. Navy while developing an international bond among the graduates.⁵²

Third, Colbert built on the long-standing desire of the Naval Command Course graduates to have a reunion in Newport, combining it with the successful rise of so many of them to flag rank. He wished to use it as a means to create at the senior flag-officer level "areas of mutual interest, co-ordination, and co-operation that could pay substantial dividends for the future."⁵³ The result

was the International Seapower Symposium of November 1969, the first in a series of meetings bringing together the chiefs of navies and other naval leaders to discuss, in an academic setting, current naval issues of mutual concern.⁵⁴ Out of the conference came much constructive and valuable thinking that led to the development of further regional discussions on the implication of Soviet maritime expansion. But most important for Colbert, senior naval officers at the conference became aware of their common outlook. As Canadian vice admiral Harry Porter wrote to Colbert after the meeting, "I have come away from it with an increased realization of the brotherhood of the sea and comforting knowledge that most naval officers share the same problems, the same aspirations, and the same feelings about the importance of sea power on countries and mankind as a whole."⁵⁵

The last of Colbert's contributions at the Naval War College consisted of projects that he designed as practical contributions to promote international naval cooperation. For example, he gave to the students in the Naval Command Course the mission of designing a "Free World Frigate," a modern, efficient, and economical ship of frigate or corvette size. The basic idea in Colbert's mind was to have officers from a variety of friendly nations "design" a ship that could provide the basis for commonality and standardization in multinational naval forces, such as the Standing Naval Force, Atlantic. Eventually he hoped to see a squadron of such escort ships with the same hull design, using components for many nations, each flying a different national flag. The resulting design found support from key leaders in the United States such as Admirals Elmo Zumwalt and Isaac C. Kidd, Jr., but nothing came of it. Colbert was deeply disappointed that it seemed impossible to break down nationalistic barriers in building warships.⁵⁶

Colbert's final effort at the Naval War College was developed from a point in Zumwalt's "Project SIXTY," the action plan for his term as Chief of Naval Operations. Colbert created the detailed plan of action Zumwalt used to persuade allied navies to improve and expand their antisubmarine warfare capabilities, the better to counter the growing Soviet Navy.⁵⁷

FINAL ASSIGNMENTS

In June 1971, Colbert left the Naval War College to become chief of staff to the Supreme Allied Commander, Atlantic. He was delighted with the prospect of continuing his work with NATO. "It will be like 'going home,'" he wrote.⁵⁸ Taking a circuitous route from Newport to Norfolk, Virginia, Colbert prepared himself for his new position and laid the groundwork for the second International Seapower Symposium in 1971 by visiting the chiefs of navies in Italy, Greece, Turkey, Belgium, West Germany, the United Kingdom, and Portugal. In

this Colbert acted as Admiral Zumwalt's personal representative as well as the prospective SACLANT chief of staff.⁵⁹

Later, at the SACLANT headquarters, Colbert was deeply involved in the daily work of allied naval cooperation. A year later, he was promoted to admiral and appointed Commander in Chief, Allied Forces Southern Europe. During his final years as a NATO officer, both in Norfolk and Naples, Italy, Colbert rounded out his series of practical initiatives to support international cooperation by recommending additional multilateral naval forces for the Indian Ocean and the Mediterranean. Recognizing too the deep expertise needed by naval officers who work within alliances, Colbert drafted a proposal to establish a NATO postgraduate school to train recently commissioned officers under the guidance of the NATO international staff.⁶⁰ Within the U.S. Navy, Colbert recommended that a NATO career pattern be laid out for selected officers, who would then be fully aware of NATO procedures, problems, and programs. His plan was rejected, but too often, he believed, U.S. naval officers came to NATO on short tours of duty without enough international experience, engrossed in the paths their careers would take within the U.S. Navy and lacking much of the expertise, knowledge, and sensitivity to alliance problems that extended experience would have brought. "Techniques for dealing with foreign personnel require more thoughtfulness, understanding, and patience," Colbert wrote, characteristically putting the issue in terms of personal relationships. In an international setting, a tactless remark displaying insensitivity to another viewpoint, he believed, was often far more difficult to repair than it would be within a single nation's staff.⁶¹

As Commander in Chief, Allied Forces Southern Europe in 1972–73, Colbert's principal concern was to reduce the tension between Greece and Turkey. Under his leadership the Naval On-Call Force, Mediterranean was started and expanded with the hope of developing it into a standing naval force using Greek, Turkish, Italian, British, and U.S. ships. Colbert had more success in his initiatives to develop cooperation between the French Navy and NATO, working out a treaty allowing annual exercises. Through the combined efforts of Colbert and French admiral Jean Guillou, a large Franco-American naval exercise took place off the coast of the United States in 1973.⁶²

During Colbert's tenure as commander in chief he discovered that he had an incurable case of cancer, but he remained at his post until a week before his death, at the age of fifty-eight on 2 December 1973. As Admiral Giuseppe Pighini, Commander, Allied Naval Forces Southern Europe under Colbert, put it, he was "a man dedicated to his duty till the last breath of life."⁶³

Colbert's highest duty, as he saw it, was clearly revealed in a letter he wrote to Chaplain Henry Duncan, only a few months before he died:

I am a realist and know that I am on borrowed time. I am convinced that the Lord has decided to give me some extra time to do some things in this, my last command, which might better insure a safer world. That is the gist of my prayers. All I ask is just a bit more time to carry on and establish some concepts—multinational NATO forces which will strengthen our Free World against what I am convinced is a desperate threat, despite all the talk of detente.⁶⁴

REFLECTIONS ON A CAREER

Richard Colbert's entire naval career was developed around a gradually growing and strengthening commitment to international naval cooperation. He never worked out or developed his thoughts on this subject in any complete way, but as one reflects on his various statements and the innovations he made during his career, one can discern a philosophy that bears much of enduring value. It was a philosophy grounded in a sense of the need for cooperation, close personal ties, loyalty, camaraderie, and social grace in day-to-day life. He was a friendly, outgoing man with an understated style—a man who assumed that cordial cooperative behavior was the best way to accomplish things.⁶⁵ In the life of a career naval officer, this meant leadership and personal responsibility. Colbert reflected these concepts in a letter he wrote near the end of his career to a young officer just taking up his first command. Referring specifically to Admiral Zumwalt's innovative reforms in the U.S. Navy, Colbert advised,

Old Navy or New, long hair or short, it seems to me what ultimately makes the difference in readiness and effectiveness is the sense of camaraderie and respect that come from personal involvement and identification on the part of all hands. I fear that a lot of Navy men never got the underpinning message behind many of the recent innovations: the emphasis on personal responsibility.⁶⁶

This point was an essential aspect of his philosophy, not only in shipboard command but also in forming bonds with other countries and other navies. The key was personal responsibility and, through it, personal relationships. In opening the first International Seapower Symposium, he stressed "the pure professional naval competence which each of us can bring . . . [to] provide threads of a cloth which might well be woven into a durable and serviceable fabric."⁶⁷

Colbert believed that the highest professional naval competence arises from two equally important sources: practical experience and war college education. "War colleges have always been the storehouses of the military arts," Colbert said, "but nowadays they must prepare officers to function outside the confines of purely operational expertise, in an era of transition, of apparent detente, of new structuring of international politics."⁶⁸

The international courses played an essential role in this. Colbert believed that such courses stressed the "undiluted, the small, close, intimate nature" of

the relationship built during a year's study together.⁶⁹ It was nothing that could be mass produced but was created slowly and surely over time by a delicate formula: a small group, one officer only from each country, interacting with the entire group of carefully selected students and well-chosen staff, teaching a curriculum that takes into account the foreign officers' diverse backgrounds and letting them develop together where they would not be overwhelmed or at a disadvantage as they came to understand something of life not only in a foreign country but in one so very different from their own.⁷⁰ The result of this, Colbert found, was a created bond. "Once one has become part of that special fraternity," he wrote, "neither time nor distance can dissolve the unique ties it forms among its members."⁷¹

These kinds of ties were the basis, he believed, for the kind of partnership among nations that was urgently needed in the modern world. After the Second World War, the United States responded to the urgent and practical needs of its allies with the Truman Doctrine, the Marshall Plan, and other forms of assistance. But these led to domination. With full economic recovery from the war, these policies were no longer appropriate. "Domination leads to dependence," Colbert believed, "while true 'partnership' encourages the independence, pride and dignity of our sovereign allies."⁷²

Further developing this idea, Colbert saw that there was an alternative to previous U.S. foreign policy, one that encouraged and supported regional cooperation and partnership in various areas. The growth of Soviet maritime power presented a challenging problem "which no one country is able to resolve itself."⁷³ In this situation, Colbert saw many advantages in a policy and strategy founded on partnership among allied and friendly nations. This could best be achieved through multilateral naval forces designed for major regions of the globe. The advantages of such forces were clear to him: the cost, financially and politically, was low, and they avoided the internal political dissent caused by massive or overwhelming commitment by the United States, while at the same time increasing the effectiveness of such a force by being the symbolic and real expression of several nations united in a common effort. Moreover, the general maritime interests of the free world could be served by multilateral naval forces, which could give rationale and justification for navies in countries where these interests were under attack.⁷⁴ In all of this Colbert clearly perceived the forms of naval expertise that regional and small navies provided that complemented the expertise within larger navies concentrating on global-scale naval operations.

In a career intertwined with ideas of international, naval cooperation, Richard Colbert sought to achieve four important objectives.⁷⁵ First, he believed that naval officers were particularly competent in solving international problems. For navies, the sea is the same good friend or cruel foe all over the world. Because

of this, naval officers have naturally developed a similar way of thinking and can easily discuss mutual problems, apart from national prejudices. With this in mind, Colbert sought out successful senior naval officers as responsible representatives of different free-world societies and tried to motivate them to learn through each other's perspectives the value of freedom. He did this in the Naval Command Course by creating an academic environment of mutual respect and candor where the American political system and way of life, and those of each country represented, were openly discussed.⁷⁶

Second, through the International Seapower Symposium he sought to establish a forum where the highest naval leaders could exchange with their professional peers knowledge, concepts, views, and opinions about naval technology, tactics, strategy, and the importance of sea power. Through this he hoped to foster deeper understanding and appreciation of different national perspectives.⁷⁷

Third, in all his proposals for international cooperation, he hoped to establish among naval officers a deeper awareness of the need for mutual reliance as a key element in every nation's national interest.

Fourth, he sought to establish rapport across cultural boundaries and to develop personal knowledge and understanding for different national views as expressed by naval officers. In doing this, Colbert wanted to create a group of knowledgeable naval leaders who could ensure that the effectiveness of multinational forces would not be jeopardized by any failure to understand one's own ally.

Although Richard Colbert was an officer in the U.S. Navy, his vision was clearly wider than the ordinary officer's. His vision has certainly touched the officers and men of all ships who have served in the Standing Naval Force, Atlantic; the senior flag officers who have attended the International Seapower Symposia; and the faculty and students of the Naval War College.

In all of his objectives, the unifying theme is the mutual experience of the naval profession, which reaches beyond cultures and nations to establish its own fraternity. Few naval officers have seen this vision so clearly as Richard Colbert, and few have done so much to foster it. Those who would follow in his wake must share his notion that no measure of international leadership can replace trust and understanding among allies and a sound appreciation of common goals.⁷⁸

NOTES

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77. *International Seapower Symposium XI* (1991), *XII* (1993), *XIII* (1995), *XIV* (1997), *XVI* (2004), *XVII* (2006), and *XVIII* (2008 forthcoming), all *The Proceedings of the Conference*, edited by Hattendorf and published in separate volumes by the Naval War College. Copies are available in some naval and research libraries.
78. For another view of Colbert, see Joel Sokolsky, *The Fraternity of the Blue Uniform: Admiral Richard G. Colbert, U.S. Navy, and Allied Naval Cooperation*, Historical Monograph 8 (Newport, R.I.: Naval War College Press, 1991), and Sokolsky's essay in John B. Hattendorf and Bruce A. Elleman, eds., *Nineteen-Gun Salute: Case Studies of Strategic and Operational Leadership during the 20th Century* (forthcoming).



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RESEARCH & DEBATE

THE EFFECT OF TACTICAL BALLISTIC MISSILES ON THE MARITIME STRATEGY OF CHINA

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Weaponry and concepts (that is to say, combat theory, or more specifically, doctrine regarding the practical employment of some specific weapon) have endured as themes of warfare throughout the history of mankind. From the perspective of their development, there has always been an interactive relationship between weaponry and combat theory. Lack of coordination in the development of these two elements has led to a spiral in which one continually supersedes the other. A weapon based on a completely new concept appears; it is often not employed according to the commander's original intentions, precipitating a change in how it is used and a shift to alternative technological improvements.

TENSION BETWEEN OFFENSIVE AND DEFENSIVE SYSTEMS AND THE CHOICE OF DELIVERY PLATFORM

From the most fundamental point of view, every action on the battlefield can be summed up as “the action and counteraction between capabilities—more specifically, firepower—and information, between the opposing parties.” Undoubtedly, the birth of aviation weaponry and its massive use produced a revolutionary impact on the patterns of modern warfare. The most prominent manifestation of its “revolutionary” character is the fact that airpower provides commanders with a relatively easy method of penetrating physically the enemy's defensive system and delivering firepower—in abstract terms, of conducting power projection.

As aviation (and space) weaponry of all kinds developed, air-defense systems evolved as well, from “barrage balloons” to surface-to-air missiles, from point air defense to area air defense, all the way up to today’s out-of-area interception technology. From a historical perspective, and in terms of the interaction between offensive and defensive systems, changes in “delivery methods” of firepower can be understood as simply the continuous evolution of the cost-effectiveness ratio. During World War II, vast numbers of bombers, “Flying Fortresses,” covered the sky over strategic nodes of the Axis powers. During the Korean War, bombers confronted newly developed jet-propelled interceptor aircraft, and the high cost-effectiveness of this mode of delivery became difficult to sustain. Until the Vietnam War, the United States possessed absolute air superiority; then, however, facing surface-to-air missiles, it often exchanged the missions of tactical aircraft and heavy bombers, employing F-105 fighter-bombers to attack targets deep within enemy territory while relying on B-52 strategic bombers for support missions on the battlefield and against forward positions. During the Persian Gulf War, coalition strikes against deep targets were all undertaken by tactical aircraft—for example, by the F-117A stealth fighter, which carries only two laser-guided bombs. It is important to note that since the Korean War, the majority of wars involving great powers like the United States have been of medium or low intensity, so their combat systems have been used in relatively benign environments.

Cruise missiles and ballistic missiles, both of which appeared in the final stage of World War II, possess even stronger capabilities than existing types of tactical aircraft for penetration of the enemy’s defensive space, and at an even better cost-effectiveness ratio. Ballistic missiles, given the same tactical parameters, offer more outstanding penetration capability and cost-effectiveness than cruise missiles.

One of the reasons that numerous third-world countries favor tactical ballistic missiles is that because of their limitations, they are generally at a significant disadvantage in confrontations with great powers. Under such circumstances, how to guarantee penetration of the enemy’s defense space is the first problem to be solved. By means of ballistic missiles, an actor inferior in combat aircraft can deliver firepower against a dominant actor. From the economic point of view, developing an effective air force is very complex and requires a long gestation period. A substantial deterrent using tactical ballistic missiles takes far fewer resources; it is a “short-term investment” that can produce instant results. The effect is similar to that of crossbows against knights in medieval Europe—and today, as with the “Law Forbidding Crossbows,” developed Western countries impose tight restrictions on tactical missiles and related technology.

TACTICAL BALLISTIC MISSILES UNDER THE DOCTRINE OF LAND-BASED SEA CONTROL

Simply put, the emergence of tactical ballistic missiles (TBMs) has enabled weaker parties to offset to a certain extent the effectiveness of the expensive air combat systems of stronger opponents at a relatively low cost. However, the TBM alone cannot fundamentally change the superior and inferior positions of the two sides. During the Persian Gulf War, coalition air forces flew more than 112,000 sorties, dropping 225,500 bombs; during the Kosovo war, NATO forces flew thirty-five thousand sorties and dropped twenty-five thousand bombs; during the war in Afghanistan, U.S., British, and other allied forces dropped a total of about 17,400 bombs. From the perspective of the cost-effectiveness ratio, it is hard to imagine that TBMs could deliver firepower on the same scale. But the weapon often makes a significant difference for the weak forces of a small country against the integrated combat systems of a great power.

At the tactical level, the value of medium- and short-range TBMs—presently one of China's principal means of delivering long-range firepower—lies in their ability to penetrate enemy defense systems without placing high demands on the tactical environment. When we broaden our discussion to encompass the strategic level, however, the value of tactical missiles must be restated in this way: they provide China with more maneuvering space for military and political strategic operations on its eastern, maritime flank.

First, let us examine the Taiwan Strait. At the most comprehensive level, China's Taiwan strategy is at present one of building up reserves rather than preparation. The core of this effort consists in strategic resource accumulation and geopolitical positioning. The specific goals are to avoid a situation in which the Taiwanese authorities go too far toward independence and to curtail gradually their political room for maneuver, thus laying the foundation for future unification.

To maintain the current trend of stability in the strait area, it is necessary for the central government to maintain a certain amount of military pressure against separatist forces, in addition to various political and diplomatic measures, to deter behavior that "crosses the line or oversteps the boundary." Thus, TBMs offer the mainland strategy toward Taiwan a third option, aside from all-out use of force or reliance on nonmilitary means. That third choice, "attacking without entering," represents a critical military way of exerting pressure on Taiwan. It creates greater decision-making space for the mainland with respect to Taiwan, while compressing the available space for the Taiwanese regime and greatly reducing its options. Put more concretely, ballistic missiles provide the tools by which a "quasi-war" scenario can be made feasible. First, the tactical missile's strong penetration capability can guarantee a high probability of

success without a large-scale, high-intensity attack on the island itself, even against a fairly intact air-defense system. After all, the effectiveness gap between missile and antimissile technologies is much greater than that between aircraft and air-defense technologies. With respect to long-range firepower, the two sides of the Taiwan Strait are simply not comparable; the mainland occupies an absolute and asymmetrically dominant position. Moreover, missiles essentially preclude engagements between personnel, thus giving the mainland control of military action as well as of corresponding political effects. An additional effect comes into play on the political level. Over a long period of time, deployment of medium- and short-range TBMs along the mainland coast has had a significant psychological impact on the Taiwanese public. Variations in the number of missiles deployed have become an indirect means of exerting influence upon the island's internal political situation.

In the longer term, should the mainland have no alternative but the use of force in order to recover Taiwan, it will not be possible to neglect the possibility of intervention by foreign militaries. Therefore, it will be necessary to undertake strategic deployments in advance, in order to minimize the likelihood as well as the intensity of any such intervention.

Unlike tactical aircraft, cruise missiles, or other such delivery platforms, ballistic missiles cannot be intercepted by the enemy's air force. For an island nation, such as Japan, the most practical method to increase the depth of defensive space is deploying sea-based missile interceptor systems in coastal waters. Against the threat of medium-range ballistic missiles from the Chinese mainland, however, what is needed is not a few "Aegis" air-defense ships but a complete naval combat system—just as China has developed a complete attack system. The maneuver and deployment of tactical missiles on home territory causes China few military or political problems, whereas, in addition to their retaliatory value, they pose a "clear and present threat" that keeps enemy naval deployments in check.

From a broader, regional perspective, in fact, stabilization of the U.S.-Chinese relationship depends to some extent on China's deployment of long-range firepower, including TBMs. The three "island chains" form an important component of U.S. national strategy in the western Pacific; they all serve to obstruct the Chinese navy's routes into the open ocean, thus restricting its scope of operations to a narrow area. From a purely military perspective, the ideal forward position of U.S. forces should be the "second island chain." There they can avoid direct contact with Chinese forces while relying on the superiority of U.S. long-range striking power, thereby containing China more effectively. However, it is quite obvious that the United States would not be able to pull back so far in the short run—the Korean Peninsula, the Diaoyu [Senkaku] Islands, Taiwan,

and other regions of the “first island chain” are all in very unsettled phases in their histories. In the absence of any strategic breathing space, were the United States rashly to withdraw its forces from these places, chaos would surely ensue, and effective control might well be forfeited.

Having in mind the technological disparities in any potential Sino-American conflict, China’s primary concern with regard to long-range firepower delivery must be the penetration capability of its delivery platforms against U.S. defense systems, not cost-benefit calculations. If one again considers grand strategy, war, from China’s point of view, would be an unfortunate instrument of last resort, not one by which China can pursue interests beyond its fundamental interests; therefore China’s understanding of cost-effectiveness would not be the same as that of the United States. For that reason, the TBM plays the important role it does: as long as China possesses sufficient capability for long-range firepower delivery, in any outbreak of hostilities between China and the United States the TBM would make the American bases spread out along the first island chain “chopping blocks” for China’s firepower and increase the costs to the United States of a war enormously. U.S. war calculations are made according to “cost accounting”; in reality, however, American forces based along the first island chain have become unwilling hostages in the strategic chess match between China and the United States.

The result is that for a very long time, in the western Pacific and even elsewhere, China and the United States have significantly lowered the chances of conflict, though they view each other with great anxiety. Also, in an era of peace, the island-chains containment strategy has in fact little practical effect in impeding China’s development—and for China at the present stage, nothing is more important than a stable environment for development.

FUNDAMENTALS OF TACTICAL BALLISTIC MISSILE STRIKES AGAINST SEA TARGETS

Reports to the effect that “the Chinese armed forces are exploring ballistic missile attacks against aircraft carriers” have surfaced time and again in the media. Therefore, it is necessary to explain in simple terms the technical aspects of this question. This article does not seek to prove or predict anything; the author wishes only to discuss the feasibility of TBM attacks against moving targets on the surface of the ocean, from a nonspecialist perspective.

Suppose ballistic missiles are flying toward a formation of surface ships (let us tentatively defer the question of whether the missiles will hit or not). Also suppose that in response the vessels attempt to intercept them. Beyond doubt, the probability of successful interception, even if not zero, will certainly be far less than it would be of intercepting either aircraft or cruise missiles, since, as

stated previously, the ballistic missile has a greater penetration capability against area-defense systems.

The next question is whether ballistic missiles are capable of hitting moving surface ships. The current conventional wisdom, on the Internet and in other media outlets, generally holds that as ballistic missiles were originally designed to attack fixed targets on land, moving targets on water greatly increase the technical difficulties. But in reality, it is hard to make a straightforward comparison. First, the maximum speed of current large or medium-sized surface ships is around thirty knots. Compared to that of ballistic missiles, which travel at many times the speed of sound, up to Mach 10 and beyond, the mobility of surface ships is very limited. At least, ballistic missiles striking targets at sea seems more reasonable than ground-based missile-defense systems intercepting incoming missiles. As the latter have achieved some important milestones, it can be assumed that developing ballistic missiles for deployment against targets at sea would require merely reintegration of specific technologies, not a quantum leap in the overall technological level.

Second, surface targets on water contrast more sharply against their background and are much easier to locate than targets in complex terrain or “hard targets” underground. Finally, compared with ground-based weapon systems that can be deployed in a dispersed arrangement, surface ships are highly integrated platforms, and this means that their survivability in combat is lower. Thus, while it is difficult to imagine one or two conventionally armed guided missiles paralyzing an air base, the same firepower delivered against an aircraft carrier could easily cost it the ability to launch and recover aircraft. Admittedly, from a systems perspective, evaluating the cost-effectiveness of ballistic missiles used against surface ships, if technology permits it, will not be so clear-cut.

From an engineering standpoint, the key to ballistic missile strikes against targets at sea lies, in the author’s opinion, in the preparation of the maritime battlefield. That is to say, a prerequisite of attacks against mobile targets is solving such problems as precise reconnaissance and positioning, data exchange, etc. Preparation of the maritime battlefield will require marine surveillance satellites, electronic reconnaissance satellites, imaging reconnaissance satellites, communication satellites, and other space-based systems; airborne early warning aircraft, unmanned reconnaissance aircraft, and other airborne systems; and shore-based over-the-horizon radars, underwater sonar arrays, and the like. These systems must be viewed as a “public investment”—parts of a comprehensive naval combat system.

Between the launch of a ballistic missile and impact, there is an interval during which targeted vessels may attempt to escape. The flight of a ballistic missile with a range of 1,500 kilometers, for example, takes eight to ten minutes; in that

time a surface target, if its speed is thirty knots, can move about three nautical miles. Therefore, to ensure that the ballistic missile hits its target, its trajectory needs to be adjusted in flight. Certain ballistic missiles, such as the Russian SS-27 Topol-M, already employ various technologies to maneuver in space. These maneuvers, however, are preprogrammed attempts to evade enemy interception; they are not the type of course adjustment we are discussing here. However, according to public reports, China's "Shenzhou" spacecraft successfully carried out orbital adjustments during its experimental flights. Therefore, we can assume that for China there will be no technological bottlenecks in controlled maneuvers for ballistic missiles in space.

Alternatively, midcourse-phase course-correction data can be fed to a missile from an external source—what is known as command guidance. Or, the missile can carry its own radar or other sensors to detect the target from high altitude and provide trajectory-correction information.

Reentry-phase guidance, such as air rudders, microrocket motors, and other terminal-phase guidance technologies, has been used since the "Pershing" missile developed during the Cold War era. TBMs currently in Chinese service also use this kind of technology. Thus, it can be assumed that technical problems with respect to the missile itself are not insurmountable. Moreover, it might be possible, following reentry into the atmosphere, to reduce the speed of the warhead in order to adjust its trajectory. Alternatively, multiple missiles may be employed in "precision firepower coverage" tactics against escape routes.

It is not the purpose of this article to solve engineering and technical problems. The above discussion is simply to make clear what follows, with regard to naval combat systems—that a TBM maritime strike system will give the Chinese military an asymmetrical means of firepower delivery in any future conflict at sea. Developments in antimissile technology have reached such a point that ballistic missiles are no longer absolutely impossible to resist. But at the same time, in any actual confrontation the unequal effectiveness of offensive and defensive systems gives the ballistic missile an advantage. However, tactical ballistic missiles cannot replace aircraft carriers, submarines, and other traditional naval weapons. The major difference is like that between "special forces" and "regular forces"—ballistic missiles can be used to destroy enemy forces at sea but not to achieve absolute sea control, let alone to project maritime power.

Let us now return to the strategic level. The relative impacts of military systems on the outcome of a conflict generally become more obvious as the conflict intensifies. Employing the J-7 aircraft or even the J-6 to counter F-14s and FA-18s may not be a problem during peacetime, but in a life-or-death situation, the qualitative discrepancies could bring disastrous consequences. If a TBM combat system comes into existence, it will establish for China in any

high-intensity conflict in its coastal waters an asymmetry, in its favor, in the delivery of firepower and so will remedy to some extent China's qualitative inferiority in traditional naval platforms. Further, the existence of this asymmetry would set up for both sides a psychological "upper limit" on the scale of conflict. This would enable both parties to return more easily "to rationality," thereby creating more space for maneuver in the resolution of maritime conflicts.

TRANSLATOR'S NOTE

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BOOK REVIEWS

TAIWAN: PROVINCE OR INDEPENDENT NATION?

Kagan, Richard C. *Taiwan's Statesman: Lee Teng-hui and Democracy in Asia*. Annapolis, Md.: Naval Institute Press, 2007. 240pp. \$30

Wachman, Alan M. *Why Taiwan? Geostrategic Rationales for China's Territorial Integrity*. Stanford, Calif.: Stanford Univ. Press, 2007. 272pp. \$65

An international issue at or near the top of any list of potential nuclear conflicts is the status of Taiwan. Beijing insists the island is merely another Chinese province, Taipei insists the island is an independent nation, and officially Washington stands with neither view but insists on a peaceful resolution. The two books under review here address this important matter. Both authors, Richard Kagan and Alan Wachman, are experienced academics specializing in China and able to access Chinese sources. Their works join other scholarly efforts to explain the imbroglio over Taiwan, including those by Richard Bush, Alan Romberg, and Nancy Bernkopf Tucker.

The best thing about *Taiwan's Statesman* is its price, which is remarkably low for today's market. However, it is unfortunate that throughout the entire text Kagan does not offer an objective biography of Lee Teng-hui, the former president of Taiwan. He has written instead a hagiography that fails to justify its presumption of Lee as an

internationally important "statesman" or as a seminal figure in the development of "democracy in Asia." This is regrettable, given both the author's scholarly expertise and the importance of Lee in late-twentieth-century Chinese and American history. In addition, *Taiwan's Statesman* contains factual errors, such as an assertion that President Richard Nixon's visit to China took place in 1971 (rather than February 1972), as well as chronological confusion, apparently caused by questionable editing.

Kagan on several occasions describes Lee as a George Washington-like figure. His objectivity is problematic when describing the very difficult position in which Taiwan found itself after 1979, when the United States finally shifted diplomatic recognition of "China" from Taipei to Beijing. Kagan's repetitive description of Lee's "Zen and Christian approach" does not support his contention of Lee as providing "a new model" of democracy for Asia.

This book is best left on the shelf.

A far more important work is *Why Taiwan?* by Alan Wachman, a professor at Tufts University. He undertakes the difficult task of analyzing why this relatively small island, approximately the size of the combined land area of New Jersey and Delaware, is so important to China. How is it, Wachman poses, that in the late seventeenth century the island was viewed by China as “a place beyond the seas . . . of no consequence to us,” when in 2005 Beijing passed the Anti-secession Law threatening the use of military force to prevent Taiwan’s de jure independence?

Relying on an impressive array of primary and secondary sources, Wachman explains the change in China’s view through historical background, legal analysis, and examination of the current state of relations and future possibilities, all couched in both analytical and theoretical terms. He succeeds in this daunting task in just 164 pages, leaving the reader wishing for more.

Wachman decides (correctly in my view) that China’s current modernization of its military was sparked by observation of U.S. prowess in the 1991 Persian Gulf War, heightened and expanded as a result of the 1996 Taiwan Strait crisis, and is primarily focused on possible Taiwan scenarios, including conflict with the United States. The author also suggests that the variation in China’s view of the salience of Taiwan has been due more to the island’s relative insignificance on the list of national security concerns from the seventeenth century through the first half of the twentieth. China’s rulers were often concerned with more important issues, ranging from the Qing overthrow of the Ming dynasty to Japan’s invasion of China in the 1930s, to the Cold War

perturbations that forced Beijing’s attention elsewhere.

Wachman’s thesis is that China’s primary concern about the island’s status is geostrategic, although he discusses domestic, political, ideological, and nationalistic rationales, including an excursion into a theoretical construct of national awareness. However, he fails to mention the “century of humiliation,” which is somewhat surprising, given the Chinese propensity to dwell on it. Wachman paints a convincing picture of China’s worries about Taiwan’s history as an entrée for foreign invaders; as recently as November 2007 Beijing expressed this concern.

One possible explanation for China’s evolving consideration of Taiwan is that the globalization phenomena of the late twentieth and early twenty-first centuries have simply made the island more accessible and important to the mainland. Geography does not change, per se, but today’s technological and scientific advances have certainly altered its influence in certain political situations.

One criticism is that the author tends to argue his points in a judicial manner; “it is noteworthy,” “how odd it is,” and “as the preceding chapter makes evident” are some examples. He has much greater success convincing the reader with sound geopolitical analyses of the China-Taiwan situation than with word parsing.

That said, Wachman does succeed in demonstrating that many of China’s current military strategists, both academics and military officers, view Taiwan’s importance in geostrategic terms, seeing it as vital to their nation’s security and as having serious implications for national-security policy making in

Beijing, and in Taipei and Washington as well.

For China, that means not allowing the island to become an independent state widely recognized by the international community of nations, but forcing or drawing Taiwan into reunification with the mainland. Beijing has frequently stated its willingness to use military force to prevent Taiwan's independence, but Taipei seems to ignore it, while Washington continues to tread a tenuous line between the two. While Wachman focuses on policy-making motivation and attitudes in Beijing, he makes a significant contribution to our understanding of this complex and dangerous situation.

BERNARD D. COLE
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Hicks, Melinda M., and C. Belmont Keeney, eds. *Defending the Homeland: Historical Perspectives on Radicalism, Terrorism, and State Responses*. Morgantown: West Virginia Univ. Press, 2007. 233pp. \$27.50

Defending the Homeland is not about homeland defense as defined by the Defense Department—the military defense of U.S. territory from external attack. Rather, what the editors provide is a wide-ranging examination of, first, how the United States has responded to a variety of internal and external threats over its history and, second, how societal reactions to terrorism may unintentionally encourage the terrorist mind-set. The volume comprises nine academic essays from among those submitted to the 2005 Senator Rush D. Holt History Conference at West Virginia University.

As Jeffrey H. Norwitz notes in his introduction, “The greatest battle is to remain a nation of law in the face of a ruthless enemy who would consider this our weakness.” Illustrating the point, Ellen Schrecker surveys our history from the Alien and Sedition Acts to the first “red scare” of World War I, while coeditor Keeney tells the story of strikes and labor violence in West Virginia coalfields in the first three decades of the twentieth century. The writers conclude that we are too easily willing to suspend constitutional rights in the face of sometimes-specious threats to the nation. Even such a luminary as Justice Oliver Wendell Holmes accepted limitations to freedom of speech in wartime, saying, “When a nation is at war, many things that might be said in time of peace . . . will not be endured so long as men fight . . . and no Court could regard them as protected by any constitutional right.”

The book's second section examines the factors that push activists toward radicalism and from radicalism ultimately to killing in the name of social justice or religious purity. For instance, according to Jean Burger's essay on the role of women in revolutionary Russia, tsarist Russia contributed to its own demise by systematically eliminating any peaceful means of bringing education, health, and opportunity to the state's peasants, industrial workers, or women. Benjamin Grob-Fitzgibbon points out that not only is there a wide variety of terrorisms but that the distinctions between terrorists and “people who use violence and are not called terrorists” grow ever thinner over time. We therefore need to take care that in the effort to perfect homeland security we do not

lose the body of tradition and law that defines our homeland.

The editors cover an ambitious amount of ground for such a slim volume, and the space available does not permit a variety of perspectives on each topic. An examination into the U.S. government's reactions to racial and political unrest at home after the McCarthy era, for instance, would have been welcome. However, the book's essays seem selected to provoke the reader to explore their subjects more deeply, and the contributions are uniformly well supported. The citations provide ample direction for readers wishing to explore on their own the issues presented.

RANDY L. UNGER

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Cann, John P. *Brown Waters of Africa: Portuguese Riverine Warfare, 1961–1974*. St. Petersburg, Fla.: Hailer, 2007. 248pp. \$29.99

Counterinsurgency warfare is what used to be called “colonial warfare.” Although the association might make some people uncomfortable—Americans perhaps more than most, given their aversion to colonialism—much of the strategic intent and many of the tactics, techniques, and procedures of modern counterinsurgency derive directly from the colonial wars and police actions of the past.

In some respects riverine warfare suffers from the taint of colonialism more than do other aspects of counterinsurgency, a prejudice that is currently reinforced by the apparent trend for insurgents who worry the West to center their operations in urban rather

than rural environments and to seek sanctuary in the anonymity of cities rather than remote countryside. In many parts of the world, however, rivers remain the principal transport routes, and their control remains of fundamental importance to the success or failure of insurgent movements.

The last great colonial empire in Africa was Portuguese, and a history of the riverine campaigns fought in its defense between 1961 and 1974 is long overdue. John P. Cann, a retired Marine Corps University professor with a doctorate in African counterinsurgency from King's College London, shows that the Portuguese took what they could from British and, particularly, French experiences and adapted it to suit their particular circumstances and the often limited resources at their disposal.

After placing the total effort in the strategic context of the Cold War, the historical context of twentieth-century Portuguese history, and the contemporaneous political context of the regime of António de Oliveira Salazar, Cann demonstrates how the Portuguese navy and naval infantry, the *fuzileiros*, fought an effective campaign in three diverse theaters: on the rivers of Angola; on the Rovuma River and Lake Niassa in Mozambique; and among the estuaries, deltas, and swamp forests of the West African enclave of Bissau.

Cann recounts with balance and clarity the lessons the Portuguese drew from the experience. Insurgency is political war where the center of gravity is the population. Consequently, the naval role differs very little from that of the army. The essence is to develop and maintain contact with the civilian population so close and regular that it often amounts to “armed social work.”

Presence—achieved by living, and conducting river and foot patrols, among local people to gain their trust and to build sound knowledge about the enemy—is equally important, as is, at the same time, keeping the insurgents off balance through the use of deception and irregular patrol patterns, a combination the Portuguese were able to achieve because units were deployed in two-year cycles.

The Portuguese also learned the importance of joint effort. Wherever the navy and army disagreed and failed to operate together, which happened in Bissau particularly, results were affected. Also, that no campaign could be isolated from the wider political context was a lesson that became painfully apparent following a militarily successful but politically damaging raid on Conakry, the capital of Guinea, to free hostages and destroy insurgent sanctuaries.

In short, all practitioners and students of riverine warfare will be grateful that John P. Cann has written such an excellent account.

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Smith, Perry M., and Daniel M. Gerstein. *Assignment Pentagon: How to Excel in a Bureaucracy*. 4th ed. Washington, D.C.: Potomac Books, 2007. 273pp. \$22.95

For this, the fourth edition of his well received book, Major General Perry M. Smith, U.S. Air Force (Ret.), has added a coauthor, Colonel Daniel M. Gerstein, U.S. Army (Ret.). Colonel Gerstein served for twenty-six years in combat, peace, and humanitarian operations.

He also served in the Pentagon for almost ten years in senior advisory and leadership roles.

This edition has been expanded into sixteen chapters, each adding considerable value to the publication. One of the more interesting and vital chapters for properly grasping the workings of “the building” is devoted to “understanding the process.” This chapter succinctly describes the Joint Strategic Planning System (JSPS), the Planning, Programming, and Budgeting System (PPBS), and the Joint Requirements Oversight Council (JROC). These entities are extremely complex by their very natures, but it is vital to understand how they all fit together for our nation’s defense. The authors do a superb job of simplifying these systems, giving additional references for in-depth understanding.

Smith and Gerstein also briefly address military ethics, touching upon military interaction with Congress and ethics within the executive branch. Problems are identified and solutions are suggested, but it is beyond the scope and intention of this book to address these issues other than superficially. The reader should already be educated regarding ethics and ethical behavior; this chapter serves simply to remind us that doing the “right thing” continues to be difficult at times.

As with the earlier editions, the present one addresses many day-to-day business elements related to serving at the Pentagon. The book allows the reader, whether a newly assigned military member or civilian, to obtain a preliminary understanding of the complex nature of this intense mixture of military and civilian bureaucracies.

One of the primary values of this book is that the views and perspectives shared are not the authors' alone but those of many uniformed and civilian sources, both inside and outside of the Defense Department, as well. For example, two of many fact-filled chapters address working with defense contractors and "the interagency." Both these areas are discussed in a way that allows the reader to gain perspective that might prove helpful when sitting across from a contractor or an employee of the State Department.

This work serves the reader very well, providing knowledgeable insight into the formal and informal processes of this important element of national security and the Department of Defense. The perspective and information contained here is particularly important for the military member or civilian assigned to the Pentagon for the first time.

ALBERT J. SHIMKUS
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Ford, Daniel. *Flying Tigers: Claire Chennault and His American Volunteers, 1941–1942*. New York: HarperCollins (Smithsonian Books), 2007. 384pp. \$15.95

In this vivid and fact-filled historical account of aerial combat, Daniel Ford completely updates and revises his 1991 work describing the extraordinary accomplishments of the pilots and support crews of the 1st American Volunteer Group (AVG) in the earliest days of World War II. Ford—a writer for the *Wall Street Journal*, a recreational pilot, and author of *Incident at Muc Wa* (made into the Burt Lancaster

movie *Go Tell the Spartans*)—has used recent American, British, and Japanese sources to both improve and shorten the original book. Famously known as the "Flying Tigers," the AVG was a group of American volunteers recruited by Claire Chennault from the aviation ranks of the U.S. Army, Navy, and Marine Corps to help protect China and key areas of Southeast Asia from unremitting attack by the Japanese army air force. In their Curtiss P-40 Tomahawks, with their iconic shark's teeth motif painted on the noses, the Flying Tigers flew combat missions from three days after Pearl Harbor until July 1942, when the unit was absorbed into the U.S. Army Air Corps. During this seven-month period, the AVG, never numbering at any one time more than about seventy pilots and a roughly equal number of aircraft, inflicted disproportionate damage on the Japanese (1:28 ratio for aircrew losses). This deadly aerial struggle kept the vital 750-mile supply line from India across Burma and into China open and operational for as long as possible during the Japanese onslaught. The men of the AVG did this while living in mostly deplorable conditions, with at best erratic maintenance and logistic support.

The author's depictions of air combat are especially gripping, often describing individual pilots flying for both sides, while providing ample technical information on the types of aircraft in the engagements. Of course the primary characters are all here, from Chennault, a chain-smoking, tough, and innovative leader, to pilots Tex Hill, Eddie Rector, and Greg Boyington (later of VMF-214 "Black Sheep" fame). Ford's history is serious, but it is also rich with stories about this colorful and adventurous

group, including the beautiful and mysterious Olga Greenlaw, wife of the AVG's executive officer.

While correcting some errors and omissions, Ford stands his ground on the most controversial viewpoint expressed in his 1991 edition—that the Flying Tigers' claimed official record of 296 combat victories (including aircraft destroyed on the ground) was greater than what they actually achieved. Citing comprehensive research into the historical records of all involved, Ford makes a good case that because of the predictable stress, fear, and chaos involved in vicious aerial combat, the AVG's reported victories were inflated over a true figure likely closer to 115. Ford's book, then, is not a glorification of the Flying Tigers, but its meticulous examination of their genuine and courageous achievements pays them greater homage than the numbers would, however tallied. Ford closes his book with these words: "More than sixty years ago, in their incandescent youth, they were heroes to a nation that needed heroes. . . . All honor to them." Indeed, and acclaim to Daniel Ford for his thorough telling of an eventful war in the air, one that should be remembered.

WILLIAM CALHOUN
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Raman, B. *The Kaoboy's of R&AW: Down Memory Lane*. New Delhi, India: Lancer, 2007. 288pp. \$27

During the Cold War, views from the "other side" proved endlessly fascinating to students of international affairs. Books such as *The Russians*, by Hedrick Smith, and the multiple memoirs of Viktor Suvorov provided insights into

thought processes and value systems. Most national-security professionals today cannot afford the luxury of focusing on one nation or topic. And as a nation, the United States cannot afford to ignore India.

The Kaoboy's of R&AW is B. Raman's informal (and somewhat unfocused) memoir of his time with India's external intelligence agency, the Research and Analysis Wing (R&AW). "Kaoboy's" refers to the protégés of R. M. Kao, the first director-general of the organization. Raman was a professional intelligence officer who spent much of his career in operational assignments. He spent twenty-six years in R&AW, retiring as head of the agency's counterterrorism unit. He later served in the Indian National Security Secretariat and is currently the director of a think tank in Chennai. Reading between the lines, he likely worked in clandestine intelligence collection, liaison, and paramilitary roles. In some cases (such as discussing security shortfalls in protecting Indira Gandhi) he provides many details; however, in many instances details are noticeable only for their absence.

While the book is valuable, most American readers will find it frustrating. It was written for an Indian audience; the reader without a background in Indian politics since the 1950s will frequently find it obscure. Likewise, those unfamiliar with South Asian geography must occasionally stop reading to check an atlas. The writing style is somewhat folksy but different from the Anglo-American equivalent. Also, it is not strictly chronological. Unfortunately, the memoir is not a representative example of Raman's work; he is a prolific writer on international security issues, his articles are well written and

thoughtful, and his byline bears watching. The astute reader may conclude that Raman was not well served by his publisher.

Despite these obstacles, the book is worth reading. Raman provides an interesting view from India on critical past and current U.S. policies, from our long-term support for Pakistan to relations with China, to the current global conflict on terrorism. He outlines several instances of R&AW working with the CIA to counter Chinese moves, while at the same time claiming that the CIA was working against India—sometimes with Pakistan, sometimes not. While expressing a fondness for the American people, Raman is definitely no fan of the U.S. State Department. Curiously, he displays no animosity for the CIA, despite his claims that the agency engineered a key defection and conducted “psywar” campaigns against India. But perhaps the lack of rancor is explained by a story that Raman could not tell.

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Bethencourt, Francisco, and Diogo Ramada Curto, eds. *Portuguese Oceanic Expansion, 1400–1800*. New York: Cambridge Univ. Press, 2007. 536pp. \$34.95

Globalization, as a form of worldwide economic expansion and global interaction, can trace its origins back more than five hundred years to the expansion of Europe and to the first European maritime empire, established by Portugal. From this beginning, the story of globalization is traced through the

better-known eras of Spanish, Dutch, French, and British maritime dominance to our present modern phase of more sophisticated global interaction. Although the earlier maritime empires were based on separate, competing maritime economies rather than the current ideal of a single global economy, these earlier examples of development are important to understand in terms of their limitations and successes. Among these maritime empires, the history of Portugal’s contribution has been the least well known to the anglophone world.

Two recent important anniversaries have brought Portugal’s role to wider attention. The first occurred in 1998 to mark the five-hundredth anniversary of Vasco da Gama’s pioneering voyage around the Cape of Good Hope and across the Indian Ocean in the first European direct sea voyage to India. The second was in 2000, commemorating the five-hundredth anniversary of the first landing in and subsequent colonization of Brazil by Portugal. In connection with these anniversaries, the John Carter Brown Library at Brown University in Rhode Island became the locus for a major attempt to make available to English-language readers an up-to-date and wide-ranging analysis of Portugal’s early contribution to oceanic expansion. The fruit of that effort may be found in this volume, providing a major update of scholarly interpretations. The chapters in this edited collection cover a wide range of topics. The book’s fourteen chapters, each by a different author, are distributed into four parts. The first part examines economics and society, focusing on such themes as markets, economic networks, costs, and financial trends. The second deals with

politics and institutions, looking at patterns of settlement, political configurations in relation to local powers, and the role and structure of the Catholic Church in the context of global expansion. The third is devoted to the cultural world, examining the interaction of cultures and the creation of an imperial and colonial culture, as well as the wider world's influences on the Portuguese language, literature, and the arts, with the roles of science and technology as a key element in oceanic expansion. The fourth part, entitled "The Comparative Dimension," is a masterful single chapter by Felipe Fernández-Armesto that summarizes how "Portuguese expansion carried the 'seeds of change' that transformed so many environments and reversed the age-old pattern of evolution."

The naval readers of this journal may relate most easily to the essay by maritime historian Francisco Contente Domingues, "Science and Technology in Portuguese Navigation: The Idea of Experience in the Sixteenth Century." In his interesting historical analysis, Domingues shows how the direct personal experience of Portuguese

mariners who navigated to other parts of the globe had a major effect in dismantling the preconceptions inherited from the ancient classic writers. The direct observations that mariners made while voyaging on new seas and seeing new stars, new lands, and new peoples provided the basis for the idea that a new era in the world had begun and, in the sixteenth-century context, stimulated much new learning. Thus, Domingues shows the origins and rationale for the mariner's now long-standing penchant for direct experience over book learning.

The world of Portugal's oceanic empire is a distant one, distinctly foreign to that of our own time. Yet despite the vast differences and contrasts between the Portuguese oceanic empire and our own time, this volume allows a reader to contemplate the very wide range of issues that this early example of global reach involved. Here one can find a range of examples of justification, reform, critique, and resistance, intermixed with and tied to the broad issues of war and peace.

JOHN B. HATTENDORF
Naval War College

IN MY VIEW

MARITIME DEFENSE, THEN AND NOW

Sir:

I was very interested to read Dr. Scott Truver's recent article "Mines and Underwater IEDs in U.S. Ports and Waterways" in the Winter 2008 edition of the *Review*. I was all the more interested because of my own involvement with this issue in the 1980s and early 1990s as part of the Navy's previous Maritime Defense Zone program along the U.S. East Coast. During that period, I was the mine warfare planning/operations-responsible Naval Reserve officer assigned to Maritime Defense Zone Sector 3, and later Sector New York. Our scope of responsibilities included the ports of New York, New London, and Philadelphia, and while the threat at that time was related to the Cold War and the possibilities of Soviet Spetsnaz or saboteur attack on harbor shipping, many of the issues and challenges remain the same today, with the threat of extremist terrorist attacks.

I basically agree with Dr. Truver's key points and rationale but feel that not much progress has been made in terms of providing effective, locally available capabilities and resources since the time I was grappling with this issue "way back when." Part of the problem is the waxing and waning of the Navy's focus on mine warfare over the years, with changes in budgetary and resource allocations to this challenge. The other part of the problem, though, is the geographic size of our port areas, such as New York/New Jersey, the hydrography and tidal flow of a port with a major freshwater river outflow, and the volume of commercial and recreational ship and boat traffic that such a large port has. During my time we knew that there was little that could be done proactively, that the best we could hope for was a focused, reactive response with whatever resources were locally available until more capable forces could be brought to bear from other locations. We did our best, therefore, to create a contingency plan of cooperation between the Navy (including locally available explosive-ordnance demolition teams), Coast Guard, Army (e.g., Army dive teams), port authority, and local law-enforcement and emergency-response organizations, trying to identify and

utilize what few assets we had in the optimal manner. We were only partially successful.

As an aside, not really detracting from the key messages being conveyed by the author, I would like to point out the difficulty for a hostile swimmer of affixing an explosive charge or limpet mine on the hull of the Staten Island Ferry while it is discharging or loading passengers (see page 107 of Dr. Truver's article). If you have ever observed how ferry unloading/loading operations are performed, you will note that the ferry crew leaves the propellers turning to hold the ship into its berth, with quite a bit of resultant propeller wash churning the water around the ferry in its slip. This results in an outflow of underwater currents that would effectively deter anyone from attempting to swim up alongside the hull. That is not to say that off-duty ferries in their layup slips wouldn't be vulnerable to attack, since their propulsion machinery is secured, but in that instance the explosive charge would likely have to be command detonated later, while the ferry is in operation, in order to have the greatest terror impact. Also, even though our nation has made great strides in cleaning up our waterways, any local diver could tell you that underwater navigation around places like Upper or Lower New York Harbor or the Delaware River is problematic at best, even for professionals.

My hope is that warning voices such as Dr. Truver's will be heard and that long-overdue resources sufficient in capability and availability will finally be provided to our nation's ports for their protection.

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