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Cover

The Naval War College's Luce Hall, seen from Dewey Field, looking north. Luce Hall, which opened in 1982, was the College's first purpose-built building. Spruance Hall (1972) and Conolly Hall (1974) are visible in the background. Founders Hall (previously the Newport Asylum for the Poor), in which the College was established in 1884, is out of the picture to the right; it houses today the Naval War College Museum, the Maritime History Department, and the editorial offices of the Naval War College Press. Photograph by Judith Tate, Portsmouth, Rhode Island.

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FROM THE EDITORS

In the lead article in this issue, General Victor N. Renuart, Jr., USAF, commander of U.S. Northern Command, and Captain Dane S. Egli, of the U.S. Coast Guard, provide a timely and authoritative overview of potential maritime threats to America's homeland and what still remains to be done to counter them. It is easy enough to become complacent about the security of the homeland in the absence of further terrorist attacks after 11 September 2001, and a great deal has been done since then to lessen the likelihood of their recurrence, including in the area of what has come to be called "maritime domain awareness." Nevertheless, the authors rightly remind us of the magnitude and complexity of this problem and our continuing vulnerabilities.

The Navy's new maritime strategy document, *A Cooperative Strategy for Twenty-first Century Seapower,* was published in our Winter issue and has been widely disseminated otherwise within and outside the Navy. In this issue, we offer a sampling of the reactions this document has provoked. The British naval historian and strategist Geoffrey Till provides a sympathetic but searching discussion from the perspective of an ally and friend. A more unusual outsider perspective comes from Steve Carmel, senior vice president of the Maersk Line as well as a member of the Chief of Naval Operations Executive Panel. Carmel makes a cogent case that the commercial shipping sector needs to be an integral part of any cooperative global maritime strategy and that it has much to offer the U.S. Navy—especially in the area of maritime domain awareness discussed by General Renuart and Captain Egli. Wayne Hughes and William T. Pendley provide contrasting assessments of the strategy from within the ranks of retired senior naval officers. Finally, Robert Rubel, dean of the Center for Naval Warfare Studies and a key player in the development of the new maritime strategy, offers important insights into the process by which the strategy was developed and attempts to counter some misunderstandings that have gained a certain traction concerning what the strategy was and was not intended to be.

Featured in our "Asia Rising" department in this issue is Gabriel B. Collins and William S. Murray, "No Oil for the Lamps of China?" This is a careful discussion by two analysts associated with our China Maritime Studies Institute (CMSI) of the issue of China's dependence on the sea lanes for its future energy

needs and the extent to which it might be vulnerable to naval blockade in a future crisis or war. It may be added that the Naval War College Press will shortly launch a new publication series in support of the CMSI, a unique research vehicle dedicated to the analysis of Chinese-language military and technical literature on naval and maritime issues. The first publication in this series, to appear in the spring of 2008, will be *PRC Shipbuilding Industry Study: Commercial Development and Possible Military Implications,* by Professor Collins and Lieutenant Commander Michael Grubb, USN.

Military law and medicine have been much in the news in recent years but tend to receive relatively little attention in generalist military or other journals. In keeping with a long-standing tradition at the *Review,* itself linked to the strong presence of military and international law in the curriculum of the Naval War College virtually from its beginnings, we are pleased to revisit one of the most controversial and potentially far-reaching international legal issues currently facing the United States. Rear Admiral William L. Schachte, Jr., USN (Retired), perhaps the Navy's premier authority on this subject, tells us why the United Nations Law of the Sea Convention is good for the Navy and the United States and why its critics are wrong. Finally, Arthur M. Smith, no stranger to these pages, looks at the challenges for military medicine posed by emerging concepts of sea-based and networked operations.

SURFACE NAVY ASSOCIATION

The editors are delighted to report that the Surface Navy Association, in Alexandria, Virginia, has awarded Honorable Mention in its 2007 Literary Award competition to Martin N. Murphy, for his "Suppression of Piracy and Maritime Terrorism: A Suitable Role for a Navy?" which appeared in our Summer 2007 issue.

OUR BOOK REVIEWS

In our Winter 2008 issue, we published a review by Professor Andrew Erickson, a member of the Naval War College research faculty, of *The Impact of Chinese Naval Modernization and the Future of the United States Navy.* We now learn that the indicated author, Ronald O'Rourke of the Congressional Research Service (CRS), had no knowledge until our review appeared online that a commercial book version of his CRS report on the subject (which was in the public domain) was in preparation, let alone that it had been published. We and Dr. Erickson were similarly unaware that he had not been approached by the publisher. Mr. O'Rourke wishes our readers to know that he exercised no control over how his report was converted into the book we reviewed and that he will not receive (nor would he consider it proper to receive) any royalties as a result of its sales.

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

The China Maritime Studies Institute: Defining Partnership with China

ONE OF THE MOST CRITICAL ISSUES facing our nation in the new global strategic environment is the rise of China. The scale of Beijing's rapid economic growth is unprecedented, and its military modernization is also progressing apace. There is considerable reason for optimism regarding the emergence of China, since it has benefited in extraordinary ways from the ongoing processes of globalization. Indeed, Chinese leaders appear to have embraced former Deputy Secretary of State Robert Zoellick's prescription for China in which he called for China to become a "responsible stakeholder" among the great nations of the world.

Nevertheless, it would be vastly premature to say that the "China question" confronting the world community has already been resolved. There are a variety of tensions that still impact significantly upon East Asian security, and it is generally agreed among international-relations specialists that the rise of great powers has historically formed a fundamental factor in destabilizing the international system. There is a tendency in Washington for policies concerning China to become quickly politicized. Human rights and environmental protection advocates are highly critical of Beijing, while big business sees endless opportunities in the Middle Kingdom.

A little over three years ago, the Naval War College clearly recognized China's rapid growth as a key factor for understanding the emerging twenty-first-century global order. Navy leadership understood this well and saw the requirement for objective research on China's rise that would be insulated from the various policy agendas driving the debates about China in Washington. With this concern in mind, the China Maritime Studies Institute (CMSI) was established

in October 2006 at the College. The objective was not to create another China institute—of which many fine examples exist in academia—but rather to create a China *maritime* studies institute. The intention was to give this new institute the focus required to succeed and thereby fill an emerging gap.

In ancient times, the Chinese proved themselves to be bold and capable seafarers, claiming among other inventions the compass, the rudder, and the watertight bulkhead. Under the flag of the Ming dynasty's great Admiral Zheng He, vast Chinese fleets explored the distant reaches of the Indian Ocean. However, in the modern period China has been fundamentally a continental power, with little presence on the high seas—until recently. Nevertheless, the gap in understanding China's maritime development was not simply a result of the novel aspect of this phenomenon. The U.S. Navy also suffered from weakness in regional studies as a result of a relatively limited Foreign Area Officer program over the last few decades. Thus, the impetus to establish CMSI represented both increasing demand for expertise and a supply shortfall.

In supporting the research needs of the U.S. Navy, the main objective of the College's CMSI is to increase knowledge and understanding regarding the maritime dimensions of China's rise. In doing so, CMSI has undertaken research along the following vectors: energy, global commerce, law of the sea, maritime technologies, merchant marine, naval development, naval diplomacy, and shipbuilding. In developing the institute's research areas, we recognized that Chinese naval development is following in the wake of China's clear emergence as a commercial maritime power. Indeed, the most vital foundation of China's maritime development is the export juggernaut that has emerged in the last two decades.

The U.S.-China maritime relationship will form an essential bedrock for maritime security in the twenty-first century. In support of this relationship and also the new U.S. maritime strategy (which is the focus of this issue of the *Review*) CMSI held its annual conference, on 6–7 December 2007, on the theme of "Defining a Maritime Partnership with China."* Despite recent turbulence in U.S.-China military-to-military relations, conference participants reaffirmed that substantial shared interests potentially constitute the basis for extensive U.S.-China maritime security cooperation. The goal of the conference was to foster dialogue between Chinese and American experts in order to generate ideas for potential areas of cooperation between our nations' respective maritime services. Attendees at this conference agreed that a strong foundation for maritime partnership exists in the vitality of the robust commercial relationship but that the

* This event, the third annual conference sponsored by the CMSI, was made possible by a grant to the Naval War College Foundation from Raytheon. Attended by some of the world's leading sinologists and geostrategists, it included participation of flag-level leadership from the Chinese PLA Navy and several prominent experts from Chinese think tanks and academic centers.

military side of the partnership is obviously lagging behind. The conference focused on determining which areas might be fruitful for more extensive U.S.-China maritime partnership, rather than on attempting to characterize the overall nature of such a partnership.

We drew six major conclusions from this conference's proceedings:

- Economic cooperation forms a durable foundation for enhanced partnership between the United States and China on the world's oceans.
- There has been some impressive success in creating new collaboration in the sphere of search and rescue, as well as in fisheries enforcement.
- China's cautiously positive reaction to the new U.S. maritime strategy suggests that there is hope for expanding cooperation in humanitarian/disaster relief operations, maritime environmental issues, energy security, counterterrorism, and also in the educational and legal spheres.
- Beijing's growing presence on the seas will make maritime collaboration and crisis-management procedures with Washington both more feasible and also more essential.
- The sensitive Taiwan and transparency issues continue to be the fundamental limiting factors on expanded military and maritime cooperation between China and the United States.
- Finally, to realize enhanced maritime cooperation, political leaders in both Washington and Beijing will have to commit themselves to enabling a certain politically independent space, insulated from domestic political agendas, within which maritime and naval professionals can structure cooperation.

The executive summary of this conference has been shared with our naval leadership, as well as the Chinese PLA Navy participants in our conference. With the mission of informing military and civilian leaders in Washington, sailors of the fleet, and academic specialists, as well as the public at large, the comprehensive volume of edited conference papers that resulted from the December 2007 conference will be published as part of a series of books evaluating different aspects of China's maritime development. The first study in this series, titled *China's Future Nuclear Submarine Force* (Naval Institute Press, 2007), was described in the January 2008 edition of *Jane's Navy International* as the "the benchmark unclassified study on the development of the PLAN's sub-surface combat capability." The second book in this series will appear in 2008 and is titled *China's Energy Strategy: The Impact on Beijing's Maritime Policies*.

In addition to the annual conferences and the related book series, CMSI undertakes a variety of other activities to support China research and teaching here at the Naval War College. These other activities include a speaker series, a monograph series, and support for faculty research in China, as well as for relevant U.S. Navy and joint commands. The quality of CMSI research products has been proven, in that these studies have been published in some of the most prestigious national academic journals (both in regional studies and national security strategy)—for example, *International Security* and *Journal of Contemporary China.* At the same time, it is fully recognized that CMSI must also produce research of direct interest to our Navy. Numerous CMSI articles over recent years in this journal, as well as the U.S. Naval Institute *Proceedings*, demonstrate the relevance of ongoing CMSI research to Navy priorities.

Indeed, this issue of *Naval War College Review* features an important article by CMSI staff and faculty affiliates. "No Oil for the Lamps of China?," by Professor William Murray of the War Gaming Department faculty and CMSI research fellow Gabriel Collins, takes a hard look at Beijing's anxieties with respect to the "Malacca dilemma" (China's vulnerability to an energy embargo). The authors conclude that such fears are in fact much overblown, since, according to their detailed analysis, no adversary of China could execute such an embargo in practice.

CMSI's successful research effort rests, above all, on the potent and committed group of sinologists now resident on the faculty of the Naval War College. The effort to strengthen the faculty's expertise on East Asia goes back at least to the initiative of Vice Admiral Arthur K. Cebrowski, President of the College from 1998 to 2001. Today the College has twelve faculty and staff members who are proficient in Mandarin. The work of regional specialists in tandem with naval operation and maritime policy experts has been the key to building successful research teams. These teams frequently draw faculty from a variety of different departments within the College (both research and teaching). In addition, superb students have also made an outstanding contribution to the CMSI research effort, producing a succession of papers for the *Naval War College Review* and winning at least one Joint Chiefs of Staff Essay Prize in the process. This faculty is developing an unparalleled library of Chinese maritime writings that serves as the central repository of a unique set of data. In the future, we hope, scholars from around the world will view the CMSI library as the critical enabler for open-source, multidisciplinary research on Chinese maritime development. The result of this intense collaboration among sinologists, maritime policy experts, and naval operators is a dynamic intellectual exchange that showcases the advantages of scholarship in grappling with such complex phenomena as the rise of China and its maritime implications.

There is no question about the value and quality of the extraordinary work now issuing routinely from this new institute within the Naval War College. The genius, expertise, and commitment of the sailors and scholars involved match well with the importance of the CMSI agenda. The Naval War College—in keeping with its century-old reputation of thought leadership—is showing the way when it comes to dealing with profound change in the international strategic environment.

J. L. SHUFORD

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

General Renuart is the Commander, North American Aerospace Defense Command, and U.S. Northern Command, Peterson Air Force Base, Colorado Springs, Colorado.

Captain Egli is assigned to the Northern Command's Future Operations Division and serves as an operational manager for Maritime Joint Capability Technology Demonstrations.

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CLOSING THE CAPABILITY GAP

Developing New Solutions to Counter Maritime Threats

General Victor E. Renuart, Jr., USAF, and Captain Dane S. Egli, USCG

> *We face a brutal enemy that has already killed thousands in our midst, and is determined to bring even greater destruction to our shores. . . . Since 9/11, al Qaeda and its allies have succeeded in carrying out horrific attacks across the world; al Qaeda leaders have repeatedly made clear they intend to strike our country again.*
>
> PRESIDENT G. W. BUSH, MAY 2007[1]

America is engaged in a fight against violent extremism, an asymmetric war that differs from any other war our nation has fought. The nature of the enemy has changed dramatically during the past two decades, compelling leaders to reexamine our nation's vulnerabilities in the air, land, and maritime domains. Significant strides have been made nationally to protect the air and land domains against enemy attacks; nonetheless, this article argues, efforts to secure the maritime domain—although improving—are inadequate, and we need to sharpen our focus on maritime threats, domestically and internationally.

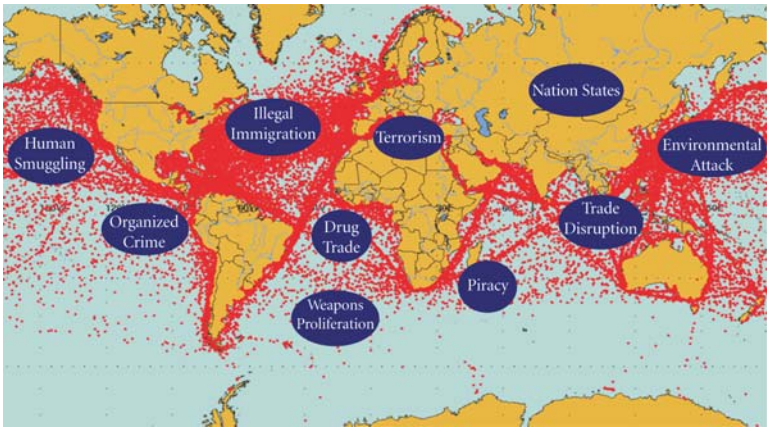
This article draws from the perspective of U.S. Northern Command (USNORTHCOM), whose mission is to anticipate and conduct homeland defense and civil support operations within the assigned area of responsibility to defend, protect, and secure the United States and its interests. The article will summarize national-level maritime doctrine, examine the current maritime threat, and introduce new capabilities being developed to counter terrorism on the maritime front—an enduring national security challenge gaining increased attention at all levels.

AMERICA AT RISK

The global security environment is far more uncertain since the end of the Cold War and the emergence of a new, more elusive threat in the form of Islamic extremism, "a transnational movement fueled by a radical ideology of hatred, oppression, and murder," in concert with increased technology and globalization.[2]

This dramatic shift in global security conditions has created vulnerabilities that have been exploited by terrorists in multiple attacks conducted against the United States and its interests.

FIGURE 1
GLOBAL MARITIME CHALLENGES



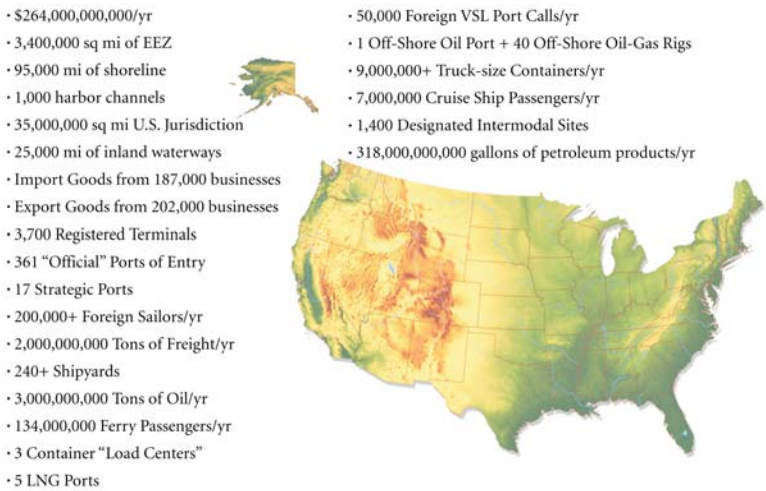
Accordingly, terrorists associated with al Qaeda have exploited national and international vulnerabilities to achieve their goals through acts involving car bombs, commercial airplanes, suicide bombers, and other terrorist methods. Terrorists have demonstrated that they can strike targets of opportunity when and where the nation is least prepared to defend or respond, and, as many counterterrorism experts have asserted, U.S. maritime interests are particularly vulnerable targets. Additionally, an attack on our maritime assets can lead to significant impacts on American and global commerce.

UNIQUE MARITIME VULNERABILITIES

International trade—and especially America's economic vibrancy—depends heavily upon secure and reliable maritime transportation and commerce:[3]

- Globally, maritime trade constitutes over 75 percent of all international trade.
- The United States is a maritime nation, with ninety-five thousand miles of shoreline, 361 commercial ports, and a lucrative economic exclusion zone.
- America conducts 95 percent of its commercial trade (total imports and exports) via maritime conveyances.
- The maritime industry is supported by five hundred container carriers and more than 2,400 container vessels, with approximately 215 million container shipments conducted each year.
- This translates into 11.5 million containers arriving at American ports each year, moving 2.4 billion tons of cargo.
- Over eight thousand foreign vessels conduct over fifty thousand U.S. port visits each year to support this level of trade.
- Some 1,200 to 1,500 commercial vessels call on American ports daily.

FIGURE 2
AN ECONOMY LINKED TO MARITIME COMMERCE...



These statistics highlight the volume of global maritime trade and significance of security challenges in the maritime domain. They point to "soft targets" that terrorists might choose to exploit in attacks against U.S. ports and shipping or by importation of weapons of mass destruction into those ports. The current fragmentation of our capability to monitor commercial vessels, cargo, groups of people, and associated infrastructures further complicates securing maritime systems and the global supply chain.

MARITIME POLICY GUIDANCE

The National Security Strategy clearly states America's strategic imperative to counter terrorism and other threats using all means of national power in response to the terrorist threat and the threat posed by rogue state actors.[4] Since 9/11, and especially since mid-2003, the federal government has been very active in developing maritime policy and assigning organizational responsibilities to provide maritime security. These efforts represent unprecedented steps to achieve greater maritime situational awareness, coordination, intelligence integration, and threat response. They have strengthened our national posture in the maritime domain.

Since mid-2004 there has been a coordinated series of events, starting with the Maritime Domain Awareness Summit, attended by all stakeholders in the federal government, to develop a coherent organizational plan for the defense of national maritime assets. That summit led to the president's release in December 2004 of the Maritime Security Policy, National Security President Directive 41 (NSPD-41), and Homeland Security Directive 13 (HSPD-13), which directed the writing of the *National Strategy for Maritime Security* (NSMS) and its eight supporting plans. The National Security Council, with strong interagency participation, led the effort to develop the NSMS, which addressed the key challenge of achieving a capability to track quickly and accurately commercial vessels, cargo, groups of people, and associated infrastructures. The NSMS, signed by the president in 2005, included both international and interagency aspects and is being

FIGURE 3
NATIONAL STRATEGY FOR MARITIME SECURITY SUPPORTING PLANS

- National plan to achieve Maritime Domain Awareness (MDA)
- Global Maritime Intelligence Integration (GMII)
- Maritime Operational Threat Response (MOTR)
- International Outreach and Coordination Strategy
- Maritime Infrastructure Recovery
- Maritime Transportation System Security
- Maritime Commerce Security
- Domestic Outreach

implemented through the eight supporting plans. The strategy directs the federal government to establish capabilities and mechanisms to achieve heightened maritime security.[5] USNORTHCOM's role included coauthoring a "Concept of Operations" for Maritime Domain Awareness (MDA) with the U.S. Coast Guard.

In combination, these national policies, as instruments of governance, provide the necessary guidance to conduct maritime planning. However, there needs to be a complementary and proactive effort to develop automated systems and rule sets, informed by these policies, representing the information technology and collaborative tools necessary to put MDA into action and produce actionable intelligence. There is clearly a need to implement a comprehensive, fully integrated intelligence/information system that provides greater protection by detecting, analyzing, and reporting global maritime threats.

Two organizations were created specifically to address both the classified and unclassified challenges posed by these tasks. One, directed by the Global Maritime Intelligence Integration Plan, resides in the office of the Director, National Intelligence. The other, created by the National Maritime Domain Awareness Concept of Operations (as part of the National Plan to Achieve Maritime Domain Awareness), with the active concurrence of both the National Security Council and the Homeland Security Council, is the National Office for Global Maritime Situational Awareness. These two organizations are charged with coordinating the national MDA effort, working closely with all the combatant commanders (COCOMs), including USNORTHCOM.

CURRENT STATE: WORKING HARDER TO ACHIEVE MDA

Tracking commercial vessels, cargo, and people, understanding associated infrastructures, and establishing potential relationships among them presents a difficult and time-intensive challenge. Much of today's intelligence concerning maritime data must be manually generated and correlated to determine the threat picture. Analysis of a new "vessel of interest" with current methods is manpower-intensive and can take days. This means a dramatic limitation on the number of ship tracks and volume of related data that can be collected and

analyzed, relative to the tens of thousands of ships that operate daily in the maritime domain.

The lack of standardized data, analytical tools, and data-sharing methodologies (e.g., Service Oriented Architecture) among our maritime partners complicates the correlation process. Most members of the global maritime community of interest independently process various aspects of intelligence data. Other challenges affecting complete visibility of the maritime picture include technical shortfalls of display equipment and policy restrictions on the display of data. For example, the Defense Department possesses baseline Common Operational Picture (COP) tools that facilitate some degree of standardization but were not designed to fuse vessel tracks, cargo, people, and associated infrastructure data. These tools are limited in their ability to exploit new technologies (e.g., incorporation of metadata, use of advanced ship-tracking technologies) and to incorporate information into a comprehensive threat picture. This limitation requires analysts to manually search for and manipulate data, which delays timely information dissemination to combatant commanders and operational decision makers.

Within this context, USNORTHCOM has established linkages with external agencies and intelligence "centers of excellence" to gather maritime threat data. A key partner in this enterprise is the National Maritime Intelligence Center (NMIC), comprising the Office of Naval Intelligence (ONI) and U.S. Coast Guard Intelligence Coordination Center (ICC). NMIC serves as the focal point for USNORTHCOM's maritime threat warning. Further, USNORTHCOM and NMIC rely on a confederated enterprise of maritime intelligence and operations centers for a full threat picture. U.S. Fleet Forces Command, the Joint Force Maritime Component Commander–North, Second Fleet, Third Fleet, and the Coast Guard's Maritime Intelligence Fusion Centers in the Atlantic and Pacific are major partners in this maritime threat analysis and reporting enterprise.

In addition, Canada's partnership in this enterprise is even stronger now that North American Aerospace Defense Command (NORAD) has assumed responsibility for maritime warning for its area of operations. USNORTHCOM, NMIC, and NORAD Headquarters have established avenues for sharing maritime threat information with Canadian organizations, to include Canada Command, Maritime Forces Atlantic, Maritime Forces Pacific, Joint Task Force Atlantic, Joint Force Pacific, and maritime intelligence centers. Collaboration and information sharing are lynchpins of these growing relationships, which further strengthen maritime defense in the hemisphere.

The integration challenges arising from independent databases and inconsistent coordination of maritime information are amplified by the unique jurisdictions, policies, and cultures of each government agency, which further impede

the information sharing and data fusion that could improve MDA capabilities. The United States—specifically, the elements of government associated with maritime services and COCOMs—must address these policy obstacles in order to counter global maritime threats and deter maritime attack.

Within the Defense Department, the USNORTHCOM area of responsibility (AOR) is unique in that it contains the continental United States. Therefore, for missions other than homeland defense, other government agencies (the Homeland Security and Justice departments, etc.) will normally have jurisdiction, with USNORTHCOM operating in a support role for both homeland security and Defense support of civil authorities. Policy hurdles between law enforcement agencies and the Defense Department, as well as the Posse Comitatus Act and intelligence oversight considerations, further limit the department's role in the domestic environment.

Additionally, USNORTHCOM's international partner, NORAD, does not have an area of responsibility. Rather, it has an area of interest that, notably, includes other COCOMs' AORs. Maritime threats to both NORTHCOM's area of responsibility and NORAD's area of interest normally originate overseas, requiring threat analysis to focus initially on other COCOMs' areas of responsibility. Therefore, national intelligence must be fused with interagency and counterintelligence/law enforcement information to fully define the threat. The maritime threat is extraordinarily diverse, ranging from asymmetric sources (international and domestic terrorist groups, rogue states, etc.) to conventional sources (submarine-launched ballistic missiles and conventional naval forces). The question before USNORTHCOM—and the nation—is how to meet emerging operational requirements and resolve policy challenges so as to better counter maritime threats.

FILLING THE GAP

To operate in this unique environment, USNORTHCOM must leverage relationships with critical joint, interagency, and multinational partners. The Office of the Secretary of Defense, USNORTHCOM, U.S. Pacific Command, U.S. European Command, the Naval Research Laboratory, and the Navy's Program Executive Officer for Command, Control, Communications, Computers and Intelligence (PEO C4I) are collectively leading an effort to develop an MDA technical capability to share maritime databases in a manner that delivers automated ship-tracking tools and fused metadata in a User-Defined Operational Picture (UDOP). This new technology will provide Web-based dissemination and collaboration capability across multiple security levels to ensure that mission partners worldwide have access to global maritime intelligence and information.

This capability, known as Comprehensive Maritime Awareness (CMA) and Maritime Automatic Super Track Enhanced Reporting (MASTER), is being spirally developed through two Joint Capability Technology Demonstrations (JCTDs) sponsored by the Office of the Secretary of Defense and supported by the Joint Requirements Oversight Council and Congress. The CMA initiative will reinforce MDA prototype development across the interagency community and within the U.S. Navy, by providing security analysts with shared information about a broad range of subjects that include vessels, cargo, people, ports, waterways, critical infrastructure, friendly forces, and financial transactions.

The goal of these demonstrations is to automate all-source fusion in order to help maritime intelligence analysts better support the warfighter and respective interagency partners in the field. CMA will be able to fuse multiple sources of data, including the International Maritime Organization–mandated Automated Identification System (AIS), Defense Department and Homeland Security Department systems, and many other national and open sources; the current design includes over three hundred inputs from both U.S. government and public domains. CMA and MASTER will also support maritime anomaly detection, allowing identification of potential threats that currently go undetected and are therefore missing from the "vessel of interest" list. MASTER's capabilities differ from those of CMA in that it will fuse information sources at the highest security levels, using the most sensitive sources of intelligence information.

As mandated by the *National Strategy for Maritime Security*, we must not only leverage interagency capabilities but also build cooperation with international partners in order to identify threats as far from our shores as possible. To that end, the maritime JCTDs are making clear the value of collaboration with allies in parts of the world where maritime traffic and shipping commerce are heavy.

CMA and MASTER will support the transformation of national MDA capabilities by moving maritime information systems

. . . from:

- Manual processes for data acquisition, data validation, correlation, and track generation
- High analytical latency (that is, a need for considerable time to collect data and determine if there is a potential threat)
- Nonstandardized data collection and information-processing protocols, and
- Monitoring of hundreds of named vessels of interest at any given time via a Common Operating Picture

. . . to:

- Automated processes (automatic acquisition, validation, correlation, tracking with identification)
- Reduced latency, improving analytical efficiency by orders of magnitude
- Standardized reporting protocols that support a net-centric Service Oriented Architecture, and
- A focus on threat identification, based on monitoring thousands of vessels at any given time, via a UDOP.[6]

As a result, maritime analysts will spend more of their time analyzing cues, which will be *automatically* generated, rather than *manually* searching intelligence reports and databases to establish suspicious associations among vessels, cargo, infrastructure, and people. Ultimately, analysts and decision makers will be able to devote more attention to the most likely threats, many of which today would likely not be listed as vessels of interest.

FUTURE STATE: WORKING SMARTER TO ACHIEVE MDA

Given the anticipated technological advances described above, especially CMA and MASTER, the time needed to generate maritime threat intelligence will significantly decrease. Gathering, correlating, and fusing critical maritime information will take hours rather than days, as it can today. Maritime situational awareness will be greatly enhanced as a result. The Service Oriented Architecture requirement will lay out a path to data interoperability and data sharing, ensuring that participating analysts in the global maritime community of interest can assimilate data from participating joint, interagency, and industry providers.

These tools, coupled with emerging organizational constructs—for instance, the Navy's Maritime Headquarters with Maritime Operations Center (MHQ-MOC) and databases such as the U.S. Coast Guard's Maritime Awareness Global Network (MAGNET)—will streamline command and control capabilities, facilitating more rapid MDA for senior decision makers and improved operational response in support of the *National Strategy for Maritime Security*.[7]

In very positive moves forward, the U.S. Navy, the Defense Department's executive agent for Maritime Domain Awareness, is making an effort to accelerate development of MDA prototype capabilities (selecting CMA as a core technology) and is moving toward a specific Program of Record for MDA-related fusion tools.[8] Additionally, the CMA Transition Manager—the Navy's PEO C4I—is working to create a single acquisition program for all battlespace awareness and information operations systems and services. This change will further strengthen

the objectives of delivering integrated C4I capabilities to fleet commanders and of bringing out new innovations to counter global maritime threats.

If we are to exploit fully the maritime joint capability technology demonstrations and advance MDA systems nationally, there remain fundamental challenges concerning how the United States and its allies will develop MDA systems globally. These include:

- How will we expand interagency cooperation within the U.S. government to support integration of MDA-related systems?
- How must the Defense Department interact with interagency partners, as well as state, regional, local, and federal law enforcement authorities?
- How are we to integrate collaborative tools to support the next generation of MDA?
- How are we to integrate the efforts of, and provide access to, international maritime partners, specifically addressing foreign disclosure issues?
- How are we to resolve cross-domain policy issues (security, commercial industry, law enforcement versus the Defense Department versus the intelligence community)?
- How are we to implement and enforce a Service Oriented Architecture and ensure that it supports MDA objectives?
- How are we to address inbound small vessels (under 300 registered gross tons) that are not subject to current reporting requirements, as well as other potentially suspect traffic using inland waterways?

As the regional military leaders, the geographic combatant commanders support national efforts to implement the *National Strategy for Maritime Security* and garner interagency support to establish an MDA Program of Record. Through an expanded and funded MDA program, new technologies can be fielded that support maritime information-sharing systems and the Navy's Maritime Headquarters with Maritime Operations Centers. Multiple MDA initiatives will provide initial technology solutions, but renewed efforts are needed to ensure that cross-domain data sharing and fusion grow into a core capability of national MDA systems in the global maritime community of interest.

CMA and MASTER are two leading maritime initiatives designed to accelerate the development and fielding of follow-on MDA systems. Their residual capabilities will support the emerging MDA architecture needed for data interoperability within the global community—representing a transformational approach to fusing and sharing maritime information.

The sense of urgency in fielding new MDA capabilities is based on the nature of the threat to the nation and its allies, the criticality of protecting the national economy, and a need to assure the public of national security. Only by providing our maritime analysts with automated, more detailed, and comprehensive information can we hope to close the capability gap in global maritime security. These new capabilities will enable detection of maritime threats farther from our shorelines, allow more timely operational decisions, and ultimately prevent in the maritime domain an attack of the magnitude experienced on September 11, 2001. Our *National Security Strategy* states, "We must build and maintain our defenses beyond challenge." It is our nation's strategic imperative to improve situational awareness and secure the maritime domain—before the enemy chooses to challenge us in our harbors, ports, or waterways.

NOTES

1. Speaking at graduation ceremonies at the U.S. Coast Guard Academy, New London, Connecticut, in May 2007.
2. *National Strategy for Combating Terrorism* (Washington, D.C.: White House, National Security Council, September 2006), p. 1.
3. U.S. Navy Dept., *The Cargo Tracking Handbook* (Washington, D.C.: Office of Naval Intelligence, February 2007), pp. 1–7; U.S. Transportation Dept., *Pocket Guide to Transportation* (Washington, D.C.: Bureau of Transportation Statistics, January 2006), pp. 36–37.
4. *The National Security Strategy* (Washington, D.C.: White House, National Security Council, March 2006), pp. 3–7.
5. National Security Presidential Directive 41 (NSPD-41)/Homeland Security Presidential Directive 13 (HSPD-13), 21 December 2004.
6. The technology to build a UDOP is in place. The hard task is to gain the policy accesses and permissions necessary to build it. CMA and related programs are working, with USNORTHCOM's support, to accomplish these goals.
7. MHQ-MOC is a network of U.S. Navy regional MDA nodes designed to execute joint maritime operations and provide connectivity for theater-level maritime requirements. MAGNET is a U.S. Coast Guard maritime database that provides integrated afloat, ashore, and airborne C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance) support for vessel tracking and port information.
8. Secretary of the Navy memo, "Maritime Domain Awareness (MDA) Capability," 17 May 2007.

"A COOPERATIVE STRATEGY FOR 21ST CENTURY SEAPOWER"

A View from Outside

Geoffrey Till

Navies everywhere are grappling with the security issues they confront in the post-9/11 world. This is a difficult task, because they face issues that seem so much more complicated than we remember them to have been during the Cold War. Partly because of the ending of that conflict, for the moment at least, but mainly because of the impact of globalization, the concept of security has expanded from notions that are mainly military to encompass the dimensions of political security, economic security, societal security, and environmental security. All of these may apply at the level of the individual citizen, groups in the national population, the nation, the region, or the world. Moreover, these dimensions and levels are intimately connected with one another, vertically and horizontally, so that a response to a discerned threat at one of these intersections is likely to have a range of effects, both good and bad, everywhere else.

Moreover, there is a temporal dimension to all this: what a country does now, in response to a clear and immediate danger, may have untold implications for its ability to respond to other challenges farther up the line. Such issues require a "comprehensive approach," in which military action is carefully integrated with political and economic approaches in order to produce desired effects. To make their full contribution, military forces will need to think about their traditional tasks in new ways and to accept new ones. The searing experience of Iraq and Afghanistan adds urgency to the call—or so, at least, the argument goes.

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Other analysts, however, wonder how real, how new, or how permanent this development actually is. They argue that the Cold War really did not seem so simple at the time and that while the major focus may have been on the potentially deadly confrontation between East and West over the established battle lines of Europe, many quite important things were going on elsewhere that called upon Western forces to respond in a variety of ways far removed from the brutal simplicities of the Central Front. Moreover, Colin Gray is not alone in writing of "another bloody century," in which many new threats may seem much less dominant when compared to the possible recurrence of traditional state-on-state wars.[1] These potential wars continue to call for a set of approaches, military disciplines, and capabilities that seem really quite familiar. Therefore, goes the alternative view, what we have is at most a difference of degree, and it is far too early to conclude that the elements of change, to the extent that they exist, constitute a permanent trend to which military forces need to adapt, rather than a temporary blip that they need to absorb.

These two approaches have been labeled, respectively, the "postmodern," or "nontraditional," way of thinking about the role and character of military forces, and the "modern," or "traditional." When it comes to sizing and shaping the fleet, there are obvious tensions between these two approaches. Many navies around the world are thinking through their own answers to this set of conundrums, and there has been a great deal of interest in how the U.S. Navy would seek to square this particular circle. How will its strategic thinking develop? How will it structure the fleet? How will it operate? How should everyone else respond? Accordingly, the rest of the world has awaited "A Cooperative Strategy for 21st Century Seapower" with, if not bated breath, at least real interest in both the process and the outcome of the debate.

SO WHAT'S NEW?

The U.S. Navy's approach to strategy making was certainly intended to be novel. The former Chief of Naval Operations (CNO), Admiral Mike Mullen, launched the campaign for a new strategy in June 2006. "When I initiated the discussion of what it should be," he said, "my view was that we needed one. We hadn't had one in 20-plus years and you need a strategy which is going to underpin how we operate, what our concepts were, and literally how we invest." The scope and scale of new threats, the complexity of globalization, and the staggering rate of change seemed to make a major rethinking necessary. The task was handed over to Vice Admiral John Morgan, Deputy Chief of Naval Operations for Information, Plans and Strategy.

Rather as the British had done a decade earlier with their Strategic Defence Review of 1997, the U.S. Navy decided to make the process as inclusive of all

major stakeholders as possible. "One of the things I [Mullen] said when I came in as CNO [was that] I am not going to move ahead on major decisions without doing this with my other four stars. So the U.S. Marine Corps and Coastguard were in the process from the start. The Navy also decided to hold a series of 'conversations with America.'"[2] In some ways, the process was as important as the product, since if successful it would yield not only a strategy but also a constituency of opinion that might be expected to help with its implementation later on. Finally, foreign engagement was sought in aspects of the strategy, through the International Seapower Symposiums of 2005 and 2007, a variety of naval staff talks, and academic engagements abroad. The new CNO, Admiral Gary Roughead, argues that "this was an approach that was very different than in the past when we engaged more than just a very small cell of Navy thinkers. We heard from other leaders in our country about the use of maritime power."[3]

The problem with this, paradoxically, was that the degree of prior involvement in the process and the extent to which developing concepts, such as the "thousand-ship navy"/Global Maritime Partnership, were telegraphed in advance combined to make the new strategy appear less than wholly new when it finally appeared. Moreover, at least some of the ideas it contained had appeared before in earlier formulations. Recognizing the tectonic shifts in strategy caused by the end of the Cold War, another doctrinal formulation, ". . . From the Sea," had in 1992 already shifted the emphasis away from power *at* sea and toward power *from* the sea. This closer coordination of the Navy and the Marine Corps was symbolized by the equal positioning of their service logos on the front cover of the document. The shock of 9/11 caused another such shift, leading to a new emphasis on counterterrorism and asymmetric operations. Such thoughts had also been illuminated and advanced in the four broad naval mission areas identified by the 2005 Quadrennial Defense Review process:

- Conducting an active and layered defense against aggression from forward locations not dependent on the land bases of other nations
- Ensuring the access of joint forces to contested areas where adversaries seek to exclude U.S. presence
- Enabling the success of joint forces ashore through the provision of firepower, mobility, intelligence, and logistics support
- Defending the seaward approaches to the American homeland against an array of conventional and unconventional threats.[4]

Even the equal treatment given winning and preventing wars can be seen as less than novel given the great stress on deterrence in the Cold War era, which was after all about *preventing* war. However, what does seem to be different is the

much wider conception of what deterrence actually means and actually requires these days. The coercive approach of demonstrating denial capabilities against, or promising punishment for, prospective wrongdoers has been absorbed into a much wider concept of working against the social, environmental, and economic conditions that make wrongdoing more likely. These postmodern conceptions of seapower had, however, been signaled in parts of the "Naval Operations Concept" and the "Navy Strategic Plan" of 2006.

These conceptions are, nevertheless, key to the novelty, and indeed the attractiveness, of the strategy. It is much more comprehensive in its approach and seems much more aware of the implications and consequences of the broader, earlier concepts of security. The same might be said when it comes to the document's implementation. The extent of the stress on cooperation and mutual dependence between the three maritime services is new: it solidifies the emerging partnership between the Marine Corps and the Navy, on the one hand, and between the Navy and the Coast Guard, on the other. It underlines the thinking behind the "National Fleet" concept of and, to some extent at least operationalizes the objectives contained in, the White House's 2005 *National Strategy for Maritime Security*. The admittedly brief discussion of distributed and disaggregated command decision making may suggest something of a shift in naval thinking away from task force–centric operations characteristic of the Navy to the tactical platform-centric approach of the Coast Guard. The extent to which the Navy may be signaling a willingness to engage in what would elsewhere be regarded as constabulary operations is significant too. But note, there are a lot of "may be's" here.

The specific importance attached to humanitarian aid and disaster relief is, however, quite novel. Instead of being something of bonus when the need arises and assets are available because there is no decent war to fight elsewhere, the task is accepted as part of one of the six strategic imperatives, and the ability to do it has apparently been elevated to equal standing with more traditional core capabilities like forward presence and sea control.

But perhaps the most striking departure of all is the consolidation of the Global Maritime Partnership initiative, which becomes one of the six strategic imperatives and which is clearly crucial to two of the six core capabilities, namely maritime security and humanitarian assistance and disaster response. Since this initiative has grown out of Admiral Mullen's earlier concept of a "thousand-ship navy," this is not entirely new, of course.[5] But the retitling of the concept is more than merely cosmetic. It suggests a significant move away from the traditional "modern" thinking that probably explains the label originally given to the concept. Zippy as it was, the "thousand-ship navy" was profoundly misleading, since it seemed to exclude coast guard forces, had clear hierarchical

connotations that inevitably sparked unwelcome questions as to "who's in charge," and raised equally unfortunate suspicions that the Navy's hidden aspirations were to re-create on a grander scale the "six-hundred-ship navy" of the Ronald Reagan years. Hence, in Admiral Morgan's words, "We are beginning to distance ourselves from that moniker."[6] Many people will therefore welcome the complete disappearance of the term from the document as the passing of a distraction from what is otherwise a persuasive concept. It is noticeable also that the Global Maritime Partnership would benefit significantly from all three of the document's implementation priorities.

It seems fair to conclude, therefore, that there are indeed new, postmodern elements to the new strategy that go alongside the old and that, in Loren Thompson's words, "it is hard to argue with such a reasonable approach to global security."[7]

CRITICISMS

Nonetheless, there have been criticisms—in fact, quite a few.[8] To a large extent this is inevitable, as the document seeks to cover a vast subject in comparatively few words, no doubt on the assumption that no one would actually read anything longer. In less than four thousand words it reviews extraordinarily complicated changes in the world scene and seeks to lay down a strategy that defines in doctrinal, operational, and procurement terms the objectives, methods, and supporting implementation plans for the world's biggest navy, marine corps, and coast guard. Moreover, it was produced through a process of consultation with the widest range of maritime stakeholders imaginable. The new statement of strategy is essentially a compromise in length, in overall posture, and in detailed substance. Given the level of compression and the complexity of the subject, a measure of superficiality and (possibly constructive) ambiguity is perhaps inevitable.

Each of the major stakeholders consulted in the process could, however, argue with some justification that their respective particular interests have not been given due weight. The "kinetic" community, preoccupied by the possible recurrence of interstate war with a strategic competitor in twenty or thirty years' time or by the possibility of a conflict with a country like Iran or North Korea in the nearer term, might well feel that the pendulum has swung much too far from "hard" to "soft" maritime power. The absence of reference to strike operations and amphibious assault in the discussion of power projection has already been noted. According to some observers, earlier drafts of the document had even less reference to the sources of kinetic effect. In the final text, references to theater ballistic missile defense are hidden away rather uncomfortably in the discussion on deterrence, for example. This partly explains the emphasis on the need to stick with "the Mahanian insistence on U.S. Navy maritime dominance" given

by Secretary of the Navy Donald Winter. "Let there be no mistake," he said. "We are not walking away from, diminishing, or retreating in any way from those elements of hard power that win wars—or deter them from ever breaking out in the first place. . . . The strength of a nation's navy remains an essential measure of a great power's status and role in the world."[9]

Attitudes on where the balance in doctrine and force structure is to be struck in the document between hard and soft power may well partly depend on where the observer "sits," in terms of geography and maritime discipline. Aviators may well tend toward a more kinetic approach, especially if they operate in areas where local conflict against middle powers seems a quite possible contingency. The attention of submariners and those in the antisubmarine community will be fixated on the need to respond to the growing reach and sophistication of possible competitors like China or of middle powers with access to new and improved attack submarines, whether conventional or nuclear powered, and consequently may feel that still more could have been said about the future importance of their crafts. Operators in regions such as Africa, Europe, or South America will tend, simply by virtue of their operational priorities, to be more interested in softer capacities like riverine or patrol operations or civil-military affairs; they too may feel, though, that their concerns could have been given greater emphasis.

Against this, the coast guard community might think that its side of the strategy has been played down in the document. It might well feel that the document uses "seapower" as a synonym for naval power rather than as an alternative to "maritime power" and that the default understanding of the former term will lessen attention to the contribution made by the U.S. Coast Guard. The constabulary role and law enforcement are crucial aspects of maritime security in its newer and wider sense but seem rather glossed over, at least in the sense that there are no specific references to the fact that in the United States such activities are the domain of the Coast Guard rather than the Navy. Given the evident importance attributed by the document to wider engagement with other countries, where primary concerns in maritime security tend to be things like the protection of fisheries and the interception of drugs, arms, and people smugglers, this apparent neglect would seem particularly unfortunate. It would be no very great step from this perspective to suspicion that the Navy is using this wider concept of maritime security to help justify a building program of ships that are by no means appropriate to its enforcement.

Merchant-ship building and operating and the marine industrial complex represent another constituency in the maritime community that might feel neglected. Such interests also have a contribution to make, objections and dissents to table, and strategic needs to be met. That the U.S. Navy's construction program has been relatively stable for the last two years is in important part a

response to industry's requirements for reliable planning baselines. Electoral as well as national considerations mean that members of Congress have a huge—and, some suspect, determining—political stake in such outcomes. For all these reasons, these concerns might have been more directly addressed.

Aside from criticisms proceeding from particular constituencies and stakeholders who feel that their particular angles on the issue should have been given more weight, a second set focuses on the document as a statement of strategy. Current events in Iraq and Afghanistan suggest that the United States and its allies have encountered real difficulty in coming up with connected, seamless guidance as to how broad policy objectives at the grand-strategic end of the scale should be implemented at the other (operational and tactical) end, now and in the plannable future. The contention is that they have a set of visionary statements and detailed force structure plans but that the two often do not match up.

As a result, according to this view, the allies went to war in Iraq and Afghanistan with a broad sense of what needed to be done but without the resources or sometimes the institutional framework needed to do it. In consequence, there is a great focus on satisfying the tyrannical demands of the immediate commitment. In consequence, the future is being mortgaged to the present. This is not a criticism of the new maritime strategy so much as a comment that it is by no means clear where the document fits into the family of policy statements that the United States—or any other country, for that matter—needs in order to translate policy into successful action.[10]

Relatedly, more specific questions can be raised about the connections between this document and force structure, particularly but not exclusively in the U.S. Navy. One angle, as already noted, is to argue that this document is actually an attempt to justify a set of building plans already established in the 2006 Navy Strategic Plan, already referred to, which was introduced by Admiral Mullen in order to provide stability in the Navy's shipbuilding program. Some are quite clear about what they see as

> the Navy's latest attempt to articulate the role of maritime forces, and to provide a sensible justification for its plan to increase the current 278-ship fleet to 313 during the next three decades. Navy officials worry that fleet expansion efforts could be wrecked if the Defense Department cuts naval budgets to pay for the addition of thousands of troops to the Army and Marine Corps over the next four years.[11]

Indeed, Secretary Winter made the point that "our 30-year ship-building program remains unchanged; our aircraft purchasing schedule remains on track; and our end strength targets will not change as a result of this new strategy." If this was indeed the intention, things were, arguably, taken up in the

wrong order: the building plan should be derived from an open examination of need, not the latter crafted to suit the former.

Another line of attack on the relationship between the document and the building plan, however, is to argue the exact opposite. Some make the point that this is not a "strategy" at all, in the sense that it does not relate ways and means in a manner that would offer much guidance to force planners in any of the three maritime services. The document is more of an overall "vision" that seeks to establish general things that need to be done but avoids discussion about what is needed to get those things done. A "former senior officer" reportedly complains, "There's nothing in there about force planning. Do I build capital ships for major wars that don't occur often, or do I build for general purpose, lower-end ships for the kinds of events we encounter far more regularly?"[12] Nor does it give much clue about relative priorities between modern and postmodern maritime approaches, priorities that in an age of budgetary constraint must compete to some extent. According to some, "by not including or even alluding to a recapitalization plan in the strategy, the Navy missed a golden opportunity to link its strategy and equipment needs in a single clear case for lawmakers."[13]

But perhaps, some wonder, there is a new accompanying, classified annex that does articulate and justify Navy building plans and that supports the aspiration to a 313-ship navy, if not more.[14] Vice Admiral Morgan offers a more subtle explanation. He has spoken of his hope that "the new strategy will 'lead strategic thinking' in the formation of future budgets. The intention is for the strategy to be 'refreshed' every two years, right before long-term budget plans are finalized."[15] In other words, the strategy is intended to provide continuing on-course guidance for the existing programs, which it therefore accompanies, rather than precedes or follows.

Moreover, the timing of the debate is interesting, seeming as it does to imply readiness on the part of the maritime services to get people thinking about American defense needs *after* Iraq and Afghanistan, by which time the political complexions of White House and Congress may be rather different.

For all that, it is clear that there is no pleasing everybody; the very nature of the document required major compromise by all the participants. The Navy could hardly have made a more specific claim to more ambitious force structure, in general or in particular naval-discipline terms, in an abbreviated document that it was producing jointly with the other two maritime services. Nor could they have done so themselves. The maritime services, in this collective bid to draw national attention to the importance of the physical environment in and across which they all operate, also needed to be mindful of the fact that this was not a statement of *national* policy. The subject area this document sought to address is vast—geographically, substantively, and temporally; its treatment

required massive compression. Accordingly the statement could hardly have had the crisp exactitude and the articulated performance indicators of, for example, the Maritime Strategy of the 1980s. For all these reasons a final verdict on the importance and impact of this document will need to wait upon events. The proof of the pudding will be in the eating.

SO WHAT'S NEXT?

If the new strategy is to convince observers that it really is the significant departure from the norm that it is claimed to be, its progenitors will need to convince skeptics by what they do now that it has been introduced. A serious and sustained campaign of strategic communication among the stakeholders themselves, among them and the rest of the country, and among the United States and other countries seems called for as a first step. The (mis)apprehensions noted above will need to be addressed.

In particular, this is an ideal time for the United States to progress a campaign of (re)engagement with the rest of the world, given the strains induced by the Iraq war. Here the problem is exemplified by global worries that the United States is not only too powerful but also inclined to often self-defeating unilateralism. It is against this background that the debate about ratification by the United States of the UN Convention on the Law of the Sea (UNCLOS)—significantly, represented by its American adversaries as "LOST" (i.e., the Law of the Sea Treaty)—is being followed by the outside world. Critics of the proposal to ratify clearly argue from a rigorous set of traditional, modern conceptions of U.S. sovereignty and national interest.[16]

White House and Navy proponents, however, believe that UNCLOS provides an indispensable legal framework for most activities in support of maritime security. Some would admit that the UN generally lends authority for more ambitious acts of system defense. The perception, whether true or not, that the United States and its allies are "acting outside the law" undermines their prospects of success. Accordingly, ratification of the convention would indeed seem to imply acceptance by the United States of the notion that its maritime security is best provided in concert with everyone else's.

With this we approach the most postmodern aspect of American maritime thinking in this document, the continual references to its "collaborative" nature. Although most countries find the notion of a Global Maritime Partnership attractive, there are residual suspicions about whether the United States really means it.[17] This unease is manifested by Africa's hesitations about the new U.S. Africa Command—Africa, the locals say, is not about to be commanded by the United States. A real partnership will need to acknowledge this, to accept that in many cases local alliances will provide the first responses to local troubles and

that local priorities in the maintenance of good order at sea are not necessarily the same as those of the United States. Americans tend to put "international terrorism" at the top of the list of threats; other countries are much more concerned about illegal fishing or people smuggling. Even Europeans often do not put counterterrorism at the head of their priority lists.[18]

Certainly, with its emphasis on building the trust that cannot be surged, in the strategy document—and, indeed, in the public statements of regional commanders around the world—there is at least declaratory acceptance of the need to accommodate such differences of view. As Admiral Mullen said, "The changed strategic landscape offers new opportunities for maritime forces to work together—sometimes with the U.S. Navy, but oftentimes without. In fact, a greater number of today's emerging missions won't involve the U.S. Navy. And that's fine with me."[19]

Putting the concept of partnership into effect, however, will require practical steps. These may include a concerted effort to make "maritime domain awareness" work, by moving from an information culture based on "need to know" to one based on "need to share," and by openhanded provision of skills and equipment in a sophisticated capability-building campaign for countries that need it. "Sophisticated," in this case, means two things. First, it connotes practical appreciation of the need fully to integrate naval efforts with coast guards, both foreign and domestic, in a manner that gives the latter full credit for their particular strengths in this area. Second, it will require particular awareness of the political and cultural sensitivities of regions in question. The current emphasis on language training and cultural awareness, together with the creation of a "Civil Affairs Command" of Foreign Area Officers, is an encouraging step in this direction. So also were the demonstrations of intent evident in the recent cruises of the hospital ships *Mercy* and *Comfort*, when viewed alongside effective reactions of the U.S. Navy toward natural disasters like the 2004 tsunami. Actions, after all, speak louder than words, and these are the kinds of things likely to make a reality of the concept of "global fleet stations" and to persuade others that the maritime services really mean what they say in this document.[20] All of this seems to presage a move away from the techno-centric thinking that seems to have characterized U.S. defense policy over the past few years.

But, as already remarked, the rest of the world is not the only constituency of concern that needs to be addressed in a continuing campaign of justification. Different justifications may need to be given to domestic stakeholders, and some of these may well compete with the messages that need to be transmitted to foreigners. For instance, the kinetic community will need to be assured that its "modern" but perfectly legitimate concerns about the need to continue to prepare for the prospect of interstate war are addressed.[21] Getting the right balance

between hard and soft maritime power is particularly problematic when naval budgets are tight, partly because of the inevitable political concentration on the Iraq and Afghanistan wars and on a building program mired in controversy. Such concentration exacerbates the concerns of people who, like Robert Kaplan, argue that the U.S. Navy is moving too far away from traditional naval threats from first- and second-class adversaries now and in the more distant future.[22] Instead, they argue, it should focus its efforts on such "modern" preoccupations as the acquisition of more sophisticated antisubmarine systems, supercarriers, and sea-based ballistic- and cruise-missile defense, the *Zumwalt*-class destroyers, and the CG(X) cruiser.

These, of course, are expensive and encourage the trend toward smaller fleets, whereas having fewer builds makes safe, incremental modernization of the fleet more difficult. That in turn forces the Navy into specifying "transformational" leaps in platform specification, as evidenced in the Littoral Combat Ship (LCS), the *Zumwalt*s, and CG(X), programs that are inherently riskier and costlier to fix than their predecessors when things go wrong. Although the new maritime strategy does not go into this issue (because it does not address relative priorities, as remarked earlier), questions will have to be asked and answered about the balance that should be struck in the "high/low" mix.

The LCS program is particularly important from this point of view, and its current difficulties are therefore especially unfortunate. But even within the program, there are those who argue that something cheaper and less capable but more numerous would provide a better solution. Lower-intensity postmodern operations would seem to many to call for still greater expansion of riverine capabilities, significant reentry into the small-patrol-craft area, and something of a deemphasis on the mainly Mahanian aspects of the current shipbuilding program. William Lind complains, "The U.S. Navy is building a fleet perfectly designed to fight the navy of imperial Japan. If someone wants to contest control of the Pacific Ocean in a war between aircraft carrier task forces, we are ready." Lind recalls a former deputy assistant secretary of defense, Jim Thomas, saying (as cited by Robert Kaplan), "The Navy is not primarily about low-level raiding, piracy patrols, and riverine warfare. If we delude ourselves into thinking that it is, we're finished as a great power." On the contrary, Lind argues, in today's postmodern, fourth-generation world that is precisely what naval power is all about—or ought to be.[23]

Getting these budgetary and force structure balances right and giving real effect to the ideas sketched out in "A Cooperative Strategy for 21st Century Seapower" call for the open debate it is already getting but also for a clear sense of *national* strategy, one in which the place of maritime forces in the overall response to a complex present and future world is seriously addressed. Such an

overall, joined-up strategy should do two things. First, it should seriously address the task of deterring or winning today's conflicts while being able to secure the "peace" that would follow. Second, it should define and balance the needs of today's conflicts with those of tomorrow's. Easier said than done, perhaps—these issues are unlikely to be resolved quickly or easily, but they are essential all the same, and their difficulty points to the need for the continued dialogue that preconditions ultimate agreement.

LIKELY FOREIGN REACTIONS

It is not easy to gauge likely foreign reactions to the new strategy. Inevitably, some will be responses to the process that produced and now follows production of the document rather than to what it actually says. In the course of this, some outsiders are bound to hear things that confirm existing suspicions about U.S. intentions. Statements intended to assuage the concerns of hard-power advocates in Congress, for example, will unnecessarily alarm those for whom American maritime dominance can be seen as a prospective threat and dismay those who instead wish to see a real global maritime partnership against common threats and challenges—hence the need for a strategic information campaign that explains what is actually, rather than apparently, going on.

Moreover, foreign navies are conducting their own strategic reviews of how they should react to contemporary challenges. In many cases their debates about the balance to be struck between hard and soft power and between fewer high-quality platforms or more lower-quality ones follow similar lines to the U.S. debate; foreign equivalents of all the interests and constituencies in the U.S. debate can also be seen. Accordingly, their views about the new U.S. strategy will tend to reflect their own preoccupations and emerging conclusions, which in turn will tend to determine what parts of the American process and the product they focus and comment on.

For this reason, a campaign of strategic communication would probably fall on receptive ears, at least among the closer allies of the United States, since many of them are facing identical problems. The United Kingdom, for example, has yet to develop a national strategy in which the resources available to defense match the political objectives set for it and in which future needs are secured against the immediate demands of an urgent present. Because of the focus on the "here and now," the Royal Navy is facing acute difficulties in achieving a modern/postmodern balance it is happy with.[24] Here too the aim is to get people thinking about the world *after* Iraq. Inevitably, high/low-mix issues dominate fleet-structure questions. Having secured its future carriers, how many other top-class surface combatants does the Royal Navy need and can it afford? When considering the Future Surface Combatant program, what should be the ratio

between the (relatively) cheap and cheerful C3 variants and the more ambitious C1s? This is in large measure a matter of resources, but getting the resources needed seems very much to be a question of getting the message across to a public, a media, and a political establishment largely focused on present land and air, rather than future air and naval, needs.[25]

In a more general way, opinions differ on the extent to which it is safe and appropriate for the Royal Navy to get involved in the lower reaches of the spectrum of maritime security. Many of these issues apply to the other European navies as well. They all face growing gaps between the resources apparently available and the range of possible commitments they may be expected to fulfil. Their fleets are shrinking numerically but comprise individual units that are ever more powerful.

To a degree, all these force-structure preoccupations reflect widespread acceptance in Europe of an expeditionary impulse, which seems to flow naturally from the global security concerns that dominate their conceptions of necessary defense. Accordingly, they will tend to be broadly sympathetic to the aims and methods outlined in the strategy. Other European countries take more geographically local views of their security priorities and, while not unsympathetic, will not see much that is directly relevant for them. Caveated support of this kind will be much more common in the developing world, where residual suspicions of U.S. foreign policy remain strong, although many such countries are fully aware of the objective need for enhanced maritime security, broadly defined. A few other countries, such as Iran and North Korea, can be expected to take a dim view of a strategy much of which, they will think, rightly or wrongly, is essentially aimed at them. It will be especially interesting to see the emerging reaction of China, and perhaps of Mr. Putin's Russia, too.

Evidently, in the problems it is having in its quest to adapt to the difficult conditions of the twenty-first century the U.S. Navy is not alone. Current uncertainties and differences of opinion are understandable, even inevitable. But the fact that even the U.S. Navy seems unable to square the circle on its own suggests that perhaps a *cooperative* strategy is indeed the way to go.

NOTES

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1. Colin Gray, *Another Bloody Century* (London: Phoenix, 2005).

2. Geoff Fein, "Maritime Strategy Still a Priority for Outgoing CNO," *Defense Daily,* 26 September 2007.
3. "Strategy Lacks Specifics, Covers Familiar Ground," *Navy Times,* 29 October 2007.
4. Loren Thompson, *QDR 2005 Issues Facing the Navy* (Washington, D.C.: Lexington Institute, 2005), p. 7.
5. Admiral Mike Mullen formally launched this concept at the 17th International Seapower Symposium in September 2005. See John Hattendorf, ed., Report of the Proceedings 19–23 September 2005 (Newport, R.I.: Naval War College, 2006), pp. 3–8.
6. Vice Admiral John G. Morgan, USN, quoted in "Maritime Strategy to Be Unveiled Next Month," *Navy Times,* 26 September 2007.
7. Loren B Thompson, "New Maritime Strategy: Three Cheers, and Three Complaints," *Issue Brief* 3 (Washington, D.C.: Lexington Institute, 23 October 2007).
8. The ideas that follow grew out of discussions with a range of colleagues in Washington and the United Kingdom. It is impossible to list them all, but they will know who they are and will, I hope, take this as evidence of my gratitude for their help.
9. Speech at 18th International Seapower Symposium, Naval War College, Newport, R.I.
10. Hew Strachan, "Making Strategy: Civil-Military Relations after Iraq," *Survival* (Autumn 2006), pp. 59–82.
11. "Facing Uncertainty, Navy Contemplates Alternative Futures," *National Defense Magazine,* 10 October 2007.
12. Quoted in Christopher Cavas, "New US Maritime Strategy Is Incomplete," *Defense News,* 22 October 2007.
13. Ibid.
14. "Analysts Question Navy Assertions about NMS," *Inside the Navy,* 22 October 2007.
15. Cavas, "New US Maritime Strategy Is Incomplete."
16. William P. Clark and Edwin Meese, "Another UN Power Grab," *Wall Street Journal*, 8 October 2007.
17. See, for example, "Charting the Course: World Navy Chiefs Look to the Future," *Jane's Defence Weekly,* 2 May 2007, pp. 23–50.
18. Esther Brimmer, *Seeing Blue: American Visions of the European Union,* Chaillot Paper 105 (Paris: Institute of Security Studies, September 2007), p. 15.
19. Admiral Mullen at the 17th International Seapower Symposium; see note 5 above.
20. "Global Fleet Stations" may be another term that needs further examination. To some observers it implies something more akin to a floating naval base for (possibly) offensive action than a means of alleviating local distress.
21. This clearly lay behind Secretary Winter's assurances at the 18th International Seapower Symposium.
22. Robert D. Kaplan, "America's Elegant Decline," *Atlantic Monthly* (3 October 2007).
23. William S. Lind, "A 'Little Ship' Navy," United Press International, 29 October 2007.
24. Vice Admiral Sir Jeremy Blackham and Gwyn Prins, "Storm Warning for the Royal Navy," U.S. Naval Institute *Proceedings* (October 2007).
25. Admiral Sir Jonathan Band, "The Strategic Vision for Navies," *RUSI Journal* (February 2007). The Future Surface Combatant (FSC) is a wide-ranging program to replace the Type 23 frigates currently serving in the Royal Navy and to supplement the larger and more expensive Type 45 *Daring* class of destroyers. Perhaps two dozen of these FSCs are expected to be delivered, but there is much debate about the mix of variants needed.

COMMERCIAL SHIPPING AND THE MARITIME STRATEGY

Steve Carmel

The new national maritime strategy, entitled "A Cooperative Maritime Strategy for the Twenty-first Century," is designed to recognize the changes and challenges wrought by globalization in the maritime commons. The great facilitator of globalization is, of course, commercial shipping. The progressive growth of maritime trade over the centuries has produced an international system of trade that, in the words of that great oracle of seapower Alfred Thayer Mahan, "forms an articulated system, not only of prodigious size and activity, but of an excessive sensitiveness, unequaled in former ages."[1] Improvements in speed and consistency of service coupled with enormous reductions in the cost of sea cargo transportation have shaped the evolving system of global manufacturing in ways unforeseeable just twenty years ago. Any strategy that devotes as much attention as the new maritime strategy to that aspect of life on the global commons will cause those who participate in that realm to take a keen interest in it; hence, an analysis of that strategy from the perspective of the commercial shipping industry is warranted.

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As a point of departure for that analysis, it is appropriate to quote Vice Admiral John Morgan's and Rear Admiral Charles Martoglio's seminal "thousand-ship navy" article in the U.S. Naval Institute *Proceedings*: "Policing the maritime commons will require substantially more capability than the United States or any individual nation can deliver. It will take a combination of national, international and private industry

cooperation to provide the platforms, people and protocols necessary to secure the seas against the transnational threat."[2] They go on to note the importance of understanding the nature of the threat that the United States and most trading nations face. A coherent analysis should focus on two key points they highlight. The first is the potential for cooperation of private industry—or better, the opportunity forgone by failure to co-opt effectively the commercial shipping community in this effort. The second point involves the specific capabilities that community can bring to the table if allowed to. Maersk Line Limited (MLL), especially, wants to participate.

Admiral Morgan, the Navy's chief of strategy, has spoken on this topic several times and appears to clearly understand what the industry can offer and, more importantly, what is lost by failing to engage it. The very fact that this article appears in the *Naval War College Review* indicates that others in the Navy appreciate that potential. Perhaps the message has not diffused far enough, however, as few, if any, day-to-day tactical-level discussions mention the existence of Maersk or its brethren, except as objects (not part) of the maritime strategy. This is not to say that there has not been engagement, but engagement in formulating a strategy and participating in its execution are very different things.

The primary purpose of this article, then, is to help raise awareness among sea service officers of what the commercial shipping industry can offer. Secondly, it addresses the nature of the threat, which necessarily means the environment, which in turn, as a practical matter, is constituted by the daily operations of the commercial shipping industry. These two points—understanding the environment and commercial shipping participation in the maritime strategy—represent an intersection of naval and commercial operations, and one in which the upshot for global maritime security is not completely clear. Shippers have a very different worldview than that of the leaders of the U.S. Navy, which is understandable as their roles and missions differ, but that difference may not be as well appreciated as it should be. It is important to understand how those worldviews diverge.

WHAT DO COMMERCIAL SHIPPERS BRING TO THE TABLE?

In a word, they bring presence—overwhelming, persistent global presence. Maersk ships and others are out there in far larger numbers across more of the ocean than most people appreciate. A few statistics might bring home the point. The global Maersk shipping group alone—a single company—has a fleet of over a thousand ships of various types, including containerships, tankers, LNG/LPG carriers, RO/ROs, and ROPAX,* with about 120 vessels on order in yards around

*Respectively, liquified natural gas/liquified petroleum gas, roll-on/roll-off, and roll-on/roll-off passenger ships.

the world. Maersk takes delivery of, on average, forty new ships per year. Within that total the container fleet consists of over 550 vessels. The largest has a length of about 1,300 feet and a capacity of well in excess of eleven thousand twenty-foot equivalent units (TEU), in containers, the vast majority of which are inaccessible when the vessel is loaded. Consider the logistical challenges of external radiation scanning of such a vessel. To sense a container located on the bottom of the pile, a scanner must be able to see through ten other loaded containers (the ship is twenty-two bays wide) and down through fifty feet of water, and with sufficient sensitivity to discriminate which is the offending container.

The Maersk container fleet has operations in nearly three hundred ports around the world and makes thirty-three thousand port calls a year—every fifteen minutes, 365 days a year, a Maersk vessel is taking arrival somewhere in the world. To be more specific, in sub-Saharan Africa, an area of great interest these days, Maersk has regular service to forty-two ports in thirty countries (in other words, every country that has a coast except Somalia), and it has over thirty inland operations offices in an additional eleven countries. This does not include the activities of the oil and gas side of the business, which likewise has maritime operations spread across the globe—including, of course, the Gulf of Guinea, an area of the world that discussions of global maritime security scarcely ever fail to bring up.

To give context and a sense of scale, a couple of comparisons would be useful. In July 2005, Robert O. Work, a well respected expert on naval matters, in testimony before the House Armed Services Committee, put the total number of world's surface combatants of greater than two thousand tons displacement at the end of the previous year at 574.[3] While Mr. Work was making a different point, that number is relevant here since this size naval vessel would likely be of most use in policing the deep-sea maritime commons—the area where commercial shipping can be the biggest help or biggest challenge; these are the assets in the inventories of the world's navies available to implement the maritime strategy out in the open ocean, at least as relates to commercial shippers. Maersk alone, then, has more ships at sea by a wide margin than all the navies of the world combined.

Anyone with a knowledge of Maersk is probably not surprised at this, so let us look as well at the next biggest competitor in the container business. The Mediterranean Shipping Company (MSC), headquartered in Geneva, Switzerland, operates 362 ships. That means a single company located in a small, landlocked country in the Alps puts to sea a fleet larger by 25 percent than the U.S. Navy.[4] It also reminds us that in today's globalized world, what constitutes a "maritime nation" is a lot fuzzier than it used to be.

The domination of the global maritime commons by commercial shipping is readily seen in the latest density report on the AMVER website (www.amver.com). AMVER is a voluntary global partnership (administered by the U.S. Coast Guard) of seagoing interests working for collective self-preservation in a hostile environment. The merchant shipping community is used to working in partnerships, and AMVER is a great example of that, having been saving lives at sea for over fifty years. There are currently over seventeen thousand ships from 155 countries enrolled, and on any given day there are about 3,200 active voyages on the plot. Annually AMVER tracks well over a hundred thousand voyages. The monthly density report divides the ocean surface into one-degree squares and reports how many AMVER-participating vessels reported being in a given "patch" that month. The common perception is that commercial ships stick to densely traveled routes and the rest of the ocean is largely devoid of them; the AMVER density report shows how wrong that impression is. There are, of course, high-density routes where presence is almost continuous, but in fact very little of the ocean surface does not show at least some level of activity every month. The good news for the maritime strategy—if shippers are active participants in it—is that they are everywhere. The bad news for the strategy, if they are only the *object* of it, is that they are everywhere.

ENVIRONMENT AND WORLDVIEW

Virtually every recent article and official document describes the maritime commons as "insecure" and cites a need to protect the maritime pathways and ensure the unimpeded flow of goods. Shippers scratch their heads about that and wonder what all the hubbub is about. They do not see a threat out there. This is not to say there are not critical vulnerabilities that we need to take very seriously, such as port infrastructure. The Chinese, for example, are acutely aware of the importance of the port of Los Angeles to the Chinese economy (though it is doubtful that there is a similar appreciation here for the importance of Hong Kong or Singapore to the American economy).

Vulnerability and threat, however, are not the same thing. In fact, the real threats to maritime commerce are ill-conceived security measures that betray a fundamental lack of understanding about how the global maritime transport system works. The nature of trade in the current age of globalization—that is, the conveyance of intermediate goods used as inputs into production processes as much as of finished goods ready for retail—demands a hyperefficient transport system with vanishingly small tolerance for disruption. As an indicator of the efficiency of the shipping system, it costs less to ship a container from Hong Kong to Los Angeles than it does to truck it the last hundred miles inland to its final destination in the United States; moreover, the variation in delivery time for

the trip from Hong Kong to Los Angeles is measured in hours. This highly efficient supply-chain network of networks is critically dependent on a transport system that is in perpetual motion across all modes. A good analogy is the image in a once-familiar commercial for a major courier company of a web of interlocking conveyor belts shunting packages around in continuous motion until they get to their final destination. The intermodal shipping system needs to be thought of just that way. Everything is always in motion, and a stoppage anywhere propagates effects through the system, quickly becoming a stoppage everywhere. Any strategy that fails to consider that will likely do more harm than good; the cure must not be worse than the disease, and, returning to the worldview issue, shippers are not convinced we are even sick. If the goal of the "bad guys" is to disrupt commerce and cause economic harm, it stands to reason that if we accomplish their goals for them through our (anticipatory) reaction to them, they win.

The statistics mentioned earlier about the size of the Maersk fleet and its global persistent presence are relevant to this worldview. Maersk has a good vantage point from which to see what is going on out in the global commons; arguably it has a better view of such things than the U.S. Navy. In the debate about whose worldview is correct—is there a threat or isn't there?—the issue of who has the better vantage point must be addressed if the sort of partnerships with commercial-sector shipping interests that those who advocate the "thousand-ship navy" concept consider necessary are to be built.

WHAT ABOUT PIRACY?

No doubt piracy is a bad thing for the people it happens to, but that is not Maersk or its colleagues. Piracy is a large issue for regional, coastwise trade in some parts of the world, like Africa (hence the very visible problems for World Food and similar humanitarian organizations), but for international trade and the ships that facilitate it, not so much. Take a recent report of the Indonesian navy disrupting a pirate attack on a tanker in the Straits of Malacca. If we look deeper than the headlines, and unfortunately most will not, the "tanker" turns out to be a two-thousand-ton vessel loaded with cooking oil. We should make a distinction between a three-hundred-thousand-ton VLCC ("very large crude carrier") loaded with crude oil and a glorified barge loaded with a couple cups of Crisco. Unfortunately, the statistics do not. Worse, even an attack that one suspects might happen but does not actually transpire is still to be reported as an act of piracy. This makes statistics from the International Maritime Bureau deeply suspect. Certainly these statistics make the problem look worse than it actually is. There is an unfortunate tendency nowadays to conflate petty thieves in bumboats—something we have been dealing with for ages—with a broader concept

of piracy, also making the picture look worse than it does from a shipper's perspective.

What is actually worrisome, however, is the issue of stowaways, an area where the two worldviews are probably aligned, although for different reasons. Stowaways are a big problem in places like Africa—bad enough that companies like Maersk frequently rely on private security (British officers and Gurkha troops, at not insignificant cost) to help deal with it. Dealing with stowaways requires improving local port security, which in turn means capacity building in local law enforcement—whose officers usually act as ticket takers for would-be stowaways rather than as the deterrent they are supposed to be.

TRANSPARENCY

It is often claimed that legitimate shipping should welcome transparency. Yes and no. For normal operations in the liner trade—the realm of the common carriers—transparency is the normal and necessary mode of operation; these lines all post their schedules on their websites. However, for ships operating in the tramp trade in search of cargo on the spot market, transparency is problematic. Vessel position is a source of competitive advantage and certainly a source of leverage in negotiations with cargo interests. These interests, particularly in the bulk and oil markets, would love to have full visibility into where potential vessels for their cargoes are, and there are clear indications that some of them would pay for that information. It is likely also that any ship, including legitimate vessels operating in full compliance with international law in the normal conduct of business, would have reasons to be wary of transparency that could be used to single it out in an interdiction program. For example, if in the event of a tussle with China over Taiwan the United States were to decide to interdict the flow of oil to that country—something the Chinese worry about a great deal—any system that would allow authorities to identify all vessels carrying oil consigned to China regardless of location, flag, or flag-state sympathy for U.S. interests in the conflict, and that would make those vessels targets of the interdiction effort, would arouse suspicion that would have to be taken due account of.

This does not mean Maersk and its brethren are not willing to help navies and coast guards build maritime domain awareness (MDA). Maersk has proposed ideas for trial programs and even offered the use of its ships to test the ideas of others. As an example, Maersk is currently moving forward with trials on several of its vessels of innovative MDA technology developed by Lockheed Martin that addresses some of the limitations of automatic identification systems (AISs). Recently Maersk was asked by American naval authorities in Naples if it would allow AIS tracking receivers to be put aboard its ships to see what data could be generated; Maersk readily agreed.

This highlights another capability of commercial shippers that is not well appreciated. Due to the large numbers of ships they operate globally, grouped in regular service offerings, commercial shippers can do controlled experiments on a scale beyond anything the U.S. Navy could on its own. They can quickly develop data that would otherwise take years to generate, if it could be done at all. Lastly, shippers can allow small numbers of naval officers to ride their vessels in areas of the world that are of interest. This approach would decouple persistent naval presence in an area from U.S. Navy assets and allow naval officers to develop a vast amount of local knowledge of the waterfront in a low-key way, and for very little cost. If cooperating navies struck such deals with their flag-state shipping companies, there are few places, if any, to which naval officers could not get access. Shippers can also act, as Maersk does now, as training venues for Coast Guard, Navy, and law enforcement personnel, as well as participate in exercises. Maersk was a participant in a recent homeland security exercise called NOBLE RESOLVE, for example.

Maersk is now participating in a program with the British Ministry of Defence wherein it places small devices, about the size of a laptop computer, on a few of its vessels, including some flying the U.S. flag. The device is completely self-sufficient; it is independent of all ship systems and power, having a battery that lasts seven years. Crews simply peel the backing off its adhesive surface and slap it on a bulkhead. With this device the British can keep track of where Maersk's ships are in real time, all the time. All the company has to do is avoid painting the device, which admittedly is a challenge for seamen. This program grew from a desire to keep track of ships carrying British military equipment—there are understandably places the British would rather we not go with their equipment on board. Of note, the United States has no comparable program for vessels carrying U.S. military equipment, but Maersk would be happy to participate if there were. Considering that in 2006 the Department of Defense alone shipped almost a quarter-million containers through the commercial transport system, much of it to support the effort in Iraq, perhaps it is not a bad idea.

"AIS," mentioned previously, is probably the most abused abbreviation in the whole MDA realm. Let us end, then, with a few remarks about automatic identification systems. AIS data can certainly be a critical input for a broad picture of what is going on "out there." Indeed it is data that needs to be captured and analyzed, but the limitations need to be understood. Of course, it is well known that compliance with AIS is far from universal, and it is fairly common to encounter ships that do not have it turned on; if all we do is collect AIS data, we miss that group of actors altogether. But even more importantly, AIS is easy to spoof. A recent report claims that upward of 30 percent of all AIS data is incorrect.[5] In 2005, concern about false AIS data led maritime authorities in Singapore, remembering

that AIS was originally intended as a navigation and collision-avoidance system, to issue a flag-state notice warning of the inaccuracy of AIS data.

Commercial shipping is the preponderant presence on the global maritime commons today; it is in many ways the reason a maritime strategy is needed at all. Commercial shippers know that they represent overwhelming and persistent global presence. They do not want to be simply the passive objects of the new maritime strategy. They would far rather be active partners in implementing a strategy that furthers the collective security goals of all states while not jeopardizing the economic goals of any state in the process.

NOTES

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1. Alfred Thayer Mahan, "Considerations Governing the Disposition of Navies," in *Retrospect and Prospect* (Boston: Little, Brown, 1902), p. 144.
2. John G. Morgan, Jr. [Vice Adm., USN], and Charles Martoglio [Capt., USN], "The 1,000-Ship Navy: Global Maritime Network," U.S. Naval Institute *Proceedings* 131 (November 2005), p. 15.
3. Robert O. Work, "To Take and Keep the Lead: A Naval Fleet Platform Architecture for Enduring Maritime Supremacy" (Washington, D.C.: Center for Strategic and Budgetary Assessments, December 2005), p. 84, available at www.csbaonline.org.
4. As of November 2007, as given in the firm's website, at www.mscgva.ch/.
5. "Reliability of Ship-Identification System in Doubt," *TradeWinds*, 7 September 2007, p. 42.

IMPLEMENTING THE SEAPOWER STRATEGY

Captain Wayne P. Hughes, Jr., U.S. Navy (Retired)

An ideal of war—some would call it a principle—is to achieve perfect collaboration between all commanders, vertically and laterally.[1] But prosecution of war entails decentralized authority and responsibility, and so a corollary to the ideal of collaboration—or cooperation—is inevitable friction between willful military and civilian leaders who have different styles, outlooks, and intentions.

Said another way, successful collaboration connects upward, laterally, and downward. Upward unity of purpose is difficult, because politics and warfare must arrive at a goal-driven, united logic while communicating with different grammars.[2] Lateral unity of action is difficult, because different services see the same problem through different lenses and aspire to different solutions. In our global world the collaboration between different services is difficult, because they are not just the American armed forces. Collaboration by the American sea services is uniquely critical, however, and most of what follows is intended to promote well coordinated actions within and among the U.S. Navy, Marine Corps, and Coast Guard.

Examples of friction from operations in Iraq are perhaps too close to us now, but there is a plethora of historical examples that show the ideal of cohesive action to be unattainable. World War II has spectacular cases

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of willfulness. General Dwight Eisenhower's wartime genius was to foster cooperation and unity among disparate factions. He brought together fractious French leaders in North Africa. He worked with the navy and air force component commanders he was given for the D-Day landings. He neutralized the egos of Bernard Montgomery and George Patton during the Allied drive through France after the breakout from the Normandy beachhead. At all times he retained the confidence of Prime Minister Churchill, President Roosevelt, and the Joint Chiefs of Staff. Eisenhower is veritably the exception that proves the rule that collaboration is hard to achieve.

World War II is for two reasons an apt, neutral laboratory to study the challenges of collective action. The first is that the war is dissimilar to American circumstances today and cannot be parroted as a template. Both world wars are, in fact, precedents to be avoided in establishing ways and means to deal with our contemporary emerging peer, the People's Republic of China. Second, the two great wars illustrate the global reach of seapower. Neither war could have been won without achieving maritime dominance and exploiting operational maneuver from the sea.

A strategy has now been constructed in less passionate peacetime circumstances to foster collaboration. It has been vetted by the operational and sea service commanders who are affected by and must follow its tenets. The new maritime strategy serves as an agreed point of departure that will not eliminate contentiousness in the future but will be the cornerstone of implementation, of the determination of affordable resources, of training to carry it out with the forces in hand, and of the design of future sea service forces.

I refer to the pithy document recently promulgated by the Commandants of the Coast Guard and Marine Corps and the Chief of Naval Operations, entitled "A Cooperative Strategy for 21st Century Seapower." It is the result of a broadly based, collaborative effort to develop what was often referred to as "a new maritime strategy." This article elaborates on the document's great significance toward establishing a new Seapower Strategy to guide the nation's maritime operations, as well as what it does not say and the extensive work still to be done.

THE ACCOMPLISHMENTS

First in importance, the new Seapower Strategy restores the primacy of seapower in American security policy. Though the sea service leaders cannot proclaim a national maritime strategy, they have demonstrated the logic of seapower and its value in "fostering a peaceful global system comprising interdependent networks of trade, finance, information, law, people and governance." The three service leaders make the case that "United States seapower is

a force for good, protecting this nation's vital interests even as it joins with others to promote security and prosperity across the globe."

In particular, the Seapower Strategy clearly implies that the two-major-regional-conflict force-shaping strategy of the 1990s is dead. The two-MRC strategy focused on fighting wars on the ground overseas. It was too narrow in scope to produce a robust, adaptive American military establishment. It reduced the role of the Navy to delivering ground-war capabilities and supporting them. Also, as recent events have demonstrated, the two-MRC strategy claimed a capability that was unachievable—that of two quick, conclusive operations against foes who would bend to our will in "shock and awe" in the face of American might.

The strategy of seapower emphasizes the natural advantage of maritime preponderance to "*influence* actions and activities at sea and ashore." Below, described as four functions of navies, is an abridgement of the capabilities espoused in the sea services' "Strategy for 21st Century Seapower."

On the Seas

To ensure the safety of goods and services. A navy protects the *movement* of shipping and means of war on the oceans, and it safeguards *stationary* forces, to include nuclear-powered ballistic missile submarines (SSBNs), blockading forces, coastal patrols, and ships fixed on station for theater ballistic-missile defense. Currently the American sea services have a worldwide role of sweeping breadth.

To deny safe movement by the enemy. A seapower's navy must have the visible means to prevent movement of enemy shipping and means of war. The denial of *stationary* enemy forces such as SSBNs is a less clear-cut capability, but the symmetry holds in principle.

From the Seas

To deliver goods and services. A navy puts land forces ashore to seize and hold territory and delivers air and missile strikes for a variety of purposes. This was the Navy's principal role for the regional contingencies in the two-MRC strategy. The ability to project power overseas abides, but it is more diffuse and global in the new strategy.

To prevent enemy delivery of goods and services. A navy and coast guard protect the homeland from every threat. For many states, this has been the foremost function of their coastal forces. Until recently, the need for American homeland defense was nonexistent, because of maritime superiority. But the "Cooperative Strategy for 21st Century Seapower" makes clear that the threat of terrorist attacks has promoted the importance of this function.

The military object of a continental power is usually to gain or hold territory.[3] There has been nothing like ownership of the sea until recently. Ground operations are about geographic nodes of value. Maritime operations have been about the "arcs" that connect countries and their vital nodes on land. The Seapower Strategy says that this truism no longer holds. The increased value of ocean ownership—accompanied by many recent claims of ocean sovereignty—is a visible trend in world affairs. Going beyond long-standing disputes over fishing rights, in recent years the competition for seabed mineral resources has led to broad claims of ocean "ownership" that increasingly will threaten freedom of navigation and breed maritime confrontation.

THE CONDUCT OF OPERATIONS

Constitutional authority to employ the American armed forces is vested in the commander in chief, the president of the United States. An elected commander in chief creates a dilemma for the Department of Defense. The dilemma is particularly severe for the U.S. Navy and Marine Corps, with their global responsibilities, but it is unmentioned in the Seapower Strategy.

Its full complexity is best left for experts. But here are two examples. After the collapse of the Soviet Union and throughout the 1990s the United States had no peer competitor, diplomatic, economic, or military. The new strategy points out the need to be prepared for war but asserts that peaceful *influence* of another major power is coequally important and much preferred. While no peer is named in the strategy, and arguably the People's Republic of China has not yet attained that status, American relations with China are illustrative. Past and future administrations have at various times attempted to influence China and its neighbors through cooperation, competition, and occasionally confrontation.

As I have written elsewhere and the Seapower Strategy implies, it would be folly to threaten a war on the ground with China.[4] Hence a role for the Navy and Air Force must be constructed within a *maritime* strategy. It should demonstrate to China and its neighbors (stretching from Japan to India) an unflagging primacy of American interest in East and South Asia for the foreseeable future. The expression of our interest—variously economic, diplomatic, and military—will change with commanders in chief and their national security advisers. It will be no easy matter for the U.S. Navy and Air Force to design a capability to support alternating policies of cooperation, competition, and confrontation.

The second example of presidential power of decision lies at the other end of the spectrum, in what may be called "small wars" and "constabulary operations" made possible through American seapower, to include humanitarian operations in countries suffering from failed governance or natural disasters. The new Seapower Strategy emphasizes deterrence of conflict by peacekeeping presence,

notwithstanding that deadly conflicts will sometimes ensue. But the Navy cannot be everywhere. It must be able to *go* anywhere with, as the strategy stresses, a global reach and preponderant force, but where and when it is employed depends on policy choices made by future administrations.

Implications for naval force planning are twofold. First, a responsive navy must be composed of smaller, more numerous building blocks that can be scaled up or down to the circumstances. Peacekeeping and peacemaking tend to be long-drawn-out affairs that do not indefinitely require the massive striking power of a carrier battle group. Second, the command structure will be a mess of confusing authority, with extensive civilian participation, including private, nongovernmental organizations (NGOs). The many competing influences—and lack of coherence—in these operations will be, as they have been, ones over which the Navy has limited control. The Seapower Strategy gives high priority to improved integration and interoperability. It says that the need for proficiency is as much a matter of human skills in collaboration—General Eisenhower's talent writ small—as it is a matter of technological links. The central element of an effective network is its people. The new strategy emphasizes that these skills are difficult to master.

The need for force components to assist in small wars and constabulary operations is explicit in the Seapower Strategy. But the American navy is not yet designed to respond effectively and efficiently to all calls for peacemaking missions.

RESOURCES AND AFFORDABILITY

Without the means of war—the resources—a strategy is an aspiration. Resources provide capabilities. Capabilities come from money and skilled military personnel. The Seapower Strategy is to some extent cost conscious, but its implementation will depend on affordability, which will take intense thought by defense analysts. A maritime capability with global reach is not cheap, and no one will accept the strategy's aspiration until its costs in defense budget and people are specified.[5]

With a few provisos, the Seapower Strategy is flexible enough—that is to say, scalable in terms of force elements—to be put into effect. But we must assume that some provisions are rhetorical. Two examples.

The introduction says, "The United States Navy, Marine Corps, and Coast Guard will act across the full range of military operations to secure the United States from direct attack." It would be better to temper this aspiration by inserting "insofar as possible." The difference is between investing resources to build an impenetrable Maginot Line around North America and an affordable capability the value of which is weighed against other needs.[6]

The "Maritime Strategic Concept" says, in the third paragraph, "United States seapower will be globally postured to secure our homeland and citizens from direct attack and to advance our interests around the world." Later this unqualified ambition is tempered with, "While this strategy advocates a wide dispersal of networked maritime forces, we cannot be everywhere, and we cannot act to mitigate all regional conflict." Just so. The intention, I believe, and as I have asserted above, is to maintain sea services that can *go anywhere* at the call of the commander in chief but not *be everywhere*.

Affordable seapower will require the nicest sense of balance to achieve this global reach within a budget envelope. Balance is a matter of the right emphasis. Readiness to influence and head off a "major power war" looks more affordable if the other major power is not an abstraction. Our planning would be sharpened by regarding China as the major power of interest. Moreover, our positive influence must extend to China's neighbors as well. Then the strategy can be more affordably specific about partnerships, bases, and focused intelligence in East Asia.

The Seapower Strategy is salutary in promoting more attention to the two ends of the spectrum, with overdue emphasis on capabilities designed for small wars and constabulary operations. But nowhere do we find the relative weight of resources to devote to each end. The two capabilities are not mutually exclusive, nor by any means will the global American navy be two separate fleets, but close examination shows there is little overlap. The hard part will be to create a balance between the two ends.

Here is an example. When Britannia ruled the waves with a global navy to protect the empire, Sir Julian Corbett specified three components of the Royal Navy: the battle fleet to defeat any challenge to command of the sea; "cruisers" to patrol the sea lanes and protect British trade; and "the flotilla" of small combatants capable of fighting inshore, where battleships, with all their offensive firepower, could not venture because torpedo boats, submarines, and mines threatened cheap kills.[7] Upon the rise of the German High Seas Fleet in the decades before World War I, the first sea lord, Admiral Sir John Fisher, found himself between two unpalatable prospects. On one hand Great Britain saw a growing threat to sea control in the North Sea, while guaranteeing free trade and policing the empire. On the other hand, Fisher was under severe pressure from a Liberal government that wanted to transfer naval budget to social programs and an army that wanted more money for home defense against a German invasion. Collaborating with the prime minister in cutting the Royal Navy's budget was far from Fisher's Machiavellian mind, but working out a new Royal Navy composition while simultaneously scheming to effect it is a story that is pertinent for today.[8]

Some critics might worry that a bimodal force to influence China and fight small wars in many places abandons Navy capabilities to deal with "wars in the middle." These concerns are groundless. The present U.S. Navy is designed for such conflicts, and we are supporting them now. No one may infer that the Seapower Strategy would scrap existing combat power to buy and man a new fleet. Whatever the force implications of the new strategy may be, the forces in hand will remain with us for several decades in the future.

THE COMPOSITION OF FORCES

A new strategy is easier to construct than a suitable set of forces to carry it out. Existing forces will have to apply combat power in adaptive ways to meet the new strategic needs for the immediate future. Here are three examples from the American navy.

World War II. Between the Japanese attack at Pearl Harbor on 7 December 1941 and the beginning of the fleet's majestic sweep across the Central Pacific in November 1943 with the amphibious landing at Tarawa, every class of warship changed its function, excepting minesweepers. We achieved the changes by training to new ways of fighting. New methods of employment were just as great in the Atlantic theater, but with many differences to fight German U-boats and conduct amphibious assaults in Europe. We also installed component technologies, like hundreds of 20 mm and 40 mm antiaircraft guns, the VT fuse, radar, IFF, and the CIC.[9] We had the luxury of spending money and adding personnel almost without limit, a situation not likely to happen again. We made these sweeping adjustments—a true transformation of naval capability—in just two short years, by cutting a lot of red tape and with help from a Congress that was sympathetic to the task and did not attempt to overcontrol the budget process with "efficiencies." The Army, Army Air Force, Marine Corps, and Coast Guard also developed massive new capabilities, but theirs resulted during buildups from very small bases, whereas the Navy had entered the war with a substantial fleet that had to transform itself.

The Korean War. In June 1950, when North Korea came south, President Truman and his secretary of defense woke up overnight to the value of the Navy's sea-based air and amphibious assault capabilities, the special combat value of the Marine Corps, and the indispensable role of the merchant fleet. The Navy had been drastically cut, and its commissioned warships were being manned with half-crews. In this instance World War II ships were actually better suited for the "old fashioned" Korean war than were the air-delivered nuclear bombs of Secretary of Defense Louis Johnson's parsimonious strategy to contain the Soviet Union. For Korea, the nation needed the old Navy. It got it, because Navy

leadership had had the prudence to mothball hundreds of warships and merchant ships that could be brought back in a hurry. Trained personnel came from a Naval Reserve that was only six years out of date.

Vietnam. The fleet of the Vietnam War comprised ships designed to fight the Soviet Union. The ships in coastal MARKET TIME patrols were ill-suited misfits. Carrier aircraft had to learn new techniques for strike and ground support. The riverine force had to be built from scratch, and its hastily designed sensors, boats, and helicopters had many deficiencies.

In 1971, when the war in Vietnam was winding down, Admiral Isaac C. Kidd was commander of the First Fleet. His father having been killed at Pearl Harbor, everywhere Kidd went he preached "readiness now." He believed that training for deployment to Southeast Asia was preparing for the last war. He said we could not confront the Soviet Union with requirements for new systems in paperwork sent to Washington. He trained the fleet to fight with what it had by workarounds and self-help fixes. He wanted to be able to fight today, not next year. (That Ike Kidd had a different side, with a longer time constant, is best illustrated by his many productive years as Chief of Naval Material, when his Chiefs of Naval Operations, Admirals Elmo Zumwalt and James Holloway, were trying to reshape the Navy in the money-scarce post-Vietnam years.)

Therein lie three lessons. First, the Navy is a long-lead-time service. When strategy changes and new kinds of demands are imposed, we cannot scrap the fleet and start over. We retool it with some new technology and matching tactics—cutting red tape as we are allowed—but in most respects will operate for quite some time with the same ships and aircraft, as well as with the existing space satellites and communications networks, which have their own forms of inflexibility. In the short term, we adapt.

Second, we will not look as good—for example, in dealing with inshore combat operations or working with our partners in the "thousand-ship Navy"—as we could with time and budget to design systems expressly for the strategy.[10]

Third, we succeeded in World War II, Korea, and Vietnam because we had a firm place to go, known things to do, and (though, I blush to say, within fuzzy strategic goals in Korea and Vietnam) a purpose for which to train. The Seapower Strategy is not a war strategy but a peacemaking strategy, with different needs expressed. We will adapt to its new conditions by training the forces we have to new tasks. This will happen when our training institutions are imbued with the Seapower Strategy and know how it affects operations. We must also *educate our officers* in these new directions. The Naval Academy, Naval Postgraduate School, and the war colleges have different horizons and educate with

differing emphases on engineering, the humanities, the physical and social sciences, and the military arts. But no new strategy is instituted until it is being taught and new military technologies are being spawned. Admiral Gary Roughead, the new Chief of Naval Operations, will know whether the strategy is going to take off and fly as much by talking to our students as by talking to his flag officers.

DESIGNING FUTURE CAPABILITIES: LEARNING BY DOING

In the past five or six years we have seen a considerable effort to transform the armed services from the top down. A more productive way is sometimes from the bottom up. When our officers and petty officers have to fight insurgency in the littorals and rivers of Indonesia and the Philippines, when our carrier pilots are taught to compete with the finest Chinese aircraft, when our submariners have trained to defeat North Korean submarines in their shallow home waters, and when our forces ashore learn how to win the hearts of good people being intimidated by terrorists, then simultaneously they will tell us ways to improve sensors, networks, ships, aircraft, and the logistics of war.

We have seen this bottom-up approach in action. Unmanned aerial vehicles are now ubiquitous, because their value was obvious in the Balkans, Afghanistan, and Iraq and their cost-effectiveness unchallengeable. The tactics to face swarms of small combatants are being developed with accompanying search and attack systems. We have reawakened to the threats from mines and quiet enemy submarines that have for too long been virtually ignored.

Here are two examples of the bottom-up approach from the Naval Postgraduate School. First, the Cebrowski Institute has been working on "hastily formed networks," which is to say, systems that are not the rigid, permanent systems imposed from the top down, like the Navy/Marine Corps Intranet (the "NMCI"), but adaptable networks that can quickly be stood up to fill a vacuum of communications in unforeseen places. NPS students and faculty were on scene for both the Indonesia tsunami and Hurricane Katrina. They learned by doing how to collaborate with a variety of participants to reestablish communications from veritably a zero base. With this and other research as a springboard, the systems engineering analysis students' next Capstone Project will be to develop ways and means to conduct maritime interdiction operations in a logistically barren region.

As a second example of learning by doing, the dean of research fosters red-tape-free development of new sensor and network technologies, often provided at no cost by eager contractors. These are usually tried out in the field (seldom by computer simulations) at nearby Camp Roberts and Fort Hunter Liggett. Typically the gadgets are built into a system by attaching them to the school's fleet of UAVs. Because the program is funded by, among others, the

Special Operations Command, the vetted products are quickly deployed and tried out in action. If they work in war they are procured in numbers and sent to Iraq and Afghanistan.

Should not the partnerships promoted by the Seapower Strategy help develop new capabilities suited to the strategy? Here are three broad-based examples of learning on the job.

First, bilateral operations with Asian navies like those of South Korea, Japan, Singapore, Australia, and India should include collaborative learning on both sides. New open-ocean tactics, techniques, and technologies for us and them should result. By such collaboration the sea services (and also the U.S. Army) picked up on Australia's swift, seaworthy, highly adaptable, low-cost commercial High Speed Vehicles. We have tried out the HSVs in a variety of exercises and real operations. Their wave-piercing catamaran hulls have helped to break a forty-year logjam in mostly unrewarded American experiments with alternative hull designs like SWATH, air-cushion vehicles, and hydrofoils.

Second, more exploitation of the tactics and technologies of small navies like those of Israel, Croatia, Sweden, Norway, Denmark, and Germany can accelerate our competence in littoral operations, because each of these states has, over many years, developed the fighting ships and skills to operate in the hazardous and sometimes lethal waters off their coasts. Despite past study of the successes and failures of foreign inshore navies, it is hard to point to specific instances of American adaptation. Perhaps we ought to be more humble and admit that they are the experts who can teach us—for example, that we need not gild every lily with higher-tech, larger, more expensive ships and aircraft that we cannot afford to lose.

Third, the sea services can learn the art of effective foreign aid to underdeveloped countries, say, in the Caribbean and Africa, from *American* experts with decades of experience: special operations personnel, Army psychological operations specialists, and foreign affairs officers. Some of the states we should assist have no navies but ought to, in their interest and ours, to join to the international thousand-ship navy. One result of assistance should be simple, affordable, yet reliable equipment, because we will wish to train their navies for self-sufficiency, after which we should gift them the equipment.

In summary, a new strategy having been established, the American sea services can learn about, as well as teach, the tactics and technologies that help us transition to it. There are experts in littoral operations whom we should not hesitate to understudy. There are countries still emerging economically that we can help with artfully simple systems that we might well consider employing ourselves. The partnerships championed by the Seapower Strategy can be a major source of wisdom.

QUANTITATIVE ANALYSIS

Distinct from cost and budgeting is an effectiveness evaluation of the capabilities purchased. Sea-based forces have a quantitative story to tell that undergirds the new Seapower Strategy as forcefully as do kill probabilities and detection ranges.

Above I stressed that sea control prevents an enemy from attacking from the sea and gives a maritime state the power to choose the scene of action on a land power's coast. Naval operational maneuver is a great advantage of maritime powers, past and present. Strategists know this, and historians cite examples more recent than those in Mahan's classics. General Erwin Rommel probably failed to take Alexandria in 1941 because he needed an advance sea base, and a year later General Bernard Montgomery blamed his long land line of communication for his snail's-pace pursuit of Rommel across Egypt and Libya to Tunisia. The Mediterranean had been transformed into a sea too dangerous for merchant shipping.

Such descriptions are more meaningful when the underlying data calibrate America's maritime advantage. An amphibious force under way will move about five hundred nautical miles in a day. Modern containerships move faster still, but to compare sea with land movement I will take as a datum that independent shipping in World War II moved 250 nautical miles a day or more.[11] On land an army maneuvering at operational speed against weak opposition will advance about twenty-five statute miles a day. The famous German blitzkriegs in Poland and France moved no faster than that in 1939 and 1940. In Operation IRAQI FREEDOM the American army took three weeks to reach Baghdad—whether against weak or substantial resistance scarcely matters—which is, again, twenty-five miles a day. The Roman road system was designed to allow a legion to move thirty miles a day. In 1066 King Harold of England had to defeat a Norse attack at York and then immediately rush south to face William the Conqueror on the English Channel. Harold's army marched twenty-five, perhaps even thirty, miles a day to confront the French invasion at Hastings.

Concisely, in *speed of operational movement* ships have an order-of-magnitude advantage over an army. The advantage in mobility has been a great constant of ships for a very long time. In numbers of logistical *personnel required* to move a given force to the scene of action and sustain it, the advantage of ships over land transport is one or two orders of magnitude. It is reasonable to conjecture that in *weight of combat potential carried* to the scene of action per unit of energy consumed, the ships' advantage over ground transport may be as much as two and three orders of magnitude!

The introduction of aircraft and aerial logistics complicates this simplified description, but aircraft have never changed the threefold advantage of

seapower in offensive action, of selecting the point of attack, moving to it more quickly than an army can respond, and sustaining the operation with a modicum of personnel and energy.[12]

We have seen, on one hand, that the Seapower Strategy is powerful and timely as a unifying plan for collaborative action. It reaffirms values almost forgotten during the decade of the presumptive peace that never came to pass in the 1990s, and in the current decade, when conflicts in Afghanistan and Iraq draw excessive attention to ground operations. The new strategy speaks of global reach, the power to influence, and the attractiveness of worldwide partnerships.

We have seen, on the other hand, that the new Seapower Strategy is a necessary foundation but not sufficient, because it can express no more than aspirations. First, presidents and their administrations decide on employments among the possibilities afforded by global reach and maritime domination. The demands imposed by American commanders in chief will change, and the lives of their administrations will be short relative to the lives of the ships, aircraft, sensors, and command structures of the three sea services. Second, the strategy must take affordability into account, partly because that is the will of the people and partly because economic health and competitiveness are as important in the long run as military power. Third, the existing Coast Guard, Marine Corps, and Navy must suffice for the short term, so we must reorient their operational capabilities by education and training that respond to the strategy. Fourth and finally, experience gained in forthcoming multifaceted operations will lead to changes in force structure from the bottom up—if the leadership in and over the sea services are attuned to what will probably be a considerable set of changes.

NOTES

The author thanks for their constructive suggestions Captain Jeffrey Kline, USN (Ret.), Operations Research Department of the Naval Postgraduate School in Monterey, California (who also teaches an elective sequence in executive analysis at the Naval War College), and Professor George Baer, former chair of the Strategy and Policy Department at the Naval War College (who now teaches NPS students as a member of the Naval War College faculty at Monterey).

1. Among the many lists of principles, the most common near-synonym is *unity* (of effort). Henry Eccles, whose study of logistics in World War II is a classic, referred to *cooperation* as the vital ingredient of successful supply.
2. Professor George Baer pointed out this truism by Clausewitz to me.
3. Classic army strategy aims to destroy the enemy fighting forces and their will to resist. But these are means, not ends. At sea too, Mahanians say, the object of the battle fleet is to sink the enemy fleet, but Corbett and others have shown that that is not enough. A guerrilla war at sea by submarines, mines, and swarms of surface craft was and still is a severe threat to capital ships.

4. See W. P. Hughes, Jr., "A Bimodal Strategy for the National Maritime Strategy," *Naval War College Review* 60, no. 2 (Spring 2007), pp. 29–47.
5. Elsewhere I have suggested that half of the U.S. Navy's cost is probably accounted for by global reach. For example, an aircraft carrier is a remarkable instrument of international power because it can be dispatched wherever it is needed, but without aircraft it is just a mobile airfield. The life-cycle cost of the airfield is about the same as the cost of the air wing it supports.
6. Those who know that the Maginot Line was never breached will best understand the analogy. First, France poured so much money into it—costs overruns being no new phenomenon—that not enough defense budget was left over for the mobile forces that were essential to the concept. Second, the German panzers found a way to end-run the Maginot Line, and so will terrorists also find soft spots in a "perfect" defense.
7. J. S. Corbett, *Some Principles of Maritime Strategy* (Annapolis, Md.: Naval Institute Press, 1988 [1911]). See chapter 2, "Theory of the Means—The Constitution of Fleets."
8. See J. T. Sumida, *In Defence of Naval Supremacy: Finance, Technology and British Naval Policy* (New York: Routledge, 1993), and R. K. Massie, *Dreadnought: Britain, Germany, and the Coming of the Great War* (New York: Random House, 1991).
9. That is, the variable-time fuse, identification friend or foe, and the combat information center.
10. The felicitous term "thousand-ship navy" has been watered down in the strategy to the more formal appellate "Global Maritime Partnerships."
11. Convoyed shipping in the Atlantic moved more slowly, conservatively 150 nautical miles a day. In the age of sail, one hundred nautical miles a day in a trade wind was a reasonable expectation.
12. One must not claim that seapower permits a landing anywhere, viz., at the enemy center of gravity. The Normandy landings were deferred two years because any landing would be against the German "center of gravity."

Rear Admiral Pendley graduated from the U.S. Naval Academy in 1958 and served as a naval aviator in a wide variety of operational and staff assignments, commanding a squadron and an air wing. As a flag officer, he served as Director of Strategy, Plans and Policy; Commander, U.S. Naval Forces, Korea, and Senior Member of the United Nations Military Armistice Commission at Panmunjom; and U.S. Pacific Command Director of Strategy, Plans and Policy (J-5). In 1992, after retirement, he was appointed Deputy Assistant Secretary of Defense for East Asia and Pacific Affairs, and from January through July 1993 he was Acting Assistant Secretary of Defense for International Security Affairs. Until 1998, Admiral Pendley taught at the Air War College. He has published in numerous journals and is the coauthor of Nuclear Coexistence: Rethinking U.S. Policy to Promote Stability in an Era of Proliferation *(1994).*

THE NEW MARITIME STRATEGY

A Lost Opportunity

William T. Pendley

America is in a New Era that began over a decade and a half ago with the collapse of the Soviet Union and the end of the Cold War. Like all new eras in history, this one brings with it both new threats and new opportunities. For the United States to protect and advance its national interests and assure its survival, it must adapt to change and put in place a national strategy that will meet these new challenges. It is important that this new national strategy be supported by a comprehensive military strategy as well. One element of the military strategy should be a maritime strategy that provides for the most effective employment of maritime forces within a joint force strategy. *A Cooperative Strategy for 21st Century Seapower* (October 2007, available at www.navy.mil/maritime/MaritimeStrategy.pdf) is the latest in a series of attempts to do so. Unfortunately, like the national strategy publications to which it makes reference, the latest maritime strategy attempts to be all things to all people and therefore fails the test for any realistic and viable strategy. It reads more like a public affairs document developed at town meetings. Even a declaratory strategy requires several major elements if it is to be taken seriously.

AN ACCURATE ANALYSIS OF THE GLOBAL SECURITY ENVIRONMENT

First, a military strategy must provide an accurate analysis of the global security environment for which it is designed and in which it will be implemented. This new maritime strategy is at its best in this area. It recognizes the more complex world of this New Era. It avoids any references to a unipolar world or to America as the "indispensable nation." Such arrogant misrepresentations of the international system and America's role have contributed to the failure of U.S.

administrations to adopt a coherent and effective strategy for nearly ten and a half years. Many of the difficult situations the United States finds itself facing today result from that failure.

This new maritime strategy envisions a multipolar international system that may be on the strategic horizon. We are still, more accurately, in a nonpolar world, in which both nations and nonstate actors exercise a high degree of latitude and in which alliances have lost much of the appeal and reliability that were present in bipolar and multipolar systems of the past. The major powers today seek to maintain peaceful and mutually beneficial relationships among themselves without losing their freedom of action. None seeks the types of confrontational relationships or targeted alliances that marked the previous century. Leftover alliance structures from the Cold War have attempted to restructure and revise their roles and missions to maintain relevance in this New Era.

Recognizing the dramatic change in the global security environment has been difficult for a generation of foreign policy and national security elites who were shaped by the experience of the last half of the twentieth century. America was truly the indispensable nation of the late 1940s and the early Cold War, but 2008 is not 1948. This new maritime strategy makes a positive contribution to any strategic debate by moving toward a more realistic assessment of the new global security environment.

THREATS AND OPPORTUNITIES OF THE NEW ERA

Second, a military strategy must identify and prioritize the threats and opportunities that a new era brings. It is not adequate merely to catalogue threats, which is what this new maritime strategy does. To be relevant, it must prioritize the threats in terms of both their timing and danger to American national interests.

The most dangerous and imminent threats to American security and the safety of the homeland in this New Era are posed by radical Islamic terrorist organizations and the potential proliferation of weapons of mass destruction (WMD) and means of delivering them. While defeating those threats requires a comprehensive approach employing integrated political, diplomatic, economic, and communication strategies, it requires an effective military strategy as well.

Additionally, there are potential threats of being drawn into conflicts in Korea or the Taiwan Strait, where deterrent strategies have maintained the peace for over half a century. While these conflicts may seem improbable and deterrable for the foreseeable future, they cannot be dismissed. Any military strategy must therefore seek to maintain capabilities that will bolster deterrence and prevail in any conflict if political solutions fail.

At a secondary level there are the transnational threats of piracy, drugs, and human trafficking, transshipment of WMD materials, and so forth. Such issues

are highlighted in the new maritime strategy, since it labels itself a "cooperative strategy," and it is at this level that broad maritime cooperation is most feasible. These are traditional issues of interdiction appropriate for frigates or patrol craft and coast guard–type forces. This is where the "thousand-ship navy"—or as others have labeled it, the "thousand-ship coast guard"—has the best chance of becoming a reality. It is foolhardy, however, to assume that such broad maritime cooperation will be there for military action required to deal with the higher-level and more critical threats posed by proliferation or terrorist activities, not to mention should deterrence fail in the Taiwan Strait or Korea.

This new maritime strategy fails to differentiate clearly and prioritize present-day threats; accordingly, it lacks an essential focus. Every potential threat is listed, but a strategy to guide the investment of resources, alliance priorities and force development, basing, and deployments must provide both judgments and assessments, probabilities and priorities. This proposed maritime strategy fails in this, most conspicuously when it includes terrorism in the same breath as piracy, drugs, and human trafficking.

To be successful a strategy must also grasp opportunities that arise. The primary security threats to America being largely focused in that broad Islamic arc that reaches from Africa to Southeast Asia, there is an opportunity to reduce America's military footprint elsewhere. Doing so would counter arguments that the United States seeks some manner of global hegemony or empire and would reduce both the political burden for friendly governments and targets for terrorist organizations. Such redeployment would also allow for more appropriate utilization and strategic positioning of U.S. forces, including maritime forces.

Given the economic and political progress of Western Europe, it is possible to transition military leadership within a reformed and expanded NATO. Europe in 2008 is not the Europe of 1948. America is an Atlantic power, not a European power. Transition of military leadership and security responsibility in Europe and redeployment of U.S. forces from Europe would be long overdue recognitions of the political, economic, and security realities on the continent.

In Northeast Asia the same type of transition from a leading military to a supporting one is required. That transition has been slow in coming in Korea, despite the significant economic and political progress there. The alliance with Japan is a useful model, with the United States clearly in a supporting role in the military defense of Japan, consolidating and reducing its forces stationed there. Both countries benefit from a broader political alliance globally while making necessary adjustments in their military alliance. North Korea is not a significant threat to the United States. The regional powers—Japan, South Korea, and China—have far more at stake in peace on the Korean Peninsula and are better positioned both to maintain that peace and to encourage the type of internal

change required in North Korea. Northeast Asia of 2008 is not the Northeast Asia of 1953, and American military presence on the Korean Peninsula that was for many years essential may now be more a hindrance to progress and peace. America is a Pacific power, not an Asian power.

The United States was faced with a global challenge twice in the last century. First America and its allies faced the combination of Nazi Germany, imperial Japan, and fascist Italy. That was a real axis. Iraq, Iran, and North Korea are not in the same ballpark. Second, the Soviet Union and the communist ideology posed a global challenge during the Cold War. Attempts today to paint the terrorist threat as a global threat exaggerate its capabilities. China is the rising state in Asia, but it too faces severe domestic challenges and resource limitations; in military terms, it remains at best a regional power for the foreseeable future. If one removes the Taiwan issue, it is difficult to construct a realistic scenario for a Sino-American conflict. America faces no global threat from any nation, nonstate actor, or ideology, today or for the foreseeable future, that measures up to those faced in the past.

An effective military strategy must be focused on current strategic realities and future probabilities. It must deal with the threats that actually exist, not those it would prefer. It must also reallocate resources, evolve alliance relationships, and reposition forces to take advantage of change and the opportunities it offers. Because this new maritime strategy fails to identify and prioritize clearly threats and opportunities, what it advances is far too general and unfocused to serve as even a relevant declaratory strategy.

ENSURING AMERICAN SECURITY

Third, given that a strategy makes an accurate analysis of the global security environment and clearly identifies and prioritizes the threats and opportunities of the era in which it will be implemented, it must also lay out at its core how it will ensure America's security. How does it propose to succeed, and how does it differ from or support the current military strategy? Here this new maritime strategy is filled with internal contradictions.

The strategy argues that U.S. maritime forces will be "globally postured" and employ "persistent presence," while only paragraphs later it admits that "we cannot be everywhere." The first argument is obviously designed to support the maintenance of a powerful and, ideally, larger fleet and other maritime forces. The later contradictory admission is a recognition of a limitation of the resources that will be available for maritime forces absent a real maritime threat.

The strategy attempts to bridge this obvious disconnect with the theme of cooperative arrangements, such as the Global Maritime Partnership. Unfortunately, evidence to date is not convincing. Few nations have provided any

maritime forces to critical maritime operations in the Persian Gulf, the Arabian Sea, or the Indian Ocean off the Horn of Africa. These are the very maritime operations for which the strategy seeks a cooperative approach. The recent ending of Japanese Maritime Self-Defense Force refueling operations in the Indian Ocean and the Japanese withdrawal from the region indicate how fragile these arrangements can be even with America's closest allies.

While the discussion of international maritime cooperation and a thousand-ship navy makes for great press at an International Seapower Symposium, such a concept is not highly significant for an American military strategy. It is marginal at best and should occupy a paragraph or two focused on piracy, drugs, human trafficking, and interdiction of nuclear materials. Giving cooperative arrangements such heavy play in the strategy is counterproductive to arguments for stronger U.S. maritime forces. Critics will note that a thousand-ship navy is far larger than the six hundred ships the U.S. Navy sought during the height of the Cold War, when there was a maritime threat.

The strategy lists a host of maritime operations, extending from deterring major-power conflict to supporting civil authorities in homeland security to humanitarian operations. Nonetheless, it fails once again to provide any real prioritization or focus. This may reflect the obvious problem of constructing a single strategy that includes all three maritime branches: the Marines, the Navy, and the Coast Guard. While all operate at sea or from the sea, each has a very different focus and priorities. A maritime strategy that attempts to include all three must break down into separate individual subsections or, as is the case here, become far too general to be of significant value.

It is unfortunate that this latest attempt does such a good job of recognizing the change in the global security environment and identifying the broad spectrum of threats yet fails to provide a real military strategy. It promises to do everything, without any recognition of resource requirements or competing demands.

A CAPABILITIES-BASED STRATEGY?

The section titled "Implementing the Strategy" provides a list of core capabilities that U.S. maritime forces should possess: forward presence, deterrence, sea control, power projection, sea security, and humanitarian activity. There is a discussion of how each operational capability may be used and why it may be needed.

This section is well written and is reminiscent of discussions at the end of the Cold War, in the waning days of the G. H. W. Bush administration and the early days of the Clinton administration. With the collapse of the Soviet Union the strategic threat had disappeared, and without such a threat it was possible for the defense budget to go into freefall as the nation dreamed of a "peace dividend."

Casting about for a new enemy quickly revealed that there was no significant peer competitor or enemy state on the horizon. Some tried unsuccessfully to promote China, Japan, or a revived Soviet Union/Russia. Lacking a real conventional enemy any time soon, some proposed building a capabilities-based military strategy across a wide range of potential threats that might emerge in the future. Secretary of Defense Les Aspin, with his experience in Congress, quickly rejected such an approach. Democracies resist investment in militaries if there is not a real identified threat or strategic rationale related to the interests, safety, and security of the nation. The 1990s largely became a lost decade in strategic affairs, planning for threats that were not there while ignoring the emerging threats of the New Era.

Although the core capabilities listed in "Implementing the Strategy" are ones that any American maritime force should possess, they are, unfortunately, core capabilities in search of a strategy. The section of the proposed maritime strategy that deals with "Implementation Priorities" deals with management and administration of the force. It addresses integration of maritime forces and interoperability, as well as maritime domain awareness and the preparation of service personnel. These are all important elements in operating a maritime force but are not the real priorities for implementation of a strategy. Those priorities should be where forces would be deployed, what roles would be emphasized, and what maritime forces should be developed and deployed that would be most critical to the success of the strategy. The recent leaked memo detailing three different navies demonstrates both the absence of and the need for a real maritime strategy that contains such recommended priorities.

The new maritime strategy provides an adequate list of what capabilities a maritime force should have and states effectively the importance of interoperability, training, and integration of the force. This, however, will allow some to characterize the document as a capabilities-based, declaratory strategy despite the fact it lacks even a prioritization of capabilities. Given the fiscal realities, growing domestic demands, and the fact that the United States faces real and immediate threats, a capabilities-based strategy is not what is needed to make the tough decisions required for America's security.

A LOST OPPORTUNITY

The American people have tired of the role of global policeman and its inherent costs. While they expect their military to develop a strategy to defend the homeland and U.S. interests, the experiences of Korea, Vietnam, and Iraq make it highly probable that they will not support another major intervention or ground war on the Eurasian continent. The American people should expect a strategy that optimizes U.S. technological superiority and produces quick and

decisive military actions, not prolonged and seemingly indecisive conflicts. There are models in this New Era, such as the U.S. operations in the former Yugoslavia and the initial removal of the Taliban in Afghanistan.

A strategy to defeat terrorists that relies primarily on military forces is fatally flawed. If it also depends on large ground forces, interventions, occupations, and extended counterinsurgency operations conducted by other than indigenous forces, it plays to the strengths of the enemy. Such a strategy may initially benefit from the support of the American people, but as the conflict goes on that support will wane, giving the terrorists an opportunity for victory—not because of their military superiority or failure of U.S. forces but because the American military strategy is fundamentally defective.

A successful strategy for defeating terrorists must be a comprehensive one that integrates political, diplomatic, economic, and communications means. The military element of the strategy must concentrate on developing a robust intelligence system and a capability for timely strikes on targets at extended ranges with increased accuracy and lethality, from both manned and unmanned platforms. It must be an offshore strategy that avoids major basing or deployments inside Islamic nations, relying primarily on the use of special operations units, smart weapons, robust intelligence, and support for indigenous forces. While it is accurate to think of this as a long war in which terrorists will largely be contained or countered, terrorism will not be defeated in a traditional or conventional sense. It would be a serious strategic blunder to be dragged into an extensive series of military campaigns carried out by major U.S. ground forces inside the Islamic world.

Such a comprehensive strategy is also required in order to oppose proliferation. It too must have a military element. There are specific scenarios in which the threat requires military action to eliminate the development of weapons of mass destruction or their transfer to terrorists or regimes that support such organizations. The same offshore military means discussed above are applicable to halting the threat of proliferation if diplomatic, political, and economic measures are unsuccessful.

A meaningful military strategy must also defeat any area-denial strategy that China might employ to counter U.S. capability to meet its commitments to Taiwan. Deterrence in both the Taiwan Strait and in Korea depends on American ability to support their defense. An effective strategy must provide for appropriate forces to enforce sea control if necessary in surrounding areas for both power projection and direct support.

Finally, any military strategy for the United States must ensure the survival of a credible strategic nuclear deterrent. The maritime element is the most survivable strategic nuclear force and thus the most important part of the strategic deterrent.

The opportunity was there to develop a maritime strategy that would be effective against terrorist and proliferation threats while supporting deterrence in Korea and the Taiwan Strait and maintaining America's strategic nuclear deterrent. The United States and its major maritime allies, Great Britain, Japan, and Australia, are not continental powers. Such an alliance requires a maritime strategy that is based offshore, emphasizes intelligence, and provides for timely and decisive power projection from both sea-based platforms and land-based systems with intercontinental range. The absence of any significant discussion of sea basing is noticeable in this new maritime strategy.

While the purpose of a maritime strategy is to provide for the most effective use of maritime power to protect and advance U.S. interests, it can and should highlight the unique contributions that ground and air forces can make within such an offshore military strategy. It also must provide recognition that America's means and the will of the American people are not unlimited and that choices and priorities are therefore required in any realistic military strategy.

While it is easy to be critical of this new maritime strategy, the real problem that the United States faces is the lack of a coherent national strategy for this New Era. A national strategy must define the role America will play in the world and the ends that it will seek. It must also ensure that those ends are in balance with the will of the people. America's major challenge today comes not from enemies abroad but from neglect of the eroding domestic foundations of national power. Rebuilding America's domestic foundations and thus assuring America's future as a great power will require major adjustments in U.S. overseas commitments and military strategy.

It will be difficult, however, to envision a truly realistic and effective military strategy that deals with the external threats of this New Era until the United States faces up to the significant changes both in its global and domestic challenges and puts in place a national strategy. As it is, the maritime strategy provides a list of current and potential threats and a catalogue of the core capabilities for maritime forces. Beyond that, unfortunately, it marks a lost opportunity to develop a more effective and comprehensive military strategy to protect and advance America's interests in this New Era.

THE NEW MARITIME STRATEGY

The Rest of the Story

Robert C. Rubel

The U.S. Navy's new maritime strategy is contained in a fairly terse ten-page document that speaks in broad terms about how sea power should be used through the next ten to fifteen years to defend the nation and its global interests. Soon after its release, analysts, pundits, and naval officers began to offer criticisms and interpretations. A number of the articles, blogs, and e-mails demonstrate a clear misunderstanding of the strategy, or at least a failure to understand what the strategy is meant to do. The author, as the Dean of the Center for Naval Warfare Studies at the Naval War College, was in charge of the project to develop maritime strategy options and analyses for the Navy Staff. Without engaging in a defense of the strategy as written, this article will leverage its author's perspective to provide a deeper understanding of the strategy by discussing the findings that emerged from the workshops and games that produced the options, as well as some of the background logic that governed our approach to the project. It will also offer some personal analysis of the strategy's underlying intent.

It should be emphasized from the outset that the maritime strategy was written by a combination of officers on the staff of the Deputy Chief of Naval Operations for Information, Plans, and Strategy (N3/N5) and some participating civilian academics and contractors. The Naval War College delivered to them a series of options, to be discussed later, which they used as raw material in the composition of the strategy

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document. Throughout the development process, everyone avoided ascribing ideas to individuals, so that positions would not harden because of "ownership." Thus, while no particular person can be pointed out as the strategy's progenitor, a clear intellectual audit trail winds through the developmental events, including a war game and workshops, to the published strategy.

In June 2006, during the Secretary of the Navy–sponsored Current Strategy Forum at Newport, the Chief of Naval Operations (CNO), Admiral Michael Mullen, called in his keystone speech for the development of a new maritime strategy. He called for a strategy "of and for its time" and enjoined us to "elevate the discussion." Within two weeks after this speech, Vice Admiral John Morgan, the Deputy CNO for Strategy and Operations, visited the College to provide more detailed tasking. He specified that the strategy development process was to be a "competition of ideas" and was to be open and collaborative. These parameters were themselves rather revolutionary in the history of maritime strategy development, but two even more important pieces of guidance emerged from our discussions as well. When asked whether the project should be internationalized, he said yes. When asked if we were really working with a blank sheet of paper, with no a priori assumptions of fleet size or policy constraints, he said yes. This set of instructions put in train a strategic logic vector that heavily influenced project design and the nature of the final product.

From the outset, this project would not simply derive from existing strategic guidance, such as the National Security Strategy or the National Defense Strategy. This may seem somehow subversive to those who are used to military planning processes in which guidance from higher headquarters is regarded as holy writ. However, consider our situation—the project was undertaken at the end of the Bush administration and our requirement was to look ahead twenty years. We could not responsibly make the assumption that current U.S. security strategy would remain in place, and there was no adequate way to predict the direction of the next administration's policies. Our solution was to postulate four different potential strategy vectors of a future administration, which resulted in having four U.S. teams in a strategic war game we conducted. The first team represented a "Primacy" strategy, in which the United States would attempt to maintain its near-hegemonic status in the world. The second team adopted a "Selective Engagement" posture, in which the United States would focus its efforts on averting conflict among major powers. The third team played a "Cooperative Security" strategy, in which the nation committed itself to seeking security through multilateralism and international institutions. The fourth team represented an "Offshore Balancing" strategy, in which the United States retracted certain security guarantees and caused major powers to balance each other.

As the project transpired we attempted to find maritime strategy options that would be valid across two or more of these policy futures. Frankly, freeing ourselves from the dictates of current policy allowed us to perceive and accept gaming outcomes we might otherwise have missed. War games tend to "whisper" to you—that is, they produce subtle results within the context of their play that can be ignored easily, especially if they are things that defy conventional wisdom or are threatening to the game's sponsors.[1] Our strategic foundations game did indeed provide whispers, and we were able to hear them.

One of the things that improved our hearing was an initial workshop in which we brought together some of the "old hands" who had participated in the development of the 1980s Maritime Strategy (capitalized here to distinguish it from the current effort).[2] In that workshop, one of the participants asserted that what that strategy had had, and what had been missing since the end of the Cold War, was context. What he meant was that the Maritime Strategy told naval officers who they would fight, why, and where, in addition to how. The ". . . From the Sea" series of white papers issued in the 1990s had not—they had been more doctrinal in nature. The Navy needed to rediscover context if its strategy was to be compelling and useful. Another thread of discussion involved the need to "reglobalize" the Navy. There was no intellectual glue that linked operations in the Philippine Sea with those in the Persian Gulf or the Caribbean, although most participants in the workshop, as well as those in a number of different games in recent years, instinctively felt that what happened in one part of the world had important ripple effects in other parts. Thus, as we designed and played our strategic game, we were alert for any indications of what might constitute a new context for maritime strategy and a basis for global vision.

The Strategic Foundations Game took about six weeks to play and involved the four U.S. teams, one for each potential policy future, and five "strategic entities," countries and nonstate groups selected for detailed play. Teams were directed to develop grand strategies for the next twenty years that would maximize their security, aspirations, and interests. Non-U.S. teams were not required to demonstrate hostility to the United States unless that made sense in terms of their grand strategies. This represented a departure from normal gaming, in which worst-case scenarios are the rule. In the open adjudication sessions in which each team proclaimed its strategy, a compelling central thread emerged. Each state had an intrinsic interest in the effective functioning of the global system of trade, even such "rogue" actors as Iran and North Korea. Only al-Qa'ida and associated groups had endemic hostility to the system. This insight produced the "big idea" that the protection of the existing global system of trade and security (as opposed to the process of globalization) provided both the context for the new strategy and the intellectual glue that tied together all regions of the

world. Thus the notion of system security and defense figures prominently in the maritime strategy document, both "up front," in its introduction, and in the description of the maritime strategic concept. This could not have been more important—even, in its way, more revolutionary. It provided a basis for not only a maritime strategy but a national grand strategy not aimed against a particular country or threat but positive, without being aggressive. The strategic concept upon which the maritime strategy is based—defense of the global system of commerce and security—offers the opportunity for future administrations to adopt a clearly articulated grand strategic defensive posture, with all the political advantages that brings. As a defensive strategy, it makes global maritime cooperation much easier to attain.

While the game and workshops had no trouble identifying current and future threats, except in the case of Islamic extremists, these threats were either nascent or equivocal. Is China a true threat? How about a resurgent Russia? Iran and North Korea, while clearly potential aggressors, were not existential threats, and at least at this juncture did not seem poised to attack anyone. Moreover, glimmers of progress in reining in their aggressive tendencies seemed to exist. Thus it was difficult to pursue traditional threat-based planning convincingly. In developing the strategy, we realized that one of the real dangers, especially with regard to emerging powers, is that considering them hostile for planning purposes could be self-fulfilling. Thus we tried not to engage reflexively in threat-based or capabilities-based planning, techniques that would naturally assume the breakout of war. Instead, we realized, we had opportunities to disrupt the flow of events toward war. Accordingly, the new strategy reflects what I call "opportunity based" planning—positioning the maritime services to take positive actions to prevent war, protect the global system, and create a better peace.

The injunction to elevate the discussion also greatly affected the development process and the nature of the end product. The Navy has been afflicted in the past few years with a controversy of sorts over force structure. One camp asserts that there are new mission sets, such as homeland defense, the Long War, and humanitarian assistance, that require new kinds of forces. The other camp holds that the Navy should only build high-end combat forces and that these can be effectively used for less "kinetic" missions. A solution could not be found if the "dialogue" continued at the level of forces; therefore, the strategy project banned any discussion of force structure. Participants mostly followed this rule, and the options presented to the project's executive committee, consisting of flag-level representatives from the Navy, Marine Corps, and Coast Guard, contained nothing that would provide stimulus or opportunity for those who equate strategy with force structure to drag the discussion in that direction. As a result, the staffing and vetting process forced the "three stars" and "four stars" to respond in

kind, and this appears to have generated both a new level of dialogue in the Navy and a new strategic consensus. There are many who are frustrated that the new strategy makes no mention of force structure, but it does seem to provide an overarching logic from which future force structure could be deduced. At the very least, it is a consensus document that has to some degree knit the Navy together.

At this nexus of force structure and strategy, it is useful to interpret the strategy in light of the ideas of the two greatest maritime strategy theorists, Alfred Thayer Mahan and Sir Julian Corbett. In a sense, the new strategy is very "Corbettian," in that it requires that control of the seas—at least in the new sense of maritime security and maritime domain awareness—be exercised day in and day out. Corbett described two traditional concentration points for the Royal Navy, one near the French island of Ushant off Brittany to control the Channel, and the other in the Downs (a roadstead near Dover) to guard against invasion threats from the North Sea. These concentration points were established because Britain's proximity to them afforded little geographic strategic depth. However, fleets concentrated there could disperse for "systemic" sea-control duties, being always ready to regroup if a major threat developed near home.[3] Similarly, the new maritime strategy prescribes two concentration points, one in the Arabian Gulf and the other in northeast Asia, where important economic elements of the global system are near potentially aggressive states.[4] Per current U.S. Navy practice, these "combat credible" forces will "starburst," or disperse, for engagement purposes but can regroup quickly in case of need. Corbett said that commercial shipping elsewhere could be protected by cruisers and the "flotilla"—smaller ships that could deal with most threats short of first-class forces—types not normally encountered in the far-flung reaches of the empire. The analog today is the "thousand-ship navy," the loose network of navies cooperating for maritime security. The U.S. part of that flotilla will be those units assigned to Global Fleet Stations and other, more ad hoc deployments to catalyze greater levels of cooperation. The key word is *catalyze*. We would not build a fleet of patrol craft to do other nations' jobs for them. We would dispatch ships and other kinds of forces that would help other navies and coast guards adopt congruent strategies and provide them with the training and perhaps equipment to implement them. The exact types and numbers of forces required are not self-evident and need to be the subject of analysis and gaming.

The notion of two deployment hubs where strong naval forces are concentrated follows the logic of system defense. Just as Corbett acknowledged the necessity for concentration points in the home islands due to their proximity to threats emanating from Europe—that is, a lack of strategic depth—so too does this maritime strategy prescribe fleet concentrations in areas where there is little

geographic space in which to absorb an attack. The oil fields of Iraq, Kuwait, and Saudi Arabia are uncomfortably near Iran; Seoul is within artillery range of North Korea; and Taiwan is only a narrow strait away from the power of the People's Liberation Army. Certainly the oil fields of the Persian Gulf and the productive capacity of South Korea and Japan are key organs of the global system and must be protected. If deterrence fails, we must be ready and able to defend these areas. Again, the exact type and nature of forces needed to do this is not self-evident, especially since rapid technological development overseas has significantly morphed the kinds of sea-denial threats we will face. They must, however, be the most robust type of high-end combat forces.

The strategy has its Mahanian aspects too. One aspect of Mahan's writing that is widely ignored or misunderstood is his focus on deterrence. Mahan's world was characterized by the existence of great powers overseas that had navies capable of conducting operations in the Western Hemisphere. Mahan worried about the defense of the soon-to-be-opened Panama Canal and about other European adventurism in Latin America. His prescription for a strong battle fleet and its deployment was based as much on deterring outside intervention in the Americas as it was on protecting American interests overseas.[5] This notion of deterring a range of major powers through a strong, high-end fleet is an intrinsic part of the new strategy. Moreover, Mahan's prescription for a consortium of cooperating navies belonging to like-minded powers has a strong echo in the new strategy. In Mahan's era, Britain was the preeminent naval power, but there were others on the rise, including Germany, Japan, and the United States. Mahan could see that even the Royal Navy might not be able to police the world in an era where capital ships were becoming ever more expensive and any single nation might not be able to keep the seas free around the world. Thus he proposed that the navies of several nations act in concert (not necessarily in alliance) to make sure regional powers could not close off large parts of the ocean to trade.[6] Today, even though the United States enjoys a measure of naval relative advantage Mahan could not have dreamed of, the world is still too big for a single navy to act as sheriff of the seas. Therefore, the new maritime strategy advocates a consortium of navies and coast guards working together to assure maritime security, the new manifestation of sea control.

The strategy also implies a return by the U.S. Marine Corps to its expeditionary roots. The global distribution of forces for catalyzing cooperative relationships, preventing or containing local disruptions before they impact the global system, and for rendering various kinds of assistance is a recipe for the kind of flexible maritime maneuver for which the Marines are famous.

Prevention of war is a naturally deduced mission from the concept of system protection. Throughout history, nothing has been more disruptive to the free

movement of global trade than war among the major powers. Niall Ferguson in his *The War of the World* makes the case that the world was globalizing in the decades leading up to World War I. It was a world of multiple great powers that enjoyed unprecedented levels of prosperity but that was also infected by nonstate actors with various agendas. This world slid into a ruinous global war whose consequences afflicted it for more than seventy-five years.[7] One can make the case that, at the dawn of the twenty-first century, the world is just now getting back to globalizing in the way it was before the Great War tore it apart. Mark Twain famously said that history does not repeat itself but rhymes. Thus, in this globalizing world that is populated by one big navy and a number of growing ones, an implicit aim of the new maritime strategy is to help prevent a future slide into global catastrophe such as that of 1914.

There was another element of thought that attended the design of the strategy development process. The focus on grand strategy had not only to do with elevating the discussion in order to untangle force-structure controversies. More broadly, there was a feeling among several researchers in key positions that since the Cold War the United States had lacked a concept around which a coherent national grand strategy could coalesce. In the author's personal view, the concept of containment that had guided American policy and strategy throughout the Cold War had not been replaced with anything of similar geostrategic rationality. Most importantly, because the global conceptual glue mentioned earlier has been missing, American policy and strategy have tended to view the world as a collection of regions, each of which can be approached as an independent entity. The result has been that the United States, through successive administrations, has backed its way into a de facto Eurasian continentalist grand strategy, in which it has committed vast resources to projects of the kind one would expect to see from a major Eurasian land power attempting to establish buffer zones, almost as if California butted up against Iran. These projects included the enlargement of NATO to the east, the "'Stans' project" to secure bases and influence in the heart of Eurasia, establishment of ballistic missile defenses in Poland, and the invasion of Iraq. The danger of this rather ad hoc and inadvertent grand strategic vector is that it is leading to strategic overextension. There has been no compelling alternate vision or concept to deflect its thrust. The new maritime strategy does not, in and of itself, constitute that alternate vision, but our goal in helping formulate it was to find the kernel of an idea that could translate into a global concept that does not require the United States to intervene everywhere it sees trouble and that provides criteria upon which the advisability of potential projects could be judged. Neither the Weinberger nor Powell doctrine possesses suitable breadth of vision to serve in this role.[8]

It should be said at this point that the strategic logic expressed above was not meant to be a recipe for disengagement. "Offshore Balancing" was indeed one of the four U.S. policy futures examined, but in the end nobody thought that the United States should retreat from its strategic alliances or from its forward engagement, and especially not from the forward-deployed posture of its forces. Rather, it is meant to be an injunction to look at the world as a whole. At the global level, because the world is 70 percent water, grand strategy necessarily takes on a maritime flavor. Moreover, Eurasia is just one land mass; there are others. The United States is about to establish Africa Command. Africa is second only to Eurasia in size, and if Eurasia can absorb all the strategic resources of a powerful nation, then Eurasia, Africa, South America, and North America can overwhelm any power that seeks to use land superiority to assure its security. Leverage must be sought, maneuver on a global scale made possible, and criteria for investment and risk established. Only a global, and therefore maritime, grand strategic concept can provide the needed perspective and guidance. Thus it was from hopes of at least initiating a new dialogue on national grand strategy that the maritime strategy development process took its cue.

As it turned out, the Strategic Foundations Game and the several workshops did not produce the maritime strategy options in a straightforward way. Naval War College researchers were left with a considerable body of data, but the planned events produced no clear definition of options. Thus they set about trying to deduce strategy options from the four policy futures. This work produced five options. The first, called "Winning Combat Power Forward," was derived from the Primacy policy future and called for strong, war-winning forces to be deployed in the northern Arabian Sea and in northeast Asia. The underpinning assumption was that since deterrence could not be relied upon and sufficient strategic depth in these areas was lacking, strong forces must be positioned where they would be needed. The second option was based on the Offshore Balancing policy future and called for U.S. naval forces to be forward deployed only in the Persian Gulf. The rest of the Navy would remain in home waters, in a "surge" status. Monetary savings of this posture would be used to increase force structure or to transform the Navy. The third option called for a focus on securing the global commons as a key element in the health of the global system. This option seemed to have relevance across most of the policy futures. The fourth option, one that came "over the transom" from outside the College, called for high-end forces to combat anti-access capabilities in northeast Asia and low-end forces for the Long War and engagement elsewhere. The final option, another one that came in from an outside source, was an outgrowth of the Selective Engagement policy future and called for raising war prevention to the same level of importance as war winning. Prevention was to be achieved through a combination of deterrence through

strength and widespread engagement to reduce the causes of discontent, resource competition, and failed governance that could spawn wars.

These five options were offered to the Executive Committee. These were quickly winnowed down to three: war-winning power forward, securing the global commons, and war prevention. These three were carried forward for staffing and, eventually, were all combined into a single strategy—the one that has been published.

In looking at the completed document, an important aspect to note about the strategy is that it is meant to operate continuously. In this respect it is very different from contingent warfighting strategies of the past that would only be invoked in case of war. It is also different from the doctrinal strategy contained in the ". . . From the Sea" white papers. This strategy is meant to prevent wars and ensure a better peace by deploying and operating forces in a systemic fashion. Some have termed it a policy, not a strategy, and that may be true, but in my view it constitutes a way of achieving strategic ends, which makes it a true strategy.

Another way to assess strategies is to consider how they use force to achieve their goals. Some are meant to achieve definitive checkmates of an enemy, either through brute force or maneuver. Others are coercive, posing threats or imposing destruction in order to extract concessions. This strategy is catalytic; its aim is to get our maritime services, our future administrations, and indeed all governments and navies of the world thinking in terms of cooperating to protect the global system.

The new strategy was announced in October 2007, and already there has been considerable analysis and critique. In reviewing the articles and blogs on the strategy, I have observed two principal criticisms or objections to it. The first is that it does not identify specific threats. A number of commentators feel that the strategy should have specifically mentioned China, Iran, and North Korea, at a minimum, as threats that need to be countered. My answer to this is that if the strategy's purpose is to prevent war among major powers and generate the widest possible maritime cooperation, why create hostility by singling out specific countries as threats? That is especially the case with China, with which we have a deeply interdependent economic relationship and which is working hard on conducting a "peaceful rise" foreign policy. It turns out that the strategy is getting some favorable reviews from the Chinese, which seems to me to be a small step forward that would not have taken place had we listed that nation as a threat. As the UNESCO preamble says: "Since wars begin in the minds of men, it is in the minds of men that the defenses of peace must be erected." To this end the Naval War College has already started implementing the strategy, by hosting a workshop with the Chinese navy on cooperation and avoidance of incidents. I think that remarks made concerning naval cooperation between the United States and China by a Chinese

scholar in attendance at the workshop bear repeating here: "Thus, cooperation on noncompetitive issues may lay the interactive and cognitive basis for further joint efforts to mitigate the consequences of maritime and naval competition."

Another criticism is that the strategy does not prescribe force structure. As I already mentioned, the controversy over force structure that exists in the Navy cannot be solved by simply declaring a particular fleet size or composition in the strategy. For starters, such a strategy would have never survived the staffing process. By focusing on global strategic issues and ways, the strategy provides a basis for evaluating the utility of future force-structure proposals and avoids "taking sides."

No strategy document of ten pages can adequately explain the complex thinking that spawned it. It is clear to those who worked on developing the document that it can be easily misinterpreted, which is the price for being concise. It is also the price of producing a consensus document based on a highly collaborative development process. But we hope that separate explanations, such as this one, can help people better interpret what the maritime strategy document is really saying.

NOTES

1. For this and other gaming phenomena, see the author's "The Epistemology of War Gaming," *Naval War College Review* 59, no. 2 (Spring 2006), pp. 108–28, esp. p. 124ff.
2. For the development of that strategy see John B. Hattendorf, *The Evolution of the U.S. Navy's Maritime Strategy, 1977–1986*, Newport Paper 19 (Newport, R.I.: Naval War College Press, 2004).
3. Sir Julian Corbett, *Some Principles of Maritime Strategy* (London: Longmans, Green, 1918). See part 2, chap. 3, for a discussion of concentration and dispersal; see part 2, chap. 2, for a discussion of the roles of cruisers and the flotilla.
4. U.S. Navy, *A Cooperative Strategy for 21st Century Seapower*, pp. 4–5, available at www.navy.mil/maritime/MaritimeStrategy.pdf and reprinted in the *Naval War College Review* (Winter 2008), at www.nwc.navy.mil/press/review/documents/NWCRW08.pdf.
5. Alfred Thayer Mahan, *Naval Strategy* (Boston: Little, Brown, 1918), pp. 18–19. See also his *The Interest of America in Seapower Present and Future* (Boston: Little, Brown, 1918), pp. 182–83.
6. Mahan, *Interest of America in Sea Power Present and Future*, pp. 110–16. Interestingly, Mahan talks about the need not to force alliances but to let common interests, in this case between the United States and Great Britain, lead to a natural naval cooperation. This very much reflects the logic of today's Global Maritime Partnership—formerly known as the "thousand-ship navy."
7. Niall Ferguson, *The War of the World* (New York: Penguin, 2006) p. 73.
8. The Weinberger Doctrine, enunciated in 1984, and its derivative successor the Powell Doctrine (really a neologism concocted by journalists, but see Powell's article "U.S. Forces: Challenges Ahead" in *Foreign Affairs* for Winter 1992/1993) pose a series of questions that should be answered in the affirmative before military action is deemed both appropriate and practicable. The first question—Is a vital national security interest threatened?—reveals the shortcoming of both, as neither offers any geostrategic concept that would help an administration answer it clearly.

NO OIL FOR THE LAMPS OF CHINA?

Gabriel B. Collins and William S. Murray

The ubiquitous *Made in China* stickers and labels on consumer products remind us daily of China's incredible economic rise. The world is accustomed to this powerful phenomenon and seems to expect that China's economy will grow at 10 percent annually for at least another decade. Such remarkable economic progress has lifted millions of Chinese out of poverty and also substantially benefited the global economy. It is also arguably the cornerstone of Chinese Communist Party legitimacy.

Western and Asian hunger for inexpensive Chinese goods fuels much of this growth, but China's economic engine cannot run without imports of raw materials, such as bauxite, iron ore, timber, and, perhaps most significantly, crude oil. Once a significant exporter, China became a net importer of crude in 1993 and now struggles to deal with this dependency.

Chinese security analysts fear that oil import dependency is a potential pressure point that could be exploited by future adversaries of the People's Republic of China (PRC).[1] Approximately 80 percent of China's 3.3 million barrels per day (bpd) in crude oil imports passes through the Straits of Malacca. Such funneling could facilitate interdiction of China's oil lifeline in times of crisis.[2] The United States, India, and Japan are all seen as potential blockaders, but Chinese observers appear to believe that only the United States has both the capability and the will to blockade oil shipments to China.[3] One recent Chinese article postulates that the most

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likely triggers of an oil blockade of China include a fight over Taiwan and a situation in which China's rise becomes hostile and directly threatening to other major powers.[4]

Some Chinese analysts argue that the need to protect shipments of oil and other vital raw materials is a key driver behind the PRC's intensive aerial and naval modernization programs.[5] Yet despite impressive improvements, the People's Liberation Army Navy (PLAN) lacks the ability to defend the sea lines of communication (SLOCs) over which Chinese oil supplies flow. Among other limitations, the PLAN lacks guaranteed access to ports for refueling, repairing, and replenishing as well as adequate numbers of at-sea-replenishment vessels necessary to support long-range missions. More fundamentally, the PLAN rarely undertakes long-distance operations, which would provide vital training and experience for SLOC-protection missions.

In contrast, some of Beijing's potential adversaries have decades of blue-water experience, world-class logistical capacity, global access to replenishment ports, and doctrine and equipment oriented toward warfare on the high seas. Beijing's strategists recognize this disparity and are presumably devising plans to counter any possible future efforts to cut China's petroleum umbilical cord.

This article examines potential Chinese responses to possible forms of energy blockade.[6] The first two sections discuss how a distant blockade might be conducted and surveys possible Chinese responses to such an action. The third section hypothesizes a close blockade and then analyzes potential courses of action in response. The fourth section examines the possibility of a "blockade by convoy," while the final section considers an energy-denial strategy that would target China's ability to transport and process crude oil.

The authors conclude that an energy blockade of China would not only fail to achieve its objective but also send destructive shock waves through the global economic and political landscape. Frankly discussing energy sea-lane security will, ideally, promote trust and lay a foundation for deeper energy security cooperation between China and other major oil consumers.

ASSUMPTIONS

The imperatives of continued economic growth and global interdependence among states make major wars unlikely. Nonetheless, this analysis assumes a state of war between the PRC and the blockading state. Even an "embargo" implemented as a measure short of war would likely trigger open hostilities, because it would threaten China's continued economic growth and would be interpreted by Beijing as an intolerable and unjustifiable breach of sovereignty. We assume, therefore, that Beijing would interpret a blockade under any name as an act of war and would respond accordingly.

This article also assumes that if faced with an energy blockade China would restrict or prohibit the use of private automobiles and other nonessential transportation and ration the sale of all liquid fuels to commercial users. These and similar measures would reduce PRC oil needs, perhaps even to levels that could be sustained with domestic production and Kazakh and Russian pipeline and rail imports. China's indigenous oil sources currently provide more than 3.5 million bpd and by 2010 could reach 4 million bpd. For comparison purposes, in fiscal year 2004 the U.S. military, fighting wars in Iraq and Afghanistan and sustaining normal operations as well, used approximately 395,000 bpd of oil.[7] While U.S. military fuel consumption levels cannot be directly correlated with those of the Chinese military in a hypothetical context, these figures strongly suggest that even in a high-intensity conflict the PRC would have access to sufficient fuel to run its military machine, as well as most portions of its current economy, assuming that the export channels and the import of critical nonenergy imports continued unabated.

We acknowledge that a blockade that prohibited fuel imports while permitting the continued shipment of other raw materials to China, as well as the export of finished products, is an artificial and unlikely contingency. A comprehensive ban on maritime shipping in and out of Chinese ports would have a far more powerful effect than an energy blockade alone. However, much of the Chinese internal discussion on blockades deals directly with the possibility of a maritime energy blockade.

MODES OF BLOCKADE AND POSSIBLE PRC RESPONSES

The Distant Blockade

An energy blockade of China could be initiated at such choke points as the Malacca and Hormuz straits, both of which lie far from the Chinese coast. Chinese analysts worry, perhaps with good reason, that a relatively small number of warships could in that way effectively sever China's oil lifeline. After all, a distant maritime energy blockade might be very attractive to civilian policy makers and military planners preparing for conflict with China. If successful, such a course might achieve political objectives with very low levels of violence.[8] Additionally, at least in the near term, there would seem little that China's conventional military forces could do to challenge such a blockade directly.

One of the greatest obstacles facing the PRC in such a scenario would be the distance of the energy choke points from its naval bases. China's naval vessels rarely operate very far from their home waters or for very long and, with a few exceptions, probably lack the experience necessary to undertake extended, distant missions during wartime. Compounding this weakness, Beijing's limited

number of replenishment vessels is inadequate for and inexperienced in sustaining distant operations.[9] In the near term, therefore, any PLAN counterblockade task force would be operating at or beyond the limits of its professional ability and combat range. Blockading forces, on the other hand, would probably suffer from neither limitation. Another feature of the long distances involved is that PLAN ships would likely be detected well before they could bring their weapons within range, if not immediately after departing their home ports. During its entire transit, therefore, a PRC surface action group would be vulnerable to subsea, surface, and aerial threats at locations of the blockading force's choosing.

Another symmetrical option available to the PLA would be attacks by air-launched antiship cruise missiles (ASCMs) against blockading vessels. Yet the distances involved, the likely early detection of incoming aircraft, and the lack of an adequate in-flight refueling ability would be severe impediments. Furthermore, PRC bombers and strike aircraft operating far from mainland China would be highly vulnerable to surface-to-air missiles (SAMs), land-based air-superiority fighters, and carrier-based aircraft. China possesses approximately ninety highly capable Su-30 fighter bombers that could conceivably reach the Straits of Malacca, conduct strikes against enemy surface warships there, and return to base. Such an operation would, however, require a level of proficiency in aerial refueling and long-range strike operations that the PLA has yet to demonstrate. Thus, successful aerial attacks against blockading forces are presently unlikely, although the situation could change if the PLA develops the doctrine, infrastructure, and experience necessary.

Alternatively, China could threaten distant blockading ships with its submarine force. However, its submarines would be at a disadvantage; any attempt to transit from a mainland base to the Straits of Malacca would have to overcome the antisubmarine efforts of the blockading powers, some of which could be extremely sophisticated.[10] Beijing's diesel-powered submarines would be forced to snorkel frequently, greatly increasing the probability of detection and destruction. China's limited number of notoriously noisy nuclear-powered attack submarines (SSNs) could deploy from their North Sea Fleet base but would be vulnerable while en route. PLAN submarines also rarely undertake long patrols and so are likely to have little institutional knowledge of how to conduct such an operation.

China's submarines, furthermore, would have little utility if the blockade were conducted in the Straits of Malacca. Many portions of those waters are too shallow to allow the submerged passage or sustained operation of any submarine. If the blockade were on the western approaches to the strait proper, PLAN submarines would have to either pass through on the surface, and be readily detected and attacked, or transit submerged around the Indonesian archipelago, making the

journey that much longer and more challenging. For a variety of reasons, shallow waters greatly inhibit the use of torpedoes, thereby depriving submarines of their most lethal weapons, at least in many areas of the straits. ASCMs would also be of limited use, since their difficulty in discriminating among targets would make successful attack on a warship in the crowded strait statistically unlikely, especially from longer ranges.[11] The same arguments apply to the Strait of Hormuz. PLAN submarines, consequently, are not a counterblockade panacea, though the threat they represent cannot be completely dismissed. It must also be said that should the Shang or follow-on classes of Chinese SSNs—or even, to a somewhat more limited extent, air-independent-propulsion diesel submarines—prove sufficiently quiet and are capably operated, the threat they would pose to surface warships would be significantly increased.

Since Beijing has limited ability to oppose directly forces conducting a distant energy blockade, it might seriously consider taking retaliatory actions elsewhere.[12] One option available includes using submarines to mine the entrances to a blockader's commercial ports and naval bases. Others include using short- and medium-range ballistic missiles to pummel regional targets and attacking a blockader's replenishment ships with submarines.[13] There is strong evidence that China has developed a land-attack cruise missile similar to the Tomahawk.[14] In the near future, this weapon, particularly variants launched by long-range bombers or submarines, could be employed against a wide range of critical regional targets, giving China a powerful asymmetric response option. The PLAN could also mine the approaches to an opponent's harbors with submarines or converted merchant ships. Defending against these threats would tax the blockading navy by forcing individual ships to be on the tactical defensive throughout the region, thereby straining the theater's military forces overall as they struggled to protect vulnerable infrastructure. A host of other escalatory steps could be taken in response to an energy blockade, perhaps even including the use of nuclear weapons, notwithstanding China's "no first use" pledge.

But if the distant blockade seems relatively attractive from a blockading state's point of view, its implementation poses several critical challenges. Captured ships would have to be sent to a central marshaling area. If the crew proved unwilling, the blockader would have to supply a prize crew of mariners to take the ship there, in addition to a warship escort. This could be a complex undertaking, especially if multiple vessels were seized in a short period of time. It is unlikely that many military sailors have the necessary knowledge to operate oil tankers, and certainly naval ship-manning requirements are not set with an eye to prize crews. Selecting the marshaling area would also likely be problematic, since Southeast Asian states might balk at openly abetting the blockading state.

Further, many, if not most, harbors are too shallow to allow the entry of deep-draft supertankers.

Aside from the seized tankers themselves, blockading forces would face the perplexing issue of what to do with the seized crews and cargoes. Tanker crews are often multinational.[15] The owners of seized ships and cargoes would presumably vigorously protest to their governments;[16] their pressure, in turn, on the blockading state to release the ships might lead to the phenomenon, not infrequent in blockades, of having to seize the same ship more than once.[17]

The oil trade's flexibility would also make a distant blockade difficult to execute. Fifty-two tankers pass through the Straits of Malacca daily, carrying approximately 11.7 million barrels of crude oil.[18] A blockading naval force would have to determine which of these tankers carried, among them, the roughly 3.3 million of these daily barrels that were bound for China.[19] Presumably, tankers sailing under PRC flags or having known PRC ownership would also be relatively easy to distinguish and stop. Yet only about 10 percent of China's energy imports are presently carried on domestic hulls, a fact that would force a blockader to identify and intercept the other 90 percent.[20] A very large crude carrier (VLCC) of 250,000 deadweight tons (DWT) serving the Arabian Gulf–Far East route typically carries just under two million barrels of crude oil per trip. This suggests that as few as two VLCCs can carry China's daily crude oil imports, and that would seem to bode well for a navy contemplating a distant maritime energy blockade. Yet the tankers carrying oil to China on any given day could be in any of a wide range of configurations, depending on commercial concerns that will be discussed shortly, and their number could range from two vessels to ten or more. This larger prospective volume suggests that identifying in advance which tankers are destined for the PRC would be problematic. Each tanker passing through the strait, therefore, would have to be boarded, and its shipping documents examined. Any tanker with a legitimate bill of lading that stated the oil was destined for Japan, Korea, the Philippines, or elsewhere would have to be allowed to proceed;[21] those stating a PRC destination would be seized.

But a distant blockade would be easy to defeat using conventional commercial means. For instance, it is not unusual for cargoes to be sold between ports of embarkation and destination; some oil cargoes are resold on the spot market as many as thirty times while the tankers carrying them are still at sea.[22] This suggests that the cargo of a tanker with a legitimate bill of lading for, say, Korea could be sold to PRC interests after it had been inspected at the blockade and allowed to pass. This feature of the modern oil trade would greatly reduce any state's ability to determine a tanker's final destination by examining only the bill of lading. In addition, oil cargoes are frequently "parceled out," with one tanker carrying oil bound for several consumers.[23] For example, of a VLCC's two-million-barrel crude oil cargo,

five hundred thousand barrels might be headed to Singapore, five hundred thousand to South Korea, and a million to the PRC. If an embargo against oil shipments to China seemed imminent, parceling would likely quickly rise as Chinese oil importers sought to avoid being singled out. Even if a shipper honestly declared that a quarter of the cargo was headed to China, a blockader might create very serious diplomatic and economic repercussions if it detained a vessel that was also carrying crude to South Korean and Singaporean buyers. This would be particularly true in the case of a conflict over Taiwan, as regional nations might resist taking sides in a confrontation between the PRC and an outside power.

Shipping documents can also be forged. Forgery can be quite sophisticated, especially if (as it no doubt would be in this case) abetted by the PRC government. The blockading force would probably find no tankers with bills of lading that declared China as their destination. The Chinese government and state-owned energy companies could almost certainly offer private shippers and oil producers sufficient compensation to ensure their complicity in such a scheme.

Another issue would be how to stop a ship that simply refused to stop and be boarded. Sinking an uncooperative supertanker seems implausible in conditions short of total war, given the value of the cargo, the environmental havoc created by the resulting oil spill, and the threat to the civilian crew. With high enough stakes, a blockader might use the minimum force necessary to ensure compliance, but serious diplomatic repercussions could follow disabling fire directed against a foreign vessel (e.g., a Greek or Norwegian supertanker). A blockader would probably be able to stop uncooperative ships without gunfire or other lethal force, but those means could be overtaxed if enough ships resisted boarding. Beijing could orchestrate disobedience; blockaders might encounter ten vessels in one day that refused to stop.

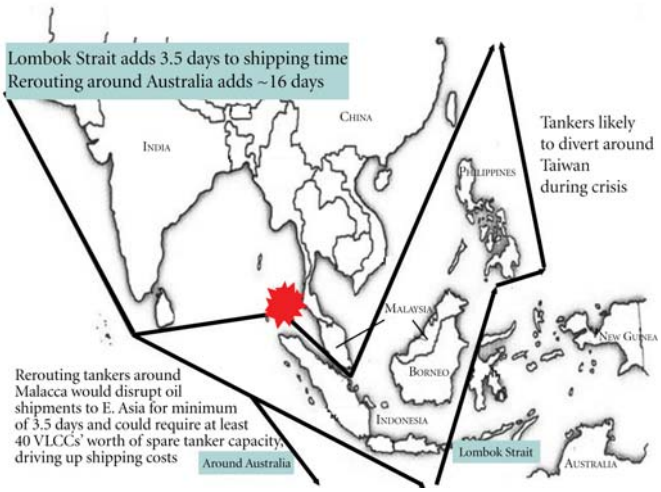
Maritime insurance and its effect on oil transport during war is also worth consideration. Under normal operating conditions, hull insurance for a tanker runs between 2.5 percent and 3.75 percent on an annualized basis.[24] Thus, a tanker owner operating a $130 million VLCC can expect to pay $8,900–$13,300 a day in insurance costs. Lloyd's of London, like other insurers, however, automatically revokes hull insurance upon any outbreak of war between China and the United Kingdom, France, the United States, or Russia, potentially meaning that all shipping to and from China would automatically stop during hostilities.[25] In practice, however, cargo owners and shippers can obtain compensating coverage, known as "hull war risks and strikes" policies, if they operate in a declared war-risk exclusion zone.[26] In waters so designated, rates can climb to 7.5 percent to 10 percent of a ship's value on a per-trip basis, meaning that the same VLCC operator would have to pay between $8.9 and $13.3 million per trip to

insure his ship while it was in the danger zone.[27] Beijing would have to subsidize such costs, either directly or indirectly, if it wanted delivery of oil on privately owned vessels to continue.

PRC state-owned tankers could conceivably be self-insured and thereby continue oil delivery to the home country without paying such premiums. This may explain recent efforts by Chinese nationally owned shipping corporations to build and operate larger fleets of oil tankers. In addition, it is possible that the PRC could entice shippers and shipowners with direct payments or through some type of laundering mechanism. A high enough return can induce some shippers to send vessels into war zones without insurance. Crews willing to sail them can also be found, for the right price.[28] In such ways, insurance barriers during blockades would likely be overcome.

Yet another method of sidestepping the blockade would involve avoiding the Malacca Straits altogether by sailing tankers through the Lombok and Sunda straits, or even circumnavigating Australia and approaching East Asia from the open Pacific.[29] This would render a distant blockade even more unlikely to achieve its goal and would necessitate additional forces. Tanker rerouting would result in four to sixteen days of disrupted oil shipments to East Asian consumers depending on whether shippers rerouted through the Lombok Strait or all the way around Australia. That in turn would drive up shipping rates and final prices for all oil consumers. The figure shows the increased tanker demand and delivery disruption times that would result from rerouting tankers around the Malacca Straits.

PRC TANKER REROUTING OPTIONS



In any case, a distant blockade would be unable to interdict oil transshipped from neighboring nations to China. The blockading state could exert pressure on East Asian nations to prohibit such transshipments, but the economic incentive to allow them would doubtless be considerable. Furthermore, preventing transshipment would mean intercepting—in close proximity to the mainland—large numbers of smaller ships carrying oil cargo into China, a problem that will be discussed shortly.

Estimating Required Forces. The practical problems associated with conducting a distant blockade suggest a robust force structure. That would have a high opportunity cost, because it would reduce the number of ships available to deal with the conflict that prompted the blockade in the first place. The number of surface warships necessary to conduct a distant blockade can be roughly estimated. The driving factor is the need to ascertain which tankers passing through the Straits of Malacca contain oil bound for China. If each tanker must be boarded, a given warship can send teams on board four tankers in a twenty-four-hour period, and fifty-two tankers pass through the strait every day, as at present, thirteen surface warships are needed. If the number of tankers requiring boarding could be winnowed—say, if bills of lading could somehow be verified electronically—the number could be reduced. Perhaps then six surface warships would be able to conduct the necessary boardings and inspections, with one dedicated replenishment vessel.[30]

The ships on station, however many there are, would also require in-theater replacements for maintenance or combat casualties, as well as backups should any of the blockading ships be diverted to escort or pursuit functions. It appears then, that at least ten surface warships and two replenishment vessels would be required to establish an effective and protected distant blockade at the Straits of Malacca. This number would increase proportionally if the Lombok Strait, Sunda Strait, and the route around Australia also had to be patrolled. The authors estimate that three surface warships and accompanying replenishment vessels per additional strait would be necessary to provide reasonable assurance that all passing tankers could be boarded, inspected, and if necessary escorted to a quarantine anchorage. This gives a minimum total of sixteen surface warships and four replenishment vessels, counting neither the supporting forces that would be necessary to interdict and defeat any attacking PRC counterblockade forces or the units necessary to relieve the initial group. Clearly, only large navies would be capable of contemplating such a blockade.

More Limitations, and PRC Options. In addition to the problems mentioned above, a distant maritime energy blockade would be unable to prevent the overland transport of oil into China. As with the transshipment to smaller ships, economic incentives would drive oil delivery to China in significant amounts via pipeline, train, truck, or other means. Russia currently ships over three hundred thousand barrels per day of oil to China by rail and anticipates being able to pipeline up to 280,000 bpd of crude to northern China by the end of 2008. Severing these overland oil flows would require attacking critical infrastructure deep within Chinese territory, with all the escalatory risks such strikes would entail.

Notably, no blockade of China in history has succeeded without Russian acquiescence.

China also has diplomatic options should it be subjected to a blockade. Unless China committed some misdeed of such magnitude as to unite the international community against it, a blockading power would likely face Beijing alone. China's vital role in the global economy means that a blockader, while it might be militarily superior, would face extreme international pressure to conclude operations quickly. Such pressure would rise steadily as economic damage mounted, whereas even if conducted flawlessly the blockade would probably take months or even years to register its full effect; eventually the blockader would alienate its allies and even become an international pariah. Meanwhile, international diplomacy would severely hamper the blockade. Beijing would doubtless employ its proven diplomatic ability to align states sharing its energy and economic interests, thus raising the diplomatic, economic, and even military costs for the blockader.

Among other diplomatic options, the PRC might decide or threaten to proliferate previously denied arms to states unfriendly to those conducting the blockade, or renege on previous agreements that benefited the blockading state. Beijing could also reflag its tankers to a third nation and thereby greatly complicate the legalities involved in boarding them. It is likely that Chinese planners, believing that an energy blockader could in some such way convince or compel some states to acquiesce to boarding, searching, and interdiction, might place vessels under the flags of states that a blockader would be reluctant to confront. Such ships could sail through a distant blockade with impunity, unless the blockading state were prepared to risk broadening the conflict.

China might also attempt to disrupt the energy systems of its opponents. Hurricane Katrina demonstrated the fragility of Gulf Coast oil production, refining, and distribution; other nations dependent on hydrocarbon imports doubtless have similarly vulnerable concentrations of energy infrastructure. China could conduct physical or electronic attacks against such critical nodes and so limit the amount of oil blockading nations could themselves import. Attacks against financial, electrical, and even food distribution networks are also conceivable and could have very profound effects.

In short, although China would not be able to counter a distant oil blockade effectively by traditional military might, it would likely be able to reduce a blockade's effectiveness greatly by commercial, diplomatic, and unconventional military means. Even if Beijing could not maintain its peacetime level of oil imports, domestic production, overland importation, and restrictions on consumption would allow it to hold out as long as the population remained convinced that the objective that had brought about the blockade was worth the cost.

Simultaneously, global business and diplomatic interests would doubtless clamor for a resumption of trade with China. Such a scenario would seem to be to Beijing's, and not a blockader's, advantage.

The "Supply Side" Blockade

A state contemplating an energy blockade against China might consider a "supply side" blockade, in which major oil exporters would be forbidden to sell oil to China. Such an approach could be enforced by either inducing the countries to reduce exports by an amount equal to their average exports to China or monitoring outbound tankers and taking punitive actions against those carrying cargoes to China. A supply-side blockade, however, would likely require the use of force to achieve cooperation from recalcitrant oil exporters like Iran or Venezuela, thereby substantially widening the conflict. In addition, by reducing the total amount of oil available to the world market, a supply-side embargo would trigger frantic bidding by China and other major consumers, causing increased costs for all oil consumers, including those in the blockading state. Furthermore, as the 1973 Arab oil embargo demonstrated, the embargoed country eventually receives oil, even from the embargoing states, at increased prices and through third parties. A supply-side blockade, consequently, would be neither effective nor feasible.

The Close Blockade

If a distant blockade cut off delivery of oil to China via large tankers, it is likely that delivery via smaller vessels would increase, in response to this new demand signal. A blockading state would be forced to consider a close blockade.

A close blockade would entail placing surface warships in close proximity to China's three major oil-handling port concentrations, Guangzhou/Hong Kong, Shanghai/Ningbo, and Tianjin/Dalian. Each of these concentrations would require perhaps six surface combatants to conduct the boardings, inspections, and, if necessary, seizures of ships attempting to run the blockade. Blockading forces would also have to be prepared to stop, or at least greatly reduce, the coastwise traffic of smaller ships between Chinese and other Asian countries. In all, a close blockade would require tens of surface warships near the Chinese coast. The risks to them in a wartime environment would be substantial; the blockading state would probably quickly find itself in a naval and aerial war of attrition. A blockading state would be tempted, in order to achieve the upper hand in such a scenario, to strike at PLAN supporting infrastructure (e.g., command and control nodes, fleet headquarters, and fuel depots). Such actions could prove dangerously escalatory and define a critical difference between the distant and close blockades.

Blockade by Convoy

Another option available to the blockading state would be to implement a system of convoys—not for defensive purposes but to ensure compliance with an energy embargo against China. Each convoy would consist of tankers bound for neutral and friendly Asian states and would be escorted by a surface warship. No other tankers would be permitted to sail in eastern Pacific waters. That seems simple, but assuming that five VLCCs per day would be needed to supply non-Chinese Asian oil demand, the logistics would overwhelm most or even all navies. Each group of five VLCCs would require a round-trip sailing time of upward of twenty days between Singapore and Japan or South Korea—which are the two largest non-Chinese oil consumers in Asia—plus a two-day turnaround, making cycles of twenty-two separate convoy groups, one leaving per day; each would need at least one escort and corresponding replenishment ships. Additional ships would be required to allow maintenance to be performed on the escorting ships and to establish patrols to ensure that no cheaters entered China from the east or from other routes. All this would require an enormous force structure; it could be mounted only by the largest of navies, and only with the active cooperation of neighboring states.

CALIBRATED ENERGY-ACCESS DENIAL AND POSSIBLE CHINESE RESPONSES

Given the shortcomings of the maritime blockade options discussed above, a blockading state might seek an alternative way to deny China energy imports. A possible method of at least partially achieving the intent of an energy blockade would involve preventing China from processing and distributing oil, regardless of how it got into the country. China, like all other major oil consumers, is vulnerable to precision attacks on key energy infrastructure, such as refineries and pumping stations. The destruction of critical infrastructure components could almost completely deny China the ability to process crude oil or transport refined products efficiently. This could conceivably be achieved with minimal destruction and violence while minimizing risk to attacking forces.

A sufficiently capable adversary could conceivably destroy such a target set in a very short time. Conversely, an attacker might adopt a calibrated approach as a method of demonstrating resolve and increasing incentives for negotiated settlement. In such a scheme, oil off-loading wharves and adjacent strategic petroleum reserve facilities could be attacked first, followed perhaps by pumping stations on the Chinese portion of pipelines carrying oil from Kazakhstan and Russia, and finally, if necessary, by strikes on oil refineries. With key refining units thus disabled, China would lose the ability to produce liquid fuels from petroleum for six or more months.[31]

Yet unlike imposing a naval blockade, which can be quickly reversed, destroying refinery components that take a half-year or more to replace would have serious long-term repercussions for China's economy and would effectively constitute an irreversible act, likely to trigger conflict escalation. Compounding these escalatory dangers, Russia and Kazakhstan could react strongly to the loss of significant portions of their energy exports and to the prospect of political, social, and economic upheaval on the other side of their Chinese borders.

PRC military planners undoubtedly realize that the destruction of energy infrastructure could appeal to an adversary. The PRC's heavy investment in advanced air defense systems, such as the Russian SA-10 and S-300 and indigenous variants like the HQ-9, suggests that countermeasures to precision weaponry upon which such a scheme would depend are being acquired.[32] China could also defend against such a campaign by stockpiling parts necessary for quickly rebuilding critical energy nodes. Fear of precision conventional attacks on energy infrastructure and other critical potential targets could also explain why China's naval modernization seems designed to render its fleet able to push opposing forces beyond the "first island chain," and hence eventually out of manned tactical aircraft and cruise missile range.[33]

If China were subjected to a precision energy infrastructure destruction campaign, it could employ the same retaliatory options described earlier. Nonetheless, Beijing's symmetrical military response options would be less likely to be effective, since naval forces supporting the precision campaign would operate at distances from China sufficient to provide some measure of safety. This difficulty in responding in a parallel manner would, however, only increase the escalatory pressures that accompanied the crisis leading to the blockade's imposition.

An even more critical failing of an energy denial campaign is that it immediately involves strikes conducted against the PRC mainland. This is antithetical to the purpose of naval blockades, which could be considered a desirable use of military power specifically in that they rely on a limited use of force that can be modulated and, if necessary, withdrawn quickly, with little permanent damage done. In contrast, any actions, such as those involved in a precision energy-denial campaign, that significantly endanger Chinese economic growth also threaten the survival of Chinese leaders and their regime's legitimacy, thereby producing extreme escalatory pressures. Beijing has long maintained a nuclear deterrent, which is being made extensively more survivable through the addition of a long-range ballistic missile on new missile-carrying submarines (SSBNs) and road-mobile ICBM systems. Occasional mutterings and dark allusions from senior PLA officers suggesting a willingness to trade nuclear blows raise real questions as to what constitutes Beijing's nuclear "red lines." One would hope that such scenarios would be

avoided in all but the most fundamental and unconstrained struggles for national survival.

RECALIBRATING CONVENTIONAL WISDOM

A distant naval energy blockade, though it could be conducted with low to moderate tactical risk with some navies' force structures, could probably not prevent the delivery of oil to China by means of alternative sea routes, falsified bills of lading, or transshipment of oil via third parties. Such a blockade will become even less feasible as China extends the reach and lethality of its naval and aerial forces. A close blockade, on the other hand, would require large numbers of ships to operate in close proximity to the PRC's impressive and increasingly lethal antiaccess weaponry, where they would be subject to attrition, with attendant escalatory risk. A blockade by convoy would also require a very large force structure, and a supply-side blockade of oil shipments to the PRC would only drive up prices for all global oil consumers.

None of these blockade schemes could prevent the flow of oil into China via pipeline, rail, or truck, and none could prevent China from extracting oil from its interior oil fields. In 2005, domestic sources accounted for over 60 percent of the oil that China consumed. That same year imported oil constituted only about 10 percent of China's overall energy consumption. These numbers strongly suggest that China could withstand a complete denial of seaborne oil imports. Furthermore, effective blockades typically take years to achieve their goals and even then succeed only when they are a part of a comprehensive military action that usually includes invasion or massive aerial bombardment.[34] It is difficult to imagine a limited-war scenario that would justify such actions by any blockading nation.

The primary conclusion of this article's examination of blockade scenarios, then, is that, contrary to what appears to pass for conventional wisdom among naval analysts and observers in the PRC, China is not fundamentally vulnerable to a maritime energy blockade in circumstances other than global war.[35] This view has far-reaching implications. For one, it suggests that China does not need to build up naval capacity for the purpose of defending energy SLOCs against potentially hostile naval forces.

Such a realization might recalibrate internal Chinese discussions in ways that increase transparency and engender increased trust between China and concerned regional powers. This in turn potentially opens the door for much more meaningful naval and SLOC security cooperation between the PLAN and other navies. The twin trends of China's skyrocketing resource demands and the accelerating tendency of regional countries to modernize their navies creates a dire need for frank discussions on core energy and maritime security issues.

Including tough subjects like blockades puts the discussion in concrete terms and may help participants move beyond the "talking" stage and into policy implementation.

Seeking deeper understanding between China and other regional and global powers would help reduce tensions and foster more effective multilateral solutions to energy transport security. This might be accomplished by such measures as encouraging the International Energy Agency to accept China as a full member, increasing military-military contacts, and offering to share strategic petroleum reserve management expertise. For players on either side of a potential conflict to play, whether accidentally or explicitly, on China's sense of vulnerability to an energy blockade is destabilizing and ultimately erodes security of all sides.

NOTES

The views expressed are the authors' personal thoughts and analyses and do not reflect official assessments or policies of the Department of Defense or other agencies of the U.S. government. This article borrows extensively from the authors' *China's Energy Strategy: The Impact on Beijing's Maritime Policies,* forthcoming in 2008 from the Naval Institute Press.

1. See, for example, Gabe Collins, Andrew Erickson, and Lyle Goldstein, "Chinese Naval Analysts Consider the Energy Question," in *Maritime Implications of China's Energy Strategy: Interim Report* (Newport, R.I.: Chinese Maritime Studies Institute, Naval War College, December 2006).
2. See P. Parameswaran, "U.S., China, India Flex Muscle over Energy-Critical Sea Lanes," Agence France-Presse, 4 October 2006, available at www.defensenews.com.
3. 凌云 [Ling Yun], 龙脉 [The Dragon's Arteries], 现代舰船 [Modern Ships] (October 2006), pp. 8–19.
4. Ibid., p. 15.
5. Lei Wu and Shen Qinyu, "Will China Go to War over Oil?" *Far Eastern Economic Review* 169, no. 3 (April 2006), p. 38.
6. Throughout this article the word "blockade" will be used to describe efforts that seek to deny the transport and delivery of products—in this case, petroleum-based energy—to a given nation. The legal requirements and definitions of a blockade can differ from the hypothetical conditions put forth in this article, but such differences would not prove insurmountable to a nation intent on denying another's access to energy during war. The authors also recognize the many compelling reasons to consider a war between China and the United States highly unlikely and undesirable.
7. Sohbet Karbuz, "The U.S. Military Oil Consumption," *Energy Bulletin,* www.energybulletin.net/13199.html.
8. The method of blockade assumed in this article is the boarding and searching of suspect ships. Those with contraband would be either seized or forced to proceed to holding areas, while those with authorized cargoes and destinations would be allowed to proceed. This article does not envision the selective or indiscriminate sinking of suspect vessels in conditions other than unrestricted warfare.
9. Deployments by PLAN vessels such as that of the Luhu-class destroyer *Qingdao* and a replenishment vessel to the west coasts of Canada and the United States in the late summer of 2006 are among the infrequent exceptions to this rule.
10. The distance from the PLAN's submarine base on the south coast of Hainan Island to the Straits of Malacca is approximately 1,200 nautical miles. PLAN diesel submarines can travel submerged quietly at a maximum speed of approximately four knots without rapidly depleting their batteries. Assuming, then, that they can travel nearly one hundred nautical miles a day, they will require twelve days to travel from their base to the Straits of Malacca. After arriving,

PLAN submarines would have to operate in and around the very crowded and shallow waters of the straits against the combined, formidable, and concentrated antisubmarine efforts of the blockading force. Success for a PLAN submarine in such an environment is far from assured.

11. Autonomous weapons like ASCMs do not generally discriminate well among potential targets, instead attacking whatever radar return first satisfies their arming and attack criteria. Hence, one Chinese-manufactured C-802 ASCM fired by Hezbollah against the Israeli *Hanit,* a Sa'ar 5 corvette, on 14 July 2006 missed and instead is alleged to have struck and destroyed an Egyptian merchant vessel. Another, of course, hit its target. See Yitzhak Shichor, "Silent Partner: China and the Lebanon Crisis," *China Brief* 6, no. 17 (16 August 2006), available at www.jamestown.org/publications_details.

12. Bruce Blair, Chen Yali, and Eric Hagt, in "The Oil Weapon: Myth of China's Vulnerability," *China Security* (Summer 2006), have noted a doctrine of PLAN escalation in naval warfare, quoting former PLAN commander Liu Huaqing as having written in his memoirs, "When enemies attack our coastlines, we will attack our enemies' home base" (p. 43).

13. Although operations of this type could ultimately prove unsuccessful due to PLAN inexperience, any blockading force would have to honor the threat and deploy assets accordingly.

14. "Land Attack Cruise Missiles (LACM) Hong Niao/Chang Feng," Globalsecurity.org.

15. For example, a Norwegian ship-owning company specializing in the maritime transport of petrochemical gases, liquid propane gas, crude oil, and liquid natural gas recruits officers and crews for its ships in St. Petersburg, Russia, and Wuhan, China. These ships are then chartered to major international companies. See *The I. M. Skaugen Group,* www.skaugen.com.

16. Using modern communications, a ship about to be seized would surely tell its owners of this fact; they in turn could inform the cargo owners, who could sell the cargo on the spot market. A VLCC carrying a 300,000-ton shipment (about 2.2 million barrels) of crude has a cargo value (at ninety dollars a barrel) of nearly $200,000,000. Such enormous financial stakes would doubtless result in sophisticated maneuverings that would greatly complicate the challenge of determining cargo ownership. It is also conceivable that the PRC government and its oil companies could set up shell companies that would permit any tanker threatened with boarding to sell its cargo almost instantaneously to what appeared to be a non-PRC buyer.

17. James Goldrick, "Maritime Sanctions Enforcement against Iraq, 1990–2003," in *Naval Blockades and Seapower, Strategies and Counter-Strategies, 1805–2005*, ed. Bruce Elleman and S. C. M. Paine (London: Routledge, 2006), p. 210.

18. The fifty-two-tankers-per-day estimate is derived from information reported to the Malaysian Vessel Traffic Service at Klang; it is available from Malaysian Vessel Traffic Service statistics posted on the Malaysian Marine Department website, www.marine.gov.my/misc/index.html. For the barrels-per-day figure, see "World Oil Transit Chokepoints, Strait of Malacca, November 2005," at *Energy Information Administration,* www.eia.doe.gov/cabs/World_Oil_Transit_Chokepoints/Malacca.html.

19. In 2005 China imported approximately 27 percent of the oil that passed through the Straits of Malacca bound for either China (3.1 million barrels per day imported), Japan (5.2 mbpd), South Korea (2.2 mbpd), or Taiwan (1 mbpd) (see "Top World Net Oil Importers, 2004," at *Energy Information Administration,* www.eia.doe.gov); 3.1 million barrels of oil can be carried on as few as two VLCCs or on any number of smaller ships.

20. "China Needs More Supertankers to Ensure Oil Supply Security: Report," Xinhua News Agency (11 August 2006), english.people.com.cn.

21. A bill of lading is a document issued by a shipper acknowledging that specific items have been received on board as cargo to be shipped to a designated destination for delivery to a consignee, who is usually stipulated.

22. *The International Crude Oil Market Handbook 2004,* 5th ed. (New York: Energy Intelligence Group, 2004), p. A12.

23. This observation was made during an interview with a former VLCC officer. It is also mentioned in John S. Burnett, *Dangerous Waters: Modern Piracy and Terror on the High Seas* (New York: Penguin, 2002), p. 43.

24. See, for example, P. Manoj, "War Risk Insurance for Indian Flag Ships Liberalized" *Hindu Business Line,* 28 December 2004, www.thehindubusinessline.com.

25. Michael D. Tusiani, *The Petroleum Shipping Industry,* vol. 2, *Operations and Practices* (Tulsa, Okla.: PennWell, 1996), pp. 216–17.

26. Ibid.

27. See, for example, Perrine Faye, "Iraq Attacks Drive Up Oil Tanker Insurance," *Middle East On Line,* 28 April 2004, www.middle-east-online.com/english/?id=9821. Interviews with industry specialists suggest that in some cases the charges cited in the text can be incurred daily.

28. During the Iran-Iraq Tanker War some crews agreed to sail in the Persian Gulf for triple pay; Tusiani, *Petroleum Shipping Industry,* p. 217. Willing crews would be even easier to find during a blockade marked by seizures rather than sinkings.

29. An excellent summary of the limitations and delays involved in rerouting oil tankers if the Straits of Malacca were closed can be found at Mokhzani Zubir, "The Strategic Value of the Strait of Malacca," *Maritime Institute of Malaysia,* www.mima.gov.my.

30. These half-dozen combatants would require protective forces, since distance and shallow water alone would be insufficient to ensure their safety. If the blockading navy possessed one or more aircraft carriers, their air wings could provide welcome self-defense, surveillance, and reconnaissance, all of which would benefit the blockade. Any such carrier, however, would require additional surface ships and submarines for self-defense, as well as a dedicated replenishment vessel.

31. This estimate is based on authors' conversations with experienced refining specialists.

32. China's SAM order of battle is partially described in "Surface-to-Air Missiles,"*Chinese Defence Today,* www.sinodefence.com/army/surfacetoairmissile/default.asp. China's advanced SAM acquisitions are also described in the 2005 "DoD Report to Congress on the Military Power of the People's Republic of China," pp. 12, 23, 32, available at www.defenselink.mil/news/Jul2005/.

33. For discussion by a PLAN senior captain of the imperative to extend the operational capabilities of China's navy in this fashion, see Xu Qi, "Maritime Geostrategy and the Development of the Chinese Navy in the Early Twenty-first Century," trans. Andrew S. Erickson and Lyle J. Goldstein, *Naval War College Review* 59, no. 4 (Autumn 2006), p. 62.

34. The allied blockade of World War I, the Union blockade of the Confederacy, Britain's blockade of Napoleonic France, and the U.S. blockade of Japan in World War II are cases in point.

35. Other recent research supports this assertion. Using two calculation methods, a 2006 analysis concluded that a total stoppage of seaborne oil into China would reduce Beijing's gross domestic product (GDP) by 5.4 to 10.8 percent. The study noted that this reduction in GDP would either halve (best case) or nearly eliminate (worst case) China's continued annual 10 percent GDP growth. This would certainly be painful for China but by itself would be unlikely to provide PRC leadership sufficient incentive to enter negotiations to end whatever conflict had precipitated the blockade. See Blair, Chen, and Hagt, "Oil Weapon Myth," p. 43.

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THE "TRIANGLE OF DEATH"

Medical Sustainability in Expeditionary Sea-Based Operations

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The futuristic concept of joint, geographically dispersed, expeditionary (or "distributed") operations emanating from bases at sea entails many challenges. Among them are the formulation and design of afloat casualty-care capabilities, especially where maneuver forces are inserted into territories devoid of land-based logistic support. In expeditionary amphibious operations during the past century, ad hoc creative shipboard adaptations for treatment and salvage of the combat wounded occasionally proved successful and functionally effective. If flexible and adaptive joint operational medical support is to be made available in the future, an appreciation of these historical achievements is essential. Further, if the frequently irretrievable physical deterioration of the injured—metaphorically, the "triangle of death"—is to be avoided, familiarity with the immediate needs of the combat wounded is likewise imperative, especially the unique requirements of wounds seen in contemporary armed conflict.

THE OPERATIONAL CONTEXT: DISTRIBUTED SEA-BASED OPERATIONS

Sea-based forces in the future will be involved in a wide array of missions, ranging in scale from disaster relief and humanitarian operations to full-fledged sustained combat at sea and ashore; in some conflicts, the bulk of fighting will be undertaken by joint or combined task forces. In this setting, an inclusive concept of joint sea basing—a "distributed warfighting architecture," attuned to the strategic environment and the likely security challenges of the twenty-first century—has been proposed. A distributed network implies a transformation of maritime forces—fewer maritime platforms, geographically dispersed and integrated with organic and distributed sensor and communications nodes. It

connects all the platforms and major systems deployed by the U.S. sea services—ships, submarines, aircraft, unmanned vehicles, and Marine units, as well as joint and combined forces—in a way that facilitates information sharing and affords operational commanders fully networked battle forces.

It is generally postulated that the distributed, sea-based, and networked force will be capable of countering anti-access and irregular-warfare challenges in the littorals and will be less inherently vulnerable. Consequently, it will require less force protection, and will be at less risk of catastrophic mission degradation than traditionally organized forces.[1] Nevertheless, it cannot be ignored that the availability to potential adversaries worldwide of inexpensive, advanced weapons and sensors has increased the risks always associated with ship-to-shore movement. Ample respect must be given to the 250-nautical-mile range of contemporary antiship cruise missiles, as well as to the shallow- and deep-water capabilities of mines (some now incorporating state-of-the-art sensors and processors to complicate countermeasures). Furthermore, these sensors and weapons—which utilize precision, speed, stealth, maneuverability, background clutter, and surprise—will presumably target the afloat sustainment base, whose big, slow ships include prepositioned units with hulls not built to combat standards, these generally characterized as "access sensitive vessels."[2] Such ships invariably have little time to defend themselves against weapons employed at the short ranges likely in the littoral. This was exemplified by the sinking of the unarmed but strategically important British transport MV *Atlantic Conveyor* by an errant Argentine Exocet missile while it carried multiple helicopters to support United Kingdom forces in the Falkland Islands.[3]

In addition, the complicated task of preventing or rapidly detecting the laying of mines, and the subsequent difficulty or impossibility of clearing them in waters covered by a coastal defense system (including diesel submarines and missile-equipped fast patrol boats) will ultimately oblige task force ships with their medical facilities to move to seaward. That, in turn, will have major implications for casualty survival.

AVOIDING THE TRIANGLE OF DEATH

The expeditionary logistical calculus must always include the possibility of human casualties (sickness or wounds, incurred ashore or at sea), and that reality must be factored into every operational equation. Contingency health care considerations must be integrated into plans; neglect of these critical elements can ruin any grand operational design.

Unfortunately, forward medical support in an over-the-horizon insertion of forces into hostile terrain, far from supporting facilities and with no initial lodgment ashore, can be hampered by isolation and dispersal of units, obstacles to

tactical radio communication, and limits on vehicular transportation. Small units will be required to extract and evacuate their own casualties, with resultant delays in meaningful treatment.

Concurrently, as a result of the current mandate for compactness and simplicity of maneuver units, landing force medical units have been lightened and downsized. Though combat operations could penetrate some two hundred miles inland, the technical capabilities of their medical assets have been lessened. All this implies greater dependence upon afloat resources, with the hopeful, but perhaps unrealistic, expectation that the sick and wounded can be rapidly evacuated to them. Unfortunately, sea-based operations may be subject to geographic limitations, making the time and distance constraints upon timely delivery of casualty care formidable. Although bases established at sea may have access to the approximately 70 percent of the earth's surface that is ocean, ground forces employed or sustained by them only have access to land areas within range of their ship-to-shore aircraft. While various sea-basing scenarios have been structured to support operations with flight distances ranging from 110 to 220 nautical miles from the launching ships, actual inland reach for sea-based aircraft might be considerably shorter for a number of reasons: the ships in a sea base would be expected to remain "over the horizon" at least twenty-five nautical miles offshore to make them more difficult to detect and attack; sea-based ships cannot always be positioned perpendicularly offshore (for the shortest distance) from supported ground units; once over land, aircraft are likely to fly evasive flight paths to make it more difficult for an adversary to position defenses along their routes.

If efforts must be made to avoid air defenses, increases of roughly 30 percent in flight distances can be expected as well. Those considerations could reduce the effective operational reach inland to as little as sixty nautical miles for current aircraft, and about 130 for the planned longer-range heavy-lift rotorcraft. Furthermore, high terrain in the vicinity of the coast could further limit operations because the performance of rotorcraft decreases with increasing altitude. (Many parts of Iran, for example, are mountainous. Nearly 40 percent of Iran's land area and almost half its population are located at elevations greater than five thousand feet above sea level—and would thus present limitations to flight operations, and consequently to casualty retrieval.)[4]

Clearly, retrograde evacuation to ships located far over the horizon may be a delicate and precarious undertaking, not only in its execution but in its impact upon casualty survival as well. The future littoral tactical environment, one of unparalleled complexity, may impede timely evacuation and medical management of casualties; an adversary may logically recognize sustainment as the force's Achilles' heel. Lengthy over-water evacuation may be easily thrown into confusion by sea and weather conditions as well.[5]

The sick and wounded are perishable cargo; whether they survive or die is fundamentally affected by the speed with which they are given medical care. The timeliness of both initial treatment and the evacuation of casualties is extremely important. Even those with potentially salvageable wounds may die or, if they survive, may experience serious complicated disabilities if treatment is not correctly timed. Early first aid, prompt resuscitation of vital functions, and initial stabilizing surgery are particularly important in this process. In essence, delay in treatment due to evacuation lag is tantamount to denial of care to those who could have survived, some without disability with early surgery.[6] In addition, delayed application of treatment to initially simple wounds can facilitate their conversion into complex, infected, and often life-threatening problems.

For all these reasons, delay in surgical intervention places the wounded in what military trauma circles characterize as the "triangle of death," where they become trapped by the triphasic onset of diminished body temperature (hypothermia), the accumulation of body products of metabolism (acidosis), and the potential for accelerated bleeding (coagulopathy).

An equally important issue is the possibility that large numbers of casualties will accumulate within the sea-based echelon, perhaps very rapidly. During the Falklands campaign in 1982, forty-six deaths and 150 surviving wounded casualties were created instantly by the bombing of the amphibious ship HMS *Galahad* by the Argentine air force. Most of the casualties were severe burn cases; fire has always been a prominent phenomenon following ordnance explosion within ships at sea.[7] These occurrences bespeak the danger on both sides of a conflicted coastline.

Consequently, analysis must envision how casualties are generated in littoral warfare, in a continuum of operational realities both on the ground and at sea. Military planners unfamiliar with those realities often suggest that medical evacuation is but an exercise in logistics, in which the number of anticipated casualties, the capacity of transport, the time availability of shuttles, and number of beds available are the primary considerations. This view, which in effect ignores the unique time and resource requirements of wound care, accepts an overall increase in deaths, or at least disability, and the return of fewer personnel to duty. Any new concepts of casualty care must be modulated by the fact that the disturbed, tenuous physiology of the combat wounded cannot be dealt with by standard logistic formulas that equate the movement of stretcher-borne patients with that of ration boxes.[8]

MEDICAL CARE AT SEA

The history of successful expeditionary medical support demonstrates above all the importance of adaptability and creativity in afloat casualty care. However, the beginnings of sea-based medical support were not auspicious.

Starting from Base Zero: Nelson's Blood

During the eighteenth century, medical care aboard warships was universally poor.[9] The British navy, because of its low social status, poor living conditions, and long stays at sea, attracted only the lowest-quality surgeons, mates, and physicians. On most vessels, surgery and medical treatment were performed in "the cockpit," a small, low, crowded, poorly ventilated, dimly lit room, far below deck. Surgery often involved amputation. The patient was given rum, some other liquor, or opium, if available, and a piece of leather to chew on while the cutting was accomplished. The mortality rate was profoundly high.

But there was no system for evacuating the wounded from battle stations to surgery in the first place. Sailors dragged themselves to the cockpit or were helped by comrades (for which they could be flogged for deserting their stations). Neither was there any system of triage. The wounded presented in line for medical attention; the small complement of medical personnel enforced no priority. Thus, a slightly wounded sailor might be treated while more severely wounded succumbed to shock and bleeding. It was customary to leave patients to recover in hammocks in small areas separated, sometimes, by canvas partitions; these primitive sick bays were located out of the way, in the darkest, least used, and worst ventilated spaces of the ship.

When ground forces were transported, overcrowding increased and losses to disease aboard ships were often higher than normal. To deal with the problem, the Royal Navy provided "hospital ships" to carry the sick, but these vessels generally had no medical personnel aboard, and other ships' physicians were forbidden to leave their own vessels to help. These "hospital ships" became little more than stinking, disease-ridden, floating warehouses where the ill were kept until they either recovered or died.

The French and Spanish navies attempted to return their dead to home port, but in the British navy they went overboard; in fact, a wounded British sailor unable to make his way to surgery was likely to be thrown overboard while still alive. A physician accompanying Lord Cathcart's campaign in the West Indies in 1739 described the conditions on board: "The men were pent up between the decks in small vessels where they had not room to sit upright; they wallowed in filth; myriads of maggots were hatched in the putrefaction of their sores, which had no other dressings than that of being washed in their own allowance of brandy." The ships described were anchored in the harbor of Cartagena (in present-day Colombia); the dead were thrown overboard, where they floated while sharks and birds of prey fed on them in full view of the surviving patients. The latter practice was operative when the legendary Vice Admiral Horatio Nelson, commanding the British fleet at the battle of Trafalgar in 1805, was struck by a bullet that entered his shoulder, pierced his lung, and

came to rest at the base of his spine. He retained consciousness for four hours, during which he reportedly begged the flagship's captain, Thomas Masterman Hardy, not to have him thrown overboard. Captain Hardy agreed, and when Nelson succumbed to his wounds his body was sealed in a cask of brandy for transport back to his father's parsonage.[10]

World War II: The LST(H) and the 7th Amphibious Force

Clearly, medical care at sea has evolved since the eighteenth and early nineteenth centuries. Vice Admiral Daniel Barbey, commander of the 7th Amphibious Force in the Pacific theater during World War II, later noted of his ship's innovative medical capabilities:

> Even before battle casualties started coming in, the staffs of the amphibious ships in Milne Bay [New Guinea] were unequal to the task of caring for those stricken with tropical diseases. There was doubt that a hospital ship would be assigned to the Seventh Amphibious Force . . . but as a partial substitute we thought we might be able to convert an LST [tank landing ship] into a "first aid" ship if we could spare one and if the Navy Department had no objections. . . . Anyhow, an official request was sent to Washington outlining our reasons and needs. Then, to "save time" we went ahead with the LST conversion plan on the assumption that it would be approved. . . . The LST 464 was chosen because she would arrive in Sydney within a few days where the shipyards could do the work. Two days after her arrival the conversion job was under way and her character changed from a fighting ship to a ship of mercy. . . . Assembling equipment in the States would not have been a matter of consequence, but getting it in war short Australia required a lot of priorities. The ship's medical staff . . . were obtained by "thinning out" other ships and shore bases.[11]

LST 464 subsequently became the main reliance for medical service in the 7th Amphibious Force. In early operations it was stationed at advanced bases to receive casualties from other amphibious craft for transport to Milne Bay. As other ships joined the force and operations became larger, additional units were converted into "casualty ships." Surgical teams were embarked for the emergency handling of the wounded evacuated to these medically outfitted ships, designated as LST(H)s. These special LSTs, which like normal units carried combat troops and equipment to the assault, could remain "beached" for surgery after disembarking them. Planners saw the value of using LST(H)s this way in the Philippine Archipelago in 1944 at the battle of Leyte Gulf, and also of holding one or two in reserve, to be committed to beaches overwhelmed with casualties or without medical facilities. As recalled by Admiral Barbey, "Since Army hospitals ashore could not be set up as rapidly as anticipated because of heavy rains, LST 464 remained in the harbor and became the most important medical facility afloat or ashore for several days."[12]

Admiral Barbey concluded, "Our first aid ship did a magnificent job throughout the war. Ironically, nine months after her conversion, and after she had handled some thousands of sick and wounded, a letter was received from the Bureau

Casualties being brought aboard a beached LST (U.S. Navy Bureau of Medicine and Surgery Historian)

of Ships regretfully turning down our conversion request: 'It is desired that all LSTs continue to operate in the manner for which they were designed.' The letter was placed in those files most likely to be lost in combat, and the LST 464 continued to operate, if not in the manner for which designed, at least in the way we most needed her."[13]

An LST tank deck with casualties (U.S. Navy Bureau of Medicine and Surgery Archives, BUAER 435557)

THE EVOLUTION OF HOSPITAL SHIPS

During the operation at Lingayen Gulf in 1945, six LST(H)s were beached to provide surgical care. At Normandy in 1944, all LSTs were equipped to handle returning casualties, and fifty-four were outfitted to perform surgery. Others were subsequently equipped to serve as casualty control ships, regulating the retrograde flow of the wounded to rear facilities. One was even made into a floating blood bank. Such hospital LSTs, able to provide surgical care in a relatively safe environment close to shore, performed even under fire at Iwo Jima and Okinawa.

World War II

Another scenario-driven innovation of World War II that contributed to the evolution of modern hospital ships was a group of three APHs, converted personnel transports with medical modifications. The attack personnel transport (APA), although not designed or equipped to handle casualties, often bore the brunt of initial casualty transfers from beach assaults—for example, at Iwo Jima. An APH (which could carry landing forces inbound) was considered preferable, because it had a complete staff of medical specialists and a large sick bay, so specialized treatment could be administered. Operating outside Geneva Convention protections, the camouflaged and heavily armed APH carried eight to twelve medical officers and sixty hospital corpsmen (no nurses were assigned). Each ship was capable of transporting 1,150 patients, with three hundred beds reserved for major casualties, two main operating rooms, and two auxiliary surgical facilities. These ships, built upon freighter hulls and equipped with Higgins-type LCVP landing craft for shuttling casualties from shore, were held in the "transportation area" of the assault force as evacuation ships. When bed capacity was reached, the ships sailed, to avoid further exposure to air attacks. As a general rule, APHs withdrew out to sea at night, but on occasion they remained anchored about a thousand yards offshore, protected by smoke screens.

Upon U.S. entry into World War II, the Army Transport Services generally assumed responsibility for evacuating Army sick and wounded, carrying them in the hospitals of troop transports. During the amphibious campaigns in the Mediterranean, small craft returning with casualties to transports or hospital ships transferred their patients by litter hoist or by hoisting the ambulance boats themselves to the rail and then transferring the patients directly to the deck. The most expeditious method was to keep one boat, usually a disabled one, permanently rigged for hoisting; ambulance boats would come alongside and directly transfer their casualties to it.[14]

The troopships offered neither comfort nor sufficient care, and there was no guarantee against enemy attack. Consequently, admirals William F. Halsey and

Chester Nimitz decided instead to use Geneva Convention–protected ships whenever possible, to evacuate those who needed considerable medical care en route and would be unable to abandon ship without assistance in an emergency. By early 1944, the *Comfort* (AH 6), *Hope* (AH 7), and *Mercy* (AH 8) had been converted and placed into service with civilian crews and Army medical staffs. Ultimately the Army had twenty-six such ships, the majority converted passenger liners or troopships. Two Navy hospital ships had been in commission in 1941; three were added in 1944 and seven more in 1945. During the final phases of the Pacific campaign, tactical doctrine for employment of Navy hospital vessels changed, allowing them to function as mobile, definitive-care combat hospitals rather than as transports only. Specially designed ships of the *Haven* (AH 12) class were also built to support this concept, which was to continue through the recent conversion of tanker hulls to produce the current *Mercy* (T-AH 19) and *Comfort* (T-AH 20). At Leyte Gulf, however, it became apparent that floating hospitals were urgently needed at the objective, especially during the night, when hospital ships were under orders to retire. Two arriving APAs were summarily designated as casualty receiving ships and stationed offshore to provide hospitalization at night. Small escort patrol craft, PCE(R)s, were also used as ad hoc transports for casualty evacuation.[15]

(Official U.S. Navy photograph)

The Korean War

During U.S. Marine landings at Inchon, LST(H)s once again demonstrated their value in immediate medical support of combat operations. Concurrently, two United Nations hospital ships supplemented by five U.S. hospital vessels served as seaborne ambulances, and later as definitive-care platforms. Their original mission was to transport casualties to Japan, providing care en route, but Korean

conditions made them far more valuable as rear-area hospitals. Some shuttled between Korean ports as mobile hospitals; others remained in port for considerable periods conducting clinics similar to those of land-based facilities. Patients were winched aboard from docks or from lighters and landed in helicopters. USS *Haven* (AH 12), however, arrived in Inchon Harbor without a flight deck; its innovative commanding officer improvised a deck with pontoon sections obtained from the Army, mooring them perpendicular to the anchored ship on both sides and equipping them with warning lights, wind-direction indicators, and firefighting equipment. Rope ladders and temporary gangways provided access. Up to four helicopters could be landed and their casualties brought aboard ship with litter hoists.[16]

USS *Haven* at Inchon, 1952 (official USN photograph 445542, August 1952)

The Falklands

In 1982, in anticipation of the campaign to retake the Falkland Islands, Britain's Royal Navy requisitioned two commercial cruise ships, SS *Uganda* and SS *Canberra,* and refitted them for casualty care. The P&O ship *Uganda,* already containing hotel, laundry, and other facilities required for patient care, was converted and painted white, with red crosses, in Gibraltar within sixty hours. A helicopter pad was fitted, as well as a ramp for rapid transfer of patients to the main hospital on the promenade deck. Sections of the ship were converted to an operating room suite, an intensive-care ward, a specialized burn-care unit, and a "high dependency" skilled nursing unit, among other facilities. Over the ensuing campaign *Uganda*'s medical staff treated 730 casualties and performed 593 surgical procedures.

The liner *Canberra* was converted to a troop carrier with a major surgical facility. Original plans called for *Canberra* to receive casualties, although it did not

qualify for Geneva Convention neutrality by virtue of having conveyed troops and equipment to the theater. Unfortunately, after fierce attacks upon the fleet supporting the landing force, the British removed *Canberra* from the operational area, and elements of its medical organization were hurriedly put ashore at Ajax Bay.[17]

In addition, three ocean survey vessels were converted to Red Cross–identified ambulance ferry ships, which evacuated 593 casualties from *Uganda* to a neutral Red Cross–supervised aero-medical staging facility 420 miles away in Montevideo, Uruguay. From there they would be evacuated by air to Britain.[18]

Desert Shield/Desert Storm/Operation Granby (Great Britain)

Royal Navy casualty projections in the 1991 Persian Gulf campaign indicated the need for a minimum of a hundred beds in an afloat facility, able to admit mass casualties of all types, initiate their management, and hold them for six days. With no hospital ship then available, the Royal Navy designated the Royal Fleet Auxiliary's air training ship RFA *Argus* to be that platform. Its flight deck, with five helicopter landing spots and two aircraft elevators, seemed ideal for movement of casualties. The British drew plans to convert the forward hangar to a hospital, in an airtight "subcitadel" (for chemical warfare protection). In three weeks the hospital had been designed, built, equipped, and staffed. Using modular construction techniques procured from a commercial vendor, the exoskeleton of the hospital was lifted to the flight deck in sections, lowered to the hangar deck, fitted together, and moved into position.[19]

Argus arrived in the Gulf with a hundred-bed hospital independent of the superstructure of the ship, including an intensive-care unit, a high-dependency skilled nursing unit, a low-dependency unit, four operating tables in two operating rooms with full support services, and a medical team of 136 men and women. The hospital was also supported by the ship's air department, four Sea King helicopters designated for casualty evacuation, and Royal Navy support and liaison personnel. As a "grey hull" (a combatant in the eyes of international law), *Argus* could operate in forward areas with unrestricted communication, as ships with Geneva Convention neutrality protections cannot. This concept of afloat tactical medical support afforded significantly shortened casualty-transit time from frontline, at-risk naval units. Indeed, when a boiler exploded aboard the USS *Iwo Jima* (LPH 2) on 30 October 1990, a number of severely burned casualties were directly transferred to *Argus* for initial care.

FUTURE CHALLENGES

On 23 October 1983, a terrorist truck bomb carrying twelve thousand pounds of TNT detonated at the headquarters of the Marine Battalion Landing Team 1/8 at

the Beirut, Lebanon, airport, killing 241 American servicemen and wounding 112. Sixty-two of the latter were sent to the offshore amphibious ship *Iwo Jima*, which had a surgical team. Several underwent surgery, and one died. A small group was subsequently sent to the British hospital in Akritori, Cyprus; fifty-six others were evacuated on a four-hour flight, during which an additional casualty died, to distant facilities in Landstuhl, Frankfurt, and Wiesbaden, Germany, as well as Naples, Italy (rather than those in neighboring Israel). As noted by a subsequent flag-level review, the only mass-casualty plan in place had involved *Iwo Jima* itself. There had been no effective coordinated theater plan for continuity of care, speedy evacuation, and regulation of victims of terrorist attacks—that is, allocation of each to the most capable treatment facility. As the review noted, "had the ratio of killed outright–to–wounded been reversed, so that over 200 casualties had required treatment, rather than fewer than 100, the medical system might well have failed."[20]

Today, if a military force deployed from an offshore, dispersed, and geographically isolated strike group suffered a similar attack, a volume of instantaneously generated casualties of similar magnitude would require prompt and effective care. Any medical treatment system envisioned for geographically distributed operations must provide more timely and competent treatment and evacuation than was offered in Beirut. Given the unpredictable numbers of casualties produced by modern combat and the profound severity of survivable injuries inflicted by weaponry currently in use, it must be anticipated that existing forward facilities may be overwhelmed by "casualty overload." Even over three decades ago, during the 1973 Yom Kippur War, an Israeli Defense Force evacuation hospital in the Sinai Desert, twenty to forty miles from the battle lines, received casualties in lots of from thirty-six to 140, and on one day 440. During the twenty-one days of fighting the facility treated 4,070 wounded, two-thirds of whom were in shock upon arrival.[21]

Distributed Expeditionary Sea Bases

Within a distributed sea-base context, a large volume of suddenly generated casualties could easily overwhelm the limited medical assets envisioned ashore. Furthermore, the improvised explosive devices used in the Middle East have shifted the spectrum of wounding. Advances in body armor and its wide deployment have diminished the incidence of mortal wounds of the chest and abdomen, but greater numbers of casualties with severe blast and fragmentary neurosurgical injuries to the head, brain, and neck, as well as major blood vessel (vascular) injuries of the extremities, may now survive long enough to reach forward combat unit medical staffs. They would ultimately be transported to a sea-based medical support center, if such were available.[22]

In the postulated sea-base medical continuum, the most rudimentary echelon of forward-located medical capabilities may be located at a battalion aid station (BAS), known as medical care Level I. During the Vietnam conflict, timely evacuation to such facilities was often assumed to be impractical, given delays and the occasional inaccessibility of aid stations due to "cantonment," whereby troops lived in one location, were transported by helicopter to fight in another, and were then extracted—and so did not carry their bulky BAS with them. Sometimes medical aircraft evacuating severe injuries bypassed these limited lower-level facilities and flew directly to more advanced (Level II) surgical facilities capable of physician-assisted resuscitation, stabilization, and initial surgery to prolong life. There were also more specialized in-country facilities with subspecialty surgical capabilities, major blood-transfusion resources, and advanced levels of nursing support (Level III).

In the sea-base concept, the large-deck amphibious assault ships within the expeditionary strike groups (ESGs), of the LHA and LHD types, and presumably the forthcoming LHA replacement, the LHA(R), with Level II medical facilities and limited surgical capabilities for stabilizing injuries, will no doubt be the designated "casualty receiving and treatment ships." Heretofore they have carried a standard Fleet Surgical Team augmentation of one general surgeon, an anesthesia provider, and other contingency medical and nursing augmentees. Facilities for Level III, or advanced specialty treatment, as has been available aboard T-AH hospital ships, will presumably be located elsewhere, perhaps in the Maritime Preposition Force (Future), or MPF(F), or in seagoing platforms provided by the other services. It has been suggested that newly designed ships for the MPF(F) will contain extensive medical-support modules with surgical specialty availability, allowing them to replace the aging hospital ships.[23] These modules would require, however, specialized and trained surgical, anesthesia, and nursing personnel, triage and resuscitation space, equipment, and supplies matched to risks combatant personnel are being exposed to, presumably major blood-vessel injuries as well as life-threatening damage to the brain and spinal cord.

But the large-deck amphibious ships could in reality offer only limited surgical capabilities for stabilizing injuries. The primary mission of these ships is combat operations; the logistic, space, and mobility demands of casualty care cannot realistically be expected to outweigh the combat and combat-service imperatives. Further, despite the purported sixteen "intensive care" beds, the four surgical theaters of the LHA (and the six of the LHD), forty-seven ward beds (suspended from vertical chains), and many hundreds of "overflow beds" (if strike group personnel are off-loaded), space limitations result in the reality that ESG vessels are not supplied with sufficient casualty-support logistics for

sustained treatment of large numbers of casualties. More importantly, they lack adequate numbers of the highly specialized medical and, especially, nursing personnel required by the wounds of blood vessels, brain, and spinal cord now being suffered in irregular and urban warfare.

For their part, the two current T-AH hospital ships, although well equipped and quite capable of advanced casualty care when adequately staffed with medical augmentees, are fading into operational obsolescence due to material aging, slow speed, and deep draft (which bars them from littoral waters).[24] *Nimitz*-class nuclear aircraft carriers not only must primarily serve their operational roles but, in fact, are only marginally capable of in-depth care of multiple casualties, in terms of space, logistics, and personnel.

The LPD-17

The current amphibious fleet recapitalization plan involves the replacement of eleven smaller, aging amphibious landing ships, LPD-4s, and all twelve dock landing ships, LSDs, with new *San Antonio*–class LPD-17s. The new twenty-five-thousand-ton expeditionary warship—50 percent larger than the next-biggest LPD in the world—is designed to operate in an amphibious patrolling role twenty-five miles off a defended shore and in a nuclear environment. The ship is said to be capable of transporting seven hundred troops, with a surge capacity to eight hundred, and of receiving contaminated casualties through a specially designed triage center off the flight deck. It has two operating rooms, a twenty-four-bed ward, and a stated overflow capacity of one hundred casualties. The limits of its capabilities for combat injuries would be the breadth of available medical personnel and sufficient room available for handling a sudden large influx of casualties.

Limits would also arise from the huge space requirements of contingency medical logistic support. Combat casualties require large quantities of blood for transfusion, including fresh whole blood with clotting components (the latter is not found in either the LHA or LHD frozen blood repositories). During the Vietnam conflict, 10 percent of the wounded required blood replacement, the average being seven units per patient.[25] Thirteen percent of those requiring blood required eleven or more units, some as many as ninety, most of which must be fresh blood with clotting components, to prevent further hemorrhaging. In addition, combat surgical staffs need wide-ranging capabilities not commonly found among surgical generalists, as well as twenty-four-hour availability of skilled nursing personnel and specific logistical support and resupply. Notwithstanding their seemingly advanced medical outfits, the *San Antonio* LPD and even the projected LSD(X) do not promise manifest, demonstrable value in the initial management of severe combat casualties. Their

principal medical role might well be that of secondary casualty-reception facilities for wounded already treated and stabilized elsewhere.

The implications of such medical limitations were demonstrated during Operation URGENT FURY in October 1983, when the United States inserted forces into Grenada. In part because of an inadequately developed and insufficiently communicated joint medical support plan, Army helicopter pilots, unfamiliar with Navy ship profiles and flight decks, deposited critically injured personnel on the flight deck of USS *Trenton* (LPD 14), a ship with a designated "operating room" but minimal resources for critical care of casualties. One of these wounded, an Army ranger, was in shock due to massive blood loss from a wound through his chest and abdomen. With no blood bank, the general medical officers aboard *Trenton* were forced to match blood types with volunteer crew members using their identification tags alone, a highly irregular and potentially dangerous practice. They drew blood from the volunteers, literally on the spot, and transfused it warm directly into their critically injured patient before transferring him to the distant USS *Guam* (LPH 9), the largest medically capable ship in the operational area.[26] Clearly, such older amphibious ships were inappropriate as primary casualty-reception sites.

Modularization

The Navy is analyzing ways to replace stand-alone systems through networking and modularity and to translate them into the basis for changes in the design of warships, at savings in both cost and risk. One such program is the Littoral Combat Ship. Its interchangeable, self-contained mission-specific modules, with standard interfaces to other modules and shipboard systems, could be swapped to meet various tactical needs—"plug and play." New modules to support additional missions, such as emergency rescue and stability operations or environmental monitoring and support, would likely evolve as well.[27]

As noted, "medical modules" have also been proposed for employment as part of the MPF(F). The ships in this force will be kept in reduced operating status in strategic reserves around the world and activated as necessary. As we have also seen, a modular afloat medical facility (aboard RFA *Argus*) was successfully used by the British during the first Gulf War. Is this concept of providing robust medical support from the MPF(F) feasible?

Professional and paraprofessional personnel augmentees for MPF(F) modules would need to meet standards of care expected of land-based specialized surgical units and nursing facilities. Likewise, since burns constitute a substantial proportion of wounds inflicted in naval warfare (in the Falklands campaign, 33 percent of the wounds treated in the hospital ship *Uganda* were burns) ample accommodation must be made for them (as well as for management of patients

with blood vessel and neurological injuries).[28] Since these modules would lie in reduced operating status until mobilized, their functional status will require systematic monitoring, their perishable supplies tied to "just in time delivery arrangements" wherever MPF(F) ships are maintained, and their professional staffs identified, funded, and trained to function in that environment.

Missions for the Future

As currently envisioned, the squadron configuration selected for the Navy's Maritime Prepositioned Force (Future) will consist of fourteen ships: twelve new-construction hulls and two existing T-AKR "dense-packed" ships carrying supplies and ammunition. The twelve new ships will be: two T-LHA(R)s, equipped with command and control facilities for a Marine expeditionary brigade; one T-LHD with aviation command-and-control facilities; three modified large, medium-speed, roll-on/roll-off (LMSR) sealift ships; three modified *Lewis and Clark*–class (T-AKE 1) cargo and ammunition resupply ships; and three mobile landing-platform-type vessels capable of housing 1,100 troops each. These latter innovative vessels should be capable of meeting surface assault requirements without external or aviation support by partially submerging and allowing cargo to float on and off to connector ships.[29] It is anticipated that since the LHA(R)s and LHDs will be conducting forcible-entry and other belligerent operations, they will require reclassification as warships when activated and undergo augmentation by Navy crews. The others will operate, when activated, under the aegis of the Military Sealift Command and be manned by civilian mariners.

From a medical perspective, the first question to be asked, then, is: What are command expectations for the medical assets functioning in a joint sea-base environment? The follow-on questions are: What resources will be necessary to enable the joint/combined-force casualties to reach competent medical facilities within the sea base in a timely manner? In what form will these facilities exist? The answers will not only drive the activity of planners but will ultimately allow more realistic implementation on site during conflict.

The bulk of casualties ashore would be evacuated to the sea base by air, and when required by high-speed, seagoing "connector" vessels. (The LHA[R]s will have no well decks; casualties will have to reach them exclusively by air, or by other as-yet-unproven innovative methods. This may be particularly important during times when weather is too foul for vertical transport. Alternatives such as waterline access or loading platforms alongside may be required). The connectors envisioned (for lift within the sea base as well as long distance) include the Joint High Speed Vessel, the V-22 Osprey, and the CH-53K heavy-lift helicopter. In 2004 the Navy Warfare Development Command conducted an experiment to

evaluate the High Speed Vessel as a medical platform. Unfortunately, it found, surgical interventions on board were precluded by high ambient vibration, noise levels, and vessel motion (including severe pounding) at high speeds or sea states—aside from motion sickness of both patients and staff.[30] These findings might clearly impact upon survivability during long-range transport aboard such vessels.

If the ships of the sea base are to be kept continuously available for new incoming casualties without overload, initially treated and stabilized casualties need to be systematically forwarded to higher-level medical facilities, perhaps thousands of miles away. This will require creativity, such as displayed by the British at the Falklands, who used converted ocean survey ships as seagoing ambulances.[31]

JOINT OPERATIONS: THE NEED FOR INTEGRATION AND ACCOMMODATION

Unfortunately, a recent Government Accountability Office (GAO) report on sea basing has identified a lack of "unifying vision" within the defense community with regard to sea-base development.[32] It notes that individual services appear to be outpacing the Defense Department. For example, the Army is developing its own Joint High Speed Vessel and Joint High Speed Sealift Ship programs. Furthermore, the Army is also beginning to develop its own Afloat Forward Staging Base, intended to provide aerial maneuver for Army forces "from the sea." One option being explored is adding flight decks to commercial containerships.[33] The inevitable result of such independent activity, however, is the potential for redundancy and a lack of joint coordination, medical support not excepted.

In the absence of an overarching joint experimentation campaign plan, indicates the GAO, many sea-basing investigations—including war gaming, operations analysis, workshops, technological development, modeling and simulation, platform prototyping, and live demonstrations—have taken place across the services, combatant commands, and other defense entities, without the ability to evaluate solutions, including medical considerations, or to coordinate efforts. Likewise, notes the report, there are insufficient modeling and simulation tools available. All this will clearly impact upon doctrine and training as well as any concrete solutions that may be proposed for dealing with the combat wounded. Ultimately, the Navy must coordinate with other services on stable standards for a truly joint and interoperable medical support network.

THE BOTTOM LINE

The distributed sea base is to be composed of a series of complex platforms, connectors, and logistics technologies. Logically, it must be driven by a common set

of standards, requirements, time frames, and priorities. The advent of the integrated base at sea requires adaptive medical systems "engineering" as well. Within that metaphor, configuration management will be extremely important to ensure connectivity among systems and components—in fact, a "system of systems" approach—for both technical support and logistics.[34] Various ship, airlift, and sealift components for casualty evacuation and treatment will need to interface, and some of them will have to be interdependent. In addition, joint operations from a sea base will require robust logistics technologies, as well as command and control. Premature development of such systems to meet individual service requirements for medical support rather than joint necessities may facilitate initiatives that are duplicative, not interoperable, and possibly incompatible. Ultimately, adverse consequences for combat casualties may result.

The fundamental "bottom line" in any assessment of casualty care, whether single service, joint, or combined, relates to time expended in transporting a wounded person to a proper setting where a constructive medical intervention can be performed. This must dominate every discussion of support systems. (Delay in access to adequate care implies a precipitous decline into the ominous "Triangle of Death," which correlates with entry into an irreversible downward spiral from which there is commonly no return to normal health.) Neglect of this very specific requirement translates into acceptance by operational commanders of increased mortality and morbidity among accrued casualties.

A casual observer visiting a large deck amphibious ship may well be overwhelmed with the abundance of equipment and space available to serve the wounded. Deeper evaluation, however, will reveal that the mere availability of equipment on a sea base ship will not, in itself, insure the availability of the requisite care needed by large numbers of combat wounded. The thrust of any analysis of medical support at sea must emphasize the importance of the time factor, as well as reference to previous empirical adaptations that have been implemented to address the "time to receipt of substantive treatment" issue in various operational theaters.

In conjunction with new and evolving operational approaches that emphasize joint and combined operations, a medical support system and its component material parts must be designed to supply speed, flexibility, and, above all, responsiveness. The corollary is that logistical support, including medical services, must always be adaptive. It must be capable of responding to the unique nature of the conflict in hand and to the operational concepts employed by combatant commanders. In the current context, casualty care must be adapted to geographically dispersed, or "distributed," sea-based operations in the littorals, with minimal medical facilities ashore.

A harmonious vision of sea-based medical support, supported by pragmatic leadership, is an absolute prerequisite to rapid and effective time-sensitive care for the combat wounded during the unpredictable but probably inevitable littoral conflicts of the future.

NOTES

1. Robert O. Work, *Thinking about Seabasing: All Ahead Slow* (Washington, D.C.: Center for Strategic and Budgetary Assessments, March 2006), and *Winning the Race: A Naval Fleet Platform Architecture for Enduring Maritime Supremacy* (Washington, D.C.: Center for Strategic and Budgetary Assessments, March 2005).
2. *Navy Acquisitions: Improved Littoral War-Fighting Capabilities Needed,* GAO-01-493 (Washington, D.C.: U.S. General Accounting Office, May 2001). Also see Work, *Thinking about Seabasing*, pp. 297–98, regarding "access sensitive ships." Despite the advantages of remaining far offshore, often "over the horizon," as well as defenses such as surface combatants, submarines, and aircraft, the sea bases may still be vulnerable to a single hit that renders a significant fraction of a base's capability inoperable. Ships built to commercial viability standards, such as T-AKRs, T-AKEs, and mobile landing platforms, would be especially at risk. This is because in comparison with vessels built to naval standards, they typically have less compartmentalization to limit the amount of water that can enter the hull from any single hit. They also have less redundant systems and less robust damage control capabilities. Furthermore, they are not equipped with self-defense weapons, like the Rolling Airframe Missile or the Close-In Weapon System, which would provide a final layer of defense against missile attacks.
3. Controversy remains regarding the number of Exocet missiles that actually hit *Atlantic Conveyor.* After launch, at least one missile was diverted from its initial line of attack by electronic countermeasures from a Lynx helicopter before striking *Atlantic Conveyor.* Whether more were so diverted is unresolved. There is further conjecture regarding whether the penetrating missile actually exploded aboard the ship or caused a fire. Ultimately, however, the ship remained afloat for three days and was ultimately adjudged too critically damaged to facilitate salvage or even retrieval of all the remaining tactical helicopters that it carried.
4. *Sea Basing and Alternatives for Deploying and Sustaining Ground Combat Forces* (Washington, D.C.: Congressional Budget Office, July 2007), pp. 27–28.
5. Mark W. Beddoes, "Logistical Implications of Operational Maneuver from the Sea," *Naval War College Review* 50, no. 4 (Autumn 1997), pp. 32–48; D. H. Smith, "New Speed for the Spearhead," U.S. Naval Institute *Proceedings* 113 (November 1987), pp. 41–45.
6. Even in World War I, if a badly wounded patient was given adequate therapy for shock within one hour, the chance of living was 90 percent. After eight hours, survival dropped to 25 percent. Robert M. Hardaway, *Care of the Wounded in Vietnam* (Manhattan, Kans.: Sunflower Univ. Press, 1988), p. 6.
7. Likewise, as noted in the action-report of the March 1987 Exocet missile attack upon USS *Stark,* the air adjacent to fires was as hot as 1,200 degrees Centigrade. B. L. Bennett, R. D. Hagan, G. Banta, and F. Williams, *Physiological Responses during Shipboard Firefighting,* Report 93-9 (San Diego, Calif.: Naval Health Research Center, 1993), p. 4. Also see R. J. Leicester, "SS *Uganda:* Surgery in the Hospital Ship," *Transactions of the Medical Society of London* 99 (1984), pp. 89–93.
8. E. D. Churchill, "Surgical Implications of the Evacuation and Distribution of Battle Casualties," in *Battle Casualties,* ed. G. W. Beebe, M. E. Debakey (Springfield, Ill.: Charles C. Thomas, 1952), pp. 242–57.

9. R. A. Gabriel and K. S. Metz, *A History of Military Medicine* (New York: Greenwood, 1992), vol. 2, pp. 116–22.

10. Ibid. For decades the daily ration of rum issued to British sailors was known as "Nelson's blood."

11. Daniel E. Barbey, *MacArthur's Amphibious Navy: Seventh Amphibious Force Operations, 1943–1945* (Annapolis, Md.: Naval Institute Press, 1969), p. 62.

12. Ibid., p. 262.

13. Ibid., p. 64.

14. B. F. Avery, *History of the Medical Department of the United States Navy in World War II,* NAVMED P-5031 (Washington, D.C.: U.S. Government Printing Office, 1953), vol. 1, pp. 173–93.

15. S. L. Falk, "Army Hospital Ships in World War II," *Military Review* (September 1965), pp. 85–91; E. A. Massman, *Hospital Ships of World War II* (Jefferson, N.C.: McFarland. 1999).

16. A. E. Cowdrey, *The Medics' War* (Washington, D.C.: U.S. Army Center of Military History, 1987), pp. 259–64; E. B. Coyl, "Hospital Ships in Korea," *Military Surgeon* 112 (May 1953), pp. 342–44.

17. R. J. Leicester, "Conversion of SS *Uganda* to a Hospital Ship," *Journal of the Royal Naval Medical Service* 69 (Spring 1983), pp. 10–16; P. S. London, "Medical Lessons from the Falklands Campaign," *Journal of Bone and Joint Surgery* (Britain) (August 1983), pp. 507–10; A. R. Marsh, "A Short but Distant War: The Falklands Campaign," *Journal of the Royal Society of Medicine* (November 1983), pp. 972–82; and T. Richards, "Medical Lessons from the Falklands," *British Medical Journal* (5 March 1983), pp. 790–92.

18. M. C. Newman, "Medical Officer's Journal: HMS *Hecla,*" *Journal of the Royal Naval Medical Service* 69 (Spring 1983), pp. 26–31.

19. E. P. Dewar, "Primary Casualty Reception Ship: The Hospital Within—Operation Granby," *Journal of the Royal Naval Medical Service* 78 (Summer 1992), pp. 55–64.

20. U.S. Defense Dept., *Medical Readiness Planning in the U.S. European Command* (Washington, D.C.: Defense Medical Readiness Review Group, 18 April 1984).

21. R. Rozin and J. M. Klausner. "New Concepts of Forward Combat Surgery," *Injury* 19 (May 1988), pp. 193–97.

22. Sixty-five percent of service members wounded in Afghanistan (Operation ENDURING FREEDOM) and in Iraq (IRAQI FREEDOM) have been injured by blasts and fragments from improvised explosive devices, land mines, and other explosives. The Department of Defense estimated that in 2006 as many as 28 percent of those injured by blasts and fragments had some degree of trauma to the brain. C. A. Bascetta, *Challenges Encountered by Injured Servicemembers during Their Recovery Process: Testimony before the U.S. House of Representatives,* GAO-07-606T (Washington, D.C.: Government Accountability Office, 5 March 2007), p. 1.

23. Comments of Vice Adm. D. L. Brewer III, then Commander, Military Sealift Command, at the U.S. Navy League Sea-Air-Space Symposium, Washington D.C., March 2005. He also indicated that a "medical module" had already been placed in the legacy MPF ship USNS *GySgt Fred W. Stockham* (T-AK 3017).

24. See Arthur M. Smith, "Has the Red Cross–Adorned Hospital Ship Become Obsolete?" *Naval War College Review* 58, no. 3 (Summer 2005), pp. 121–31.

25. See Hardaway, *Care of the Wounded in Vietnam*, p. 177.

26. Lt. Cdr. D. H. Grier, MC, USN, personal communication, November 1986. During the 1983 Operation URGENT FURY intervention in Grenada, Dr. Grier was medical officer aboard the USS *Trenton* (LPD 14) and also served aboard the USS *Guam* (LPH 9).

27. Daniel Goure, *Naval Strike Forum: Modularity, the Littoral Combat Ship and the Future of the United States Navy* (Arlington, Va.: Lexington Institute, 10 November 2006), pp. 1–16, available at lexingtoninstitute.org/navalstrike.shtml.

28. On Falklands burns, see London, "Medical Lessons from the Falklands Campaign."

29. See Robert O. Work, *Sea Basing and Alternatives for Deploying and Sustaining Ground Combat Forces* (Washington, D.C.: Congressional Budget Office, July 2007), pp. 3–6.

30. Capt. Harold R. Bohman, MC, USN, personal communication, 2005. Captain Bohman, as a Navy general surgeon, participated in this exercise.

31. It may be relevant that forty years ago the Navy experimented aboard the USS *Forrestal* with landings and takeoffs by C-130 aircraft, conducting twenty-seven landings and launches, in conditions including zero winds, headwinds, and maximum weight.

32. *Joint Seabasing Would Benefit from a Comprehensive Management Approach and Rigorous Experimentation before Services Spend Billions on New Capabilities*, GAO-07-211 (Washington, D.C.: Government Accountability Office, January 2007).

33. Ibid., p. 29.

34. See Goure, *Naval Strike Forum*.

THE UNVARNISHED TRUTH THE DEBATE ON THE LAW OF THE SEA CONVENTION

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The Senate's consideration in 2007 of U.S. accession to the 1982 United Nations Convention on the Law of the Sea has elicited, as it did when the Senate last considered the Convention in 2004, an amazing array of opposition arguments. As happened four years ago, critics predict near-apocalyptic doom for the United States if it accedes to the Law of the Sea Convention. In particular, they argue that the Law of the Sea (LOS) Convention will cripple the U.S. Navy's ability to perform maritime missions necessary for national security, including collecting intelligence, conducting submerged transits with submarines, and preventing actions by terrorists. I feel compelled to speak out, as I did then, against these misguided and incorrect beliefs and to set the record straight.

The Convention's opponents were successful in preventing a floor vote in 2004, during the second session of the 108th Congress. It was almost unprecedented that a treaty unanimously reported out of committee had failed to go to the full Senate for a vote. As the 110th Senate considers the Convention, a number of items have appeared in the press and online asserting that the Convention is contrary to American interests.[1] Nevertheless, on 31 October 2007 the Senate Foreign Relations Committee voted seventeen to four in favor of ratifying the treaty.[2] Its report has now been sent to the full Senate for consideration. This time, it is expected to be voted on.

The strongest supporters of the Convention are those directly affected by it.[3] The arguments made by Convention opponents and the administration's

Admiral Schachte served in many capacities related to ocean policy during his thirty-year naval career. In addition to being a member of the U.S. delegation to the United Nations Convention on the Law of the Sea negotiations during the Reagan administration, he served as the Acting Judge Advocate General of the Navy, the Department of Defense Representative for Ocean Policy Affairs, and the Deputy Assistant Judge Advocate General (International Law). As a line officer, he was a Vietnam volunteer and served in combat (in Swift boats) from January to December 1968.

rebuttals during the 108th Senate's consideration of the Convention appear in the written statements of Legal Advisor William H. Taft before the Senate Armed Services Committee on 8 April 2004;[4] before the House Committee on International Relations on 12 May 2004;[5] and before the Senate Select Committee on Intelligence on 8 June 2004.[6] They appear also in testimony by Assistant Secretary of State John Turner before the Senate Committee of Foreign Relations on 21 October 2003 and before the Senate Committee on Environment and Public Works on 23 March 2004.[7] In 2007, testimony in support of the Convention was provided to the Senate Foreign Relations Committee by Deputy Secretary of State John Negroponte, Deputy Secretary of Defense Gordon England, and Admiral Patrick Walsh, the Vice Chief of Naval Operations.[8] The chairman of the Joint Chiefs of Staff, Admiral Michael Mullen, during his confirmation hearings before the Senate Committee on Armed Services on 31 July 2007, stated unequivocally that the Convention advances U.S. interests.[9]

The following is a sampling of the myths regarding the Convention that opponents continue to trumpet.

President Reagan thought the treaty was irremediably defective.[10] This is absolutely false. President Reagan expressed concerns only about Part XI's deep seabed mining regime.[11] In fact, he believed that Part XI could be rectified and specifically identified the elements in need of revision.[12] The regime has been in fact been fixed, and in a legally binding manner—the 1994 *Agreement on Implementation of the Seabed Provisions of the Convention on the Law of the Sea*—that addresses each of the American objections to the earlier regime.[13] The rest of the treaty was considered so favorable to U.S. interests that in his 1983 Ocean Policy Statement President Reagan ordered the government to abide by and exercise the rights accorded by the non-deep-seabed provisions of the Convention.[14]

U.S. adherence to the Convention is not necessary because navigational freedoms are not threatened (and the only guarantee of free passage on the seas is the power of the U.S. Navy).[15] But our navigational freedoms are indeed threatened. There are currently more than a hundred illegal, excessive claims affecting vital navigational and overflight rights and freedoms. The United States has utilized diplomatic and operational challenges to resist the excessive maritime claims of other countries that interfere with U.S. navigational rights as reflected in the Convention. But these operations entail a certain amount of risk—for example, the Black Sea bumping incident with the former Soviet Union in 1988. Being a party to the Convention would significantly enhance our efforts to roll back these claims by, among other things, putting the United States in a far stronger position to assert its rights and affording additional methods of resolving conflict.

The Convention was drafted before—and without regard to—the war on terror and what the United States must do to wage it successfully.[16] This is an irrelevant

canard. It is true that the Convention was drafted before the war on terror. However, it enhances rather than undermines our ability to wage the war on terror. The robust maritime naval and air mobility assured by the Convention is essential for our military forces to operate effectively. The Convention provides the necessary stability and framework for U.S. forces, weapons, and materiel to get to the fight without hindrance—and ensures that they will not be hindered in the future.

Thus, the Convention supports the war on terror by providing important stability for navigational freedoms and overflight. It preserves the right of the U.S. military to use the world's oceans to meet national security requirements. It is essential that key sea and air lanes remain open as an international legal right and not as a matter of approval from nations along the routes. A stable legal regime for the world's oceans will support global mobility for our armed forces.

Obligatory technology transfers will equip actual or potential adversaries with sensitive and militarily useful equipment and know-how (such as antisubmarine warfare technology).[17] In fact, no technology transfers are required by the Convention. Mandatory technology transfers were eliminated by section 5 of the annex to the 1994 Agreement amending Part XI of the Convention. Further, Article 302 of the Convention explicitly provides that nothing in the Convention requires a party to release information the disclosure of which is contrary to the essential interests of its security.

As a nonparty, the United States is allowed to search any ship that enters our exclusive economic zone to determine whether it could harm the United States or pollute the marine environment. Under the Convention, the U.S. Coast Guard or others would not be able to search any ship until the United Nations is notified and approves the right to search the ship.[18] This also is not correct. Under applicable treaty law—the 1958 conventions on the law of the sea—as well as customary international law, no nation has the right arbitrarily to search any ship that enters its exclusive economic zone (EEZ) to determine whether it could harm that nation or pollute its marine environment. Nor would the United States want countries to have such a blanket "right," because it would fundamentally undermine freedom of navigation, which benefits the United States more than any other nation.

Thus, the descriptions of both the status quo and the Convention's provisions are incorrect. It makes no change in our existing ability or authority to search ships entering the American EEZ with regard to security or protection of the environment. One final and very important point is that under the Convention the UN has absolutely no role in U.S. military operations, including a decision as to when and where a foreign ship may be boarded.

Other parties will reject the U.S. "military activities" declaration as a reservation.[19] Another false assertion—the American declaration is consistent with the

Convention and is not a reservation (that is, in international legal usage, "a unilateral statement, however phrased or named, made by a State, when signing, ratifying, accepting, approving or acceding to a treaty, whereby it purports to exclude or to modify the legal effect of certain provisions of the treaty in their application to that State.")[20] It is an option explicitly provided by article 298 of the Convention. Parties to the Convention that have already made such declarations exercising this option include the United Kingdom, Russia, France, Canada, Mexico, Argentina, Portugal, Denmark, Ukraine, Norway, and China.

The 1994 Agreement does not even pretend to amend the Convention; it merely establishes controlling interpretive provisions.[21] This is nonsensical. The Convention could only have been formally "amended" if it had already entered into force. The 1994 Agreement was negotiated separately to ensure that the Convention did not enter into force with Part XI in its flawed state. The 1994 Agreement made explicit, legally binding changes to the Convention and has the same legal effect as if it were an amendment to the instrument itself.[22]

A letter signed by all living former legal advisers to the U.S. Department of State, representing both Republican and Democratic administrations, confirms the legally binding nature of the changes to the Convention effected by the 1994 Agreement. Their letter states, "The Reagan Administration's objection to the LOS Convention, as expressed in 1982 and 1983, was limited to the deep seabed mining regime. The 1994 Implementing Agreement that revised this regime, in our opinion, satisfactorily resolved that objection and has binding legal effect in its modification of the LOS Convention."[23]

The problems identified by President Reagan in 1983 were not remedied by the 1994 Agreement relating to deep seabed mining.[24] Not true—in fact, each objection has been addressed. Among other things, the 1994 Agreement:

- Provides for access by American industry to deep seabed minerals on the basis of nondiscriminatory and reasonable terms and conditions[25]
- Overhauls the decision-making rules to accord the United States critical influence, including veto power over the most important future decisions that would affect U.S. interests and, in other cases, requires two-thirds majorities that will enable the United States to protect its interests by putting together small blocking minorities[26]
- Restructures the regime to comport with free market principles, including the elimination of the earlier mandatory technology transfer provisions and all production controls.[27]

The Convention gives the UN its first opportunity to levy taxes.[28] This is not at all the case. The Convention does not provide for or authorize taxation of individuals

or corporations. It does include, in article 82, revenue-sharing provisions for oil and gas activities on the continental shelf beyond two hundred miles and administrative fees for deep seabed mining operations.[29] The costs are less than the royalties paid to foreign countries for drilling off their coasts, and none of the revenues go to the UN. These minimal costs are worth it, according to reliable industry representatives. (American companies applying for deep seabed mining licenses would pay application fees directly to the International Seabed Authority (ISA); no implementing legislation would be necessary.) There would be no expenditure of revenues by the UN. With respect to deep seabed mining, because the United States is a nonparty, American companies currently cannot engage in such mining under U.S. authority. Becoming a party will give U.S. firms that ability and will open up new revenue opportunities for them when deep seabed mining becomes economically viable. The alternative is no deep seabed mining for American firms, except through other nations under the Convention.

The Convention mandates another tribunal to adjudicate disputes.[30] That is a wildly inaccurate portrayal of the authority of the tribunal. The Convention established the International Tribunal for the Law of the Sea. However, parties are free to choose other methods of dispute settlement. The United States would choose two forms of arbitration rather than the tribunal.

The United States would be subject to the Sea-Bed Disputes Chamber if deep seabed mining ever takes place. The proposed Senate Resolution of Advice and Consent makes clear that the Sea-Bed Disputes Chamber's decisions "shall be enforceable in the territory of the United States only in accordance with procedures established by implementing legislation and that such procedures shall be subject to such legal and factual review as is constitutionally required and without precedential effect in any court of the United States."[31] The chamber's authority extends only to disputes involving the mining of minerals from the deep seabed; no other activities, whether in the water column or on the surface of the oceans, are subject to it.

U.S. adherence will entail history's biggest voluntary transfer of wealth and surrender of sovereignty.[32] Actually, the Convention not only enhances the sovereign operation of military ships and aircraft but also bolsters resource jurisdiction over a vast area off the coasts of the United States. Furthermore, under the Convention, as superseded by the 1994 Agreement, there is absolutely no transfer of wealth or surrender of sovereignty.

The Convention supports the sovereignty and sovereign rights of the United States over extensive maritime territory and natural resources off its coast, including a broad continental shelf that in many areas extends well beyond the two-hundred-nautical-mile limit, and would give it additional capacity to defend those claims against others. The mandatory technology-transfer provisions

of the original Convention, to which the United States objected, were eliminated in the 1994 Agreement.

The International Seabed Authority has the power to regulate seven-tenths of the earth's surface, impose international taxes, etc.[33] Nothing could be farther from the truth. The Convention addresses seven-tenths of the earth's surface. However, the International Seabed Authority does not. The ISA is strictly limited to administering mining of minerals in areas of the deep seabed beyond national jurisdiction, generally more than two hundred miles from the shore of any country. At present such deep seabed mining is economically unfeasible, and it will remain so for the foreseeable future. The ISA has no other role and has no general regulatory authority over the uses of the oceans, including freedom of navigation and overflight. The ISA has no authority or ability to levy taxes.

The United States might end up without a vote in the ISA.[34] That would be impossible. The United States would have a permanent seat on the ISA Council, its main decision-making body, by virtue of its being the state with the largest economy in terms of gross domestic product on the date of entry into force of the Convention, 16 November 1994.[35] This would give the country a uniquely influential role on the council, the body that matters most.

The People's Republic of China asserts that the Convention entitles it to exclusive economic control of the waters within a two-hundred-nautical-mile radius of its artificial islands—including waters transited by the vast majority of Japanese and American oil tankers en route to and from the Persian Gulf.[36] That is untrue, as to both fact and law. The U.S. government is not aware of any claims by China to a two-hundred-mile economic zone around its artificial islands. Any claim that artificial islands generate a territorial sea or EEZ would be illegal under the Convention. The Convention specifically provides that artificial islands do not have the status of islands and have no territorial seas or EEZs of their own.[37]

Participation in the Law of the Sea Convention would render the Proliferation Security Initiative invalid.[38] This is not only wrong but something of a reflection upon the nation's military leadership, which strongly supports the Convention. U.S. accession would in no way hinder our efforts under the PSI to interdict vessels suspected of engaging in the proliferation of weapons of mass destruction. The PSI Statement of Interdiction principles requires participating countries to act in ways consistent with national legal authorities and "relevant international law and frameworks," which includes the law reflected in the Convention.

Misunderstandings and misrepresentations are still in circulation. However, the outlook for Senate ratification is optimistic. The recent favorable vote of the Senate Foreign Relations Committee, direct support in writing from the president, support of the Democratic side of the aisle, and support from key

Republican senators like Richard Lugar, Ted Stevens, John Warner, and others tell me that the Convention will get to the Senate floor and receive the necessary votes for advice and consent. Thus my prediction: the United States will finally join the current 155 parties to the Convention. That brings us, however, to a final, fundamental, and cautionary point. Be the United States a party or nonparty, a robust freedom-of-navigation program must be an essential part of its oceans policy. This treaty, or any treaty, can be effective only if it is implemented by action.

NOTES

This essay is adapted from a presentation to the Naval War College's International Law Conference, "International Law and Military Operations," in Newport, Rhode Island, on 20 June 2007. The author wishes to thank J. Ashley Roach and Joseph Baggett for their assistance in its preparation.

1. See, for example, Frank Gaffney, "The U.N.'s Big Power Grab," *Washington Times,* 2 October 2007, editorial, and "LOST Runs Silent, Runs Deep," Townhall.com, 30 October 2007; Jeremy Rabkin, "Defeat the Law of the Sea Treaty," *Washington Times,* 13 November 2007, editorial; "U.N. Law of Sea Treaty on Senate Fast-Track," WorldNetDaily, 30 September 2007; Phyllis Schlafly, "Sink the Law of the Sea Again," Eagleforum.com, 26 September 2007; Doug Bandow, "Bad Treaties Never Die," Rejectlost.blogspot.com, 15 November 2007.
2. U.S. Senate, Foreign Relations Committee, *Executive Report 110-9* (Washington, D.C.: 19 December 2007).
3. While I have testified as a private citizen presenting the same or very similar responses to the critics of the Convention, I draw here basically from the testimony of Bush administration witnesses to "Correct the Record." See Rear Admiral (Ret.) William L. Schachte, Jr., testimony before the Senate Foreign Relations Committee, *Advice and Consent to the Law of the Sea Convention (October 14, 2003),* available at foreign.senate.gov/testimony/2003/SchachteTestimony031014.pdf; testimony before the Senate Committee on Armed Services, *Senate Advice and Consent to the Law of the Sea Convention (April 8, 2004),* available at armed-services.senate.gov/statemnt/2004/April/Schachte.pdf; testimony (closed hearing) before the Senate Select Committee on Intelligence, *Senate Advice and Consent to the Law of the Sea Convention: U.S. Accession to the Law of the Sea Convention (June 8, 2004),* available at intelligence.senate.gov/0406hrg/040608/schachte.pdf. See also testimony of Deputy Secretary of Defense Gordon England, Deputy Secretary of State John D. Negroponte, and Adm. Patrick M. Walsh, USN, Vice Chief of Naval Operations, before Senate Foreign Relations Committee Hearing on the Law of the Sea Convention, 27 September 2007, available at www.senate.gov/~foreign/hearings/2007/hrg070927p.html. Additionally see testimony of Adm. Michael Mullen, USN (nominee for chairman of the Joint Chiefs of Staff) before the Senate Committee on Armed Services, 31 July 2007, available at armed-services.senate.gov. Finally, see Patrick Neher [Capt., JAGC, USN], "LOST Will Enhance Security," *Washington Times,* 14 November 2007, and "In Support of LOST," *Washington Times,* 14 December 2007, both in Opinion; Ken Adelman, "Sea Law Turbulence," *Washington Times,* 12 December 2007, Opinion; Michael Chertoff, Secretary of Homeland Security, letter to Senator Joseph Biden, Chairman, Committee on Foreign Relations, 26 September 2007, available at www.dhs.gov; Joint Chiefs of Staff, letter to Senator Biden, 26 June 2007, available at www.jag.navy.mil/LawoftheSea.htm; George Shultz to Senator Richard Lugar, 28 June 2007, available at www.jag.navy.mil/ LawoftheSea.htm; and Stephen Hadley, Assistant to the President for

National Security Affairs, letter to Senator Biden, 8 February 2007, available at www.jag.navy.mil/ LawoftheSea.htm.

4. Available at armed-services.senate.gov/ statement/2004/April/Taft.pdf.

5. Available at www.house.gov/international _relations.

6. Available at wwwc.house.gov/international _relations.

7. Committee of Foreign Relations testimony available at foreign.senate.gov/testimony/ 2003/TurnerTestimony031021.pdf; Committee on Environment and Public Works testimony available at epw.senate.gov.

8. Available at www.senate.gov/~foreign/hearings/ 2007.

9. Available at armed-services.senate.gov.

10. Steven Groves, "Why Reagan Would Still Reject the Law of the Sea Treaty," Heritage.org, 24 October 2007.

11. "Statement on United States Participation in the Third United Nations Conference on the Law of the Sea, January 29, 1982," in *Public Papers of the Presidents of the United States: Ronald Reagan, 1982,* book 1, *July 3 to December 31, 1982* (Washington, D.C.: U.S. Government Printing Office, 1983), p. 92.

12. Ibid.

13. Professor Bernard H. Oxman has cataloged President Reagan's objections and the ways they were addressed in the 1994 agreement in "The 1994 Agreement and the Convention," *American Journal of International Law* [hereafter *AJIL*] 88 (1994), "Law of the Sea Forum: The 1994 Agreement on Implementation of the Seabed Provisions of the Convention on the Law of the Sea," p. 687.

14. "Statement on United States Oceans Policy, March 10, 1983," in *Public Papers of the Presidents of the United States, Ronald Reagan, 1983,* book 1, *January 1 to July 1, 1983* (Washington, D.C.: U.S. Government Printing Office, 1984), p. 379.

15. Doug Bandow, "Sink the Law of the Sea Treaty," *Weekly Standard,* 15 March 2004, pp. 16–17 ("The only sure guarantee of free passage on the seas is the power of the U.S. Navy").

16. Michael D. Huckabee (former governor of Arkansas, candidate for the 2008 Republican presidential nomination), "America's Priorities in the War on Terror," *Foreign Affairs* (January/February 2008), available at www.foreignaffairs.org/; "Tell Congress to Reject the Law of the Sea Treaty," RightMarch.com, 10 December 2007.

17. "LOST Mandates Technology Transfer," RejectLost.blogspot.com, 1 September 2007; Cliff Kincaid, "Conservatives Mobilize against Law of the Sea Treaty," HumanEvents.com, 10 September 2007.

18. U.S. Senate, written testimony before the Environment and Public Works Committee, 24 March 2004, available at epw.senate.gov/ public, of Peter Leitner, p. 3 ("Ratification of the Treaty would effectively gut our ability to intercept the vessels of terrorists or hostile foreign governments even if they were carrying nuclear weapons"), and Frank Gaffney, pp. 2–3 ("LOST would prohibit U.S. Navy or Coast Guard vessels from intercepting, searching or seizing them"). Also Paul M. Weyrich, "Law of the Sea Treaty Threatens Sovereignty," WashingtonDispatch.com, 23 November 2004 ("ISA . . . [has] the right to determine in what situations our Navy can stop a vessel").

19. Oliver North [Lt. Col., USMC (Ret.)], "Law of the Sea Treaty on Fast Track to Ratification," FOXNews.com, 11 October 2007.

20. United Nations, "Vienna Convention on the Law of Treaties," 23 May 1969, entered into force 27 January 1980, *Treaty Series,* vol. 1155, art. 2, sec. 1(d), available at untreaty.un.org/ilc/texts/instruments/ english/conventions/1_1_1969.pdf.

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25. *Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea Agreement*, 1994 [hereafter *Agreement*], annex, sec. 1, para. 6(a)(iii).

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27. *Agreement,* annex, secs. 5 and 6.

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31. "Understanding 22 in the Instrument of Ratification," contained in the commentary accompanying the secretary of state's letter of submittal in Senate Treaty Document 103-39. The commentary may also be found in *U.S. State Department Dispatch* 6, supp. 1, February 1995, pp. 5–52, available at dosfan.lib.uic.edu/ERC/briefing, as well as in *Georgetown International Environmental Law Review* 7 (1994), pp. 87–194; in *International Legal Materials* 34 (1995), pp. 1400–47; and in J. Ashley Roach and Robert W. Smith, *United States Responses to Excessive Maritime Claims,* 2nd ed. (Newport, R.I.: Naval War College, 1996), pp. 537–653.

32. Gaffney and Smith, prepared statements for Senate Foreign Relations Committee, 4 October 2007; Gaffney, "The U.N.'s Big Power Grab" and "LOST Runs Silent, Runs Deep"; Rabkin, "Defeat the Law of the Sea Treaty"; "U.N. Law of Sea Treaty on Senate Fast-Track"; Schlafly, "Sink the Law of the Sea Again"; Bandow, "Bad Treaties Never Die."

33. Bandow, *The Law of the Sea Treaty,* p. 1 ("This may be the first global tax imposed on Americans without congressional approval"); Bowden, "Deep Six the Law of the Sea"; Gaffney, "The U.N.'s Big Power Grab" ("So why on Earth would the U.S. possibly consider putting the U.N. on steroids by acceding to its control of seven-tenths of the world's surface?").

34. Gaffney, written testimony before Senate Environment and Public Works Committee, 24 March 2004, p. 1 ("Conceivably, due to membership rotation, there could be times when [the United States] might not even have a vote—to say nothing of a veto—over decisions taken by [the Seabed Authority]").

35. *Agreement,* annex, sec. 3.15(a).

36. Gaffney, "John Kerry's Treaty: Outsourcing Sovereignty," *National Review Online,* 26 February 2004, www.nationalreview.com.

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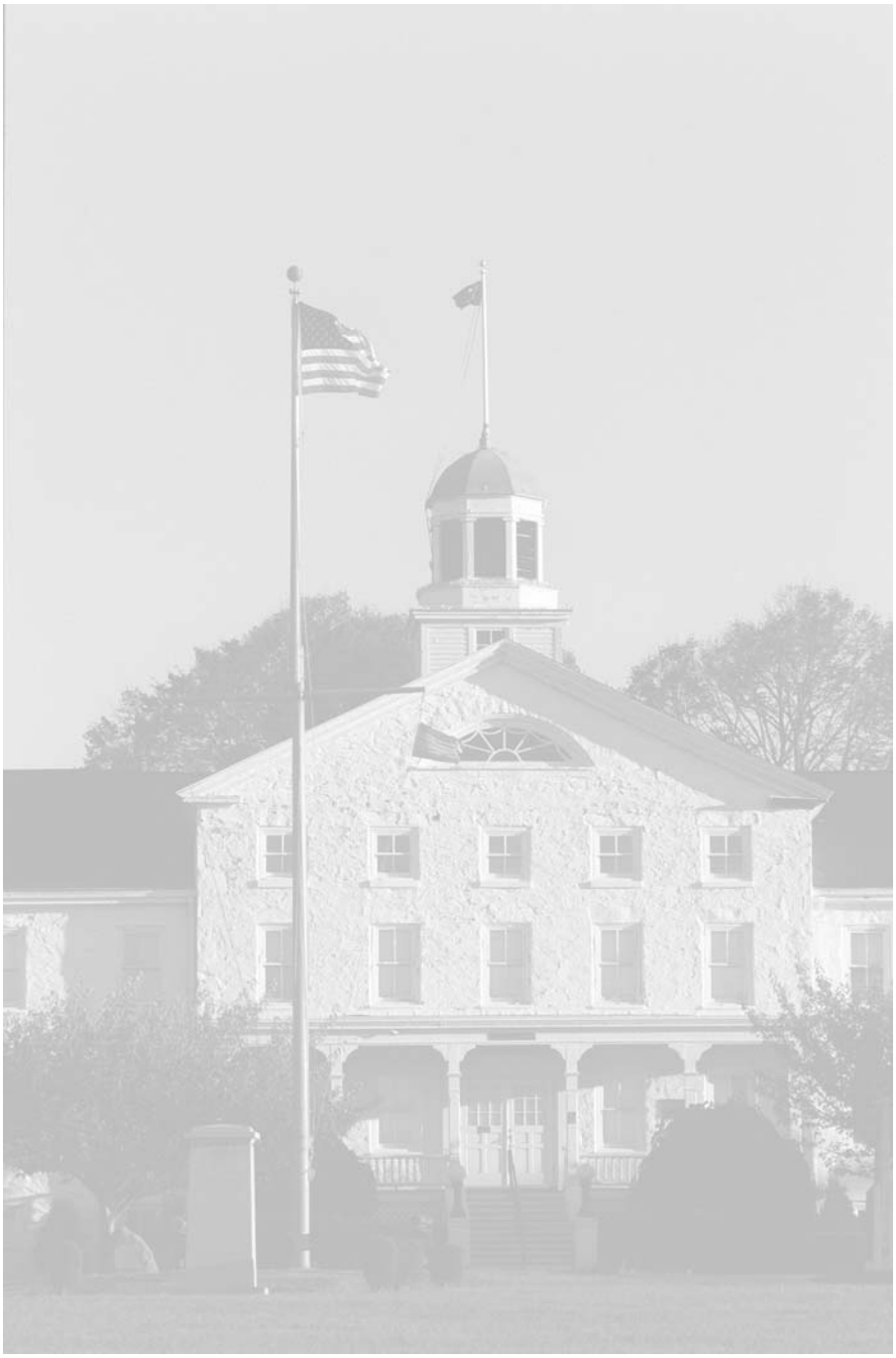

REVIEW ESSAY

INTELLECTUAL THUGGERY

Jan van Tol

Mann, James. *The China Fantasy: How Our Leaders Explain Away Chinese Repression*. New York: Viking Penguin, 2007. 127pp. $19.95

Few contemporary national security subjects generate more controversy than debates about, on the one hand, military implications of the growing strength of China in most dimensions of national power and, on the other, the primacy of promotion of democracy and such other "universal" principles as the foundation of U.S. foreign policy. Their confluence vis-à-vis American policy toward China reveals a troubling inconsistency—or perhaps not so troubling to many.

This book is not about China per se but about the language that American elites use about that policy. In his introduction, tellingly headed "Euphemizing China," Mann notes that

> it is about the language, images, hidden assumptions, and questionable logic that powerful people—politicians, business executives, scholars, and diplomats—use when they discuss modern-day China. Over many years, a collection of ideas, phrases, rationalizations, and doctrines has emerged, all of which serve to deflect attention from the persistence of China's one-party state and its repression of political dissent. One might think that the problems of China's political system would raise both moral questions and practical ones, but apparently they don't.

James Mann is a veteran journalist and foreign correspondent. Among other assignments, he served as

Jan van Tol is a senior fellow at the Center for Strategic and Budgetary Assessments. Prior to his retirement from the Navy in 2007, Captain van Tol served as special adviser in the office of the vice president. He was a military assistant to Andrew W. Marshall, the secretary of defense's principal adviser for net assessment from 1993 to 1996, and again from 2001 to 2003. At sea, he commanded three warships, the last of which was the USS Essex *(LHD 2), a major participant in the post-relief efforts off Sumatra, Indonesia. Captain van Tol's analytic work has focused mainly on long-range strategic planning, military innovation, and wargaming. He holds degrees in philosophy and logic from the University of Massachusetts and in operations research from the Naval Postgraduate School, and he graduated with distinction from the Naval War College.*

Los Angeles Times Beijing bureau chief between 1984 and 1987. He is the author of two other books on China as well as the recent best-selling *Rise of the Vulcans: The History of Bush's War Cabinet*.

Mann begins by describing two broad schools of thought encompassing most contemporary views of China and its future development. The first, and dominant, view is the "Soothing Scenario," which states as its main thesis that economic development will lead inexorably to far-reaching political change: increasing trade and prosperity will eventually bring political liberalization to China. This argument has been used consistently in bipartisan fashion to overcome those recurrent, awkward moments of regime repression that occasionally threaten to arouse congressional and public ire.

The second school believes in the "Upheaval Scenario," which states that "China is headed for some sort of disaster, such as an economic collapse or political disintegration, because it will not be able to maintain political stability while continuing on its current course." Various proponents recite a litany of huge problems facing China, such as rising political unrest, the fragility of its banking system, and the huge and growing disparity between the rich coastal regions and the poverty-ravaged interior. It is argued that preventing China from falling apart has been a fundamental U.S. policy objective for over a century and that its logic pertains today (leaving aside the question of what the United States could actually do to influence it meaningfully). Thus anything that the United States does that might further weaken Chinese leaders, such as criticizing them, is unhelpful.

Mann suggests instead a third scenario. China could well continue its rise as a formidable economic competitor and member in good standing of the "international community" and of its various organizations and yet continue to be a repressive, one-party state. In fact, Mann argues that this is far more likely than either of the two widely accepted "scenarios," since democracies consistently have tended to underestimate the durability of stable authoritarian states.

More seriously, the comfortable syllogism of the Soothing Scenario (China is now run by the Communist Party; China has an emerging middle class; when these two forces collide, the party will give way to democracy) ignores the fact that the urban coastal minority—that is, the emerging middle class—has every incentive to protect the existing order and its own economic interests. Considering that the sixty-two million or so people living in China's ten largest cities still represent only 5 percent of the total Chinese population, why would one-man, one-vote democracy prove especially compelling to this group?

This is reinforced, Mann argues, by the fact that American businesses and political elites have with their Chinese counterparts a commonality of interest in maintaining the status quo. Chinese elites obviously benefit, but so do American

business and political interests, the latter in the form of cheap imports and the low interest rates and inflation enabled by huge Chinese investments in the U.S. monetary vehicles that have resulted in widespread economic benefits that have kept voters happy. Thus there is considerably less effective pressure from a United States ostensibly committed to democracy and human rights than one might expect.

Why does this matter? Mann offers three reasons. First, the Chinese deserve political freedom like any other people, but they will not get it while "the country is still governed in an unrepresentative fashion by a Communist party with a long, unsavory, violence-prone history, a love of its own privileges, and a weakness for corruption."

Second, the Chinese regime actively supports, or is at least friendly with, authoritarian regimes around the world like those in Zimbabwe, Uzbekistan, Myanmar, North Korea, and Putin's Russia. "China gives what amounts to ideological sustenance to these dictatorships; it lends support to the idea that democracy is an alien Western concept, something imposed by Americans or Europeans." Indifference to the nature of the regimes it supports considerably enhances the efficacy of its "money diplomacy," often to the disadvantage of the United States.

Third, "if China's political system stays a permanently repressive one-party state, that will mean that U.S. policy toward China since [at least] 1989 has been sold to the American people on the basis of a fraud—that is, on the false premise that trade and 'engagement' with China would change China's political system." In other words, "day after day, American officials carry out policies based upon premises about China's future that are at best questionable and at worst downright false."

The China Fantasy is especially useful in examining how language used to support U.S. policy since the 1970s has been used to delegitimize opponents of that policy. It has pithy compendiums of freighted terms (the "Lexicon of Dismissal"), descriptions of key underlying elite attitudes (the "Credo of the China Elites"), and the "standard TV China graphics" that constitute the pictorial shorthand for what most Americans think of when they imagine China. A separate chapter examines the language that each president since Richard Nixon has used to explain and justify his China policy.

This short book is a superb, readable introduction to the major currents in thinking about China policy over the past thirty years and as such is highly recommended reading for naval officers, especially younger officers, for whom the rise of China will be a significant factor during their careers. Mann certainly proffers a specific substantive point of view regarding the nature of the Chinese regime (one shared by this reviewer), but the real value of the book is his

examination of the often dishonest employment of language by American elites to stifle debate.

Such intellectual thuggery—going beyond mere "political correctness"—is an increasing plague in America (including within the Navy) generally. Mann's examination of that process at work makes for refreshing reading. After all, "not fooling ourselves" ultimately depends on the capacity for robust, intellectually honest debate.

BOOK REVIEWS

THE IMPORTANCE OF SEA POWER

Holmes, James R., and Toshi Yoshihara. *Chinese Naval Strategy in the 21st Century: The Turn to Mahan.* New York: Routledge, 2008. 167pp. $140

Although China's sudden quest to dominate its littoral waters with an ever expanding fleet and deliberately innovative weapons continues to be well publicized, the theoretical impetus for this radical reorientation remains murky. As their book's subtitle indicates, Holmes and Yoshihara attribute the major thrust to the conscious study and explicit adoption (and adaptation) of Mahan's apparently timeless discussion on the essential nature of sea power.

In eight concise but informative chapters based upon extensive research using primary sources, *Chinese Naval Strategy* examines how this intensifying, sea-oriented aggressiveness and underlying strategic vision have managed to evolve over the past decade within the persistent countercurrent of such heritage concepts as Mao's land-based "aggressive defense"; reprises current analyses in the light of Mahan's assertions on the necessity of commanding the commons and his historical analysis of the American situation; describes Liu Huaqing's formative influence in shifting the direction and concept of naval affairs; dissects recent evaluations, taking exception to those that dismiss the naval abilities of the People's Republic of China (PRC) as outmoded; and examines efforts to overcome operational constraints imposed by the extended "first island chain." The perceived threats posed by the contiguous powers of Japan and South Korea are also noted, and the danger of possible confrontation with American "hegemonic" power is summarily explored before the book is brought to an end with an incisive overview of possibilities and projections.

Holmes and Yoshihara deliberately focus upon littoral waters, resulting in a sustained examination of the relevant strategic issues that necessarily excludes any contemplation of potential PRC clashes with Southeast Asian countries or India (with whom the PRC is already embroiled in an arms race despite a conspicuous "charm offensive"). They succinctly analyze the Taiwan question in terms of the island's strategic significance as an intolerable constraint when exploited by enemy forces but a formidable bastion for future PRC power

projection. Moreover, while avoiding the entanglements of hard force specifications, they note the growing arsenal of land-based intermediate-range ballistic missiles and cruise missiles that might be employed in an integrated sea-denial effort, with possibly dire consequences.

Before receiving his PhD in international law and diplomacy, James Holmes had a lengthy career as a naval engineering officer, studied at the Naval War College, and pursued crucial oceanic issues. Toshi Yoshihara, who has competence in both Chinese and Japanese, has focused on Chinese strategic questions since earning his doctorate from the Fletcher School. Amid the highly balkanized world of contemporary Chinese security studies, the ongoing dialogue of these two Naval War College professors has produced a perceptive, balanced analysis that remains sensitive to operational constraints and escapes the narrow perspective often characterizing works by single authors.

Apart from issues explicitly raised, the book prompts numerous questions for contemplation. For example, what are the implications of "command of the commons" in peacetime? (Can the PRC exclude other nations from its littoral waters simply by threat and coercion, thereby achieving Sunzi's ideal, or will assertions of localized superiority inevitably spawn conflict?) How will Mahan's thrust be realized in the South China Sea, through land bases or vulnerable naval assets? Thus, despite the lamentable lack of maps and inevitable source constraints, *Chinese Naval Strategy* should be deemed critical reading for anyone concerned with PRC strategy and intentions.

RALPH D. SAWYER
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Erickson, Andrew S., Lyle J. Goldstein, William S. Murray, and Andrew R. Wilson, eds. *China's Future Nuclear Submarine Force*. Annapolis, Md.: Naval Institute Press, 2007. 412pp. $45

From the title, readers might expect this book to focus solely and closely on the People's Republic of China's aspirations to develop nuclear submarines as a means to enhance the reach of the People's Liberation Army Navy (PLAN). However, the seventeen chapters in this volume range well beyond submarines, considering more broadly what may be inferred from evolving naval capacities about the PRC's grand strategic objectives. Contributors to this book sift evidence—much of it from Chinese sources—for insight about what, specifically, Beijing is developing the capacity to do and what it is likely to do with it. Therefore, this work is likely to appeal not only to the submarine enthusiast but to any reader who is curious about the role of naval development in the PRC's quest to expand its military power.

The book, an outgrowth of a conference sponsored in 2005 by the China Maritime Studies Institute at the U.S. Naval War College, features contributions by some of America's most prominent (and promising) analysts of PRC naval affairs. It offers readers an incomparably thorough view from open sources of an emerging phenomenon and of the debate among analysts about the significance of this development. As with many edited volumes, this book offers in variety and breadth of topics what it may lack in cohesion and focus. Yet it does provide persuasive evidence that the PLAN is substantially expanding its submarine force—apparently making

subs rather than aircraft carriers the "centerpiece" of its development.

Contributors are generally in agreement that "hard" evidence about what the PRC is developing is still rather spotty. Where evidence is solid the news is bracing, though hardly surprising. It suggests that the PLAN is rapidly building and buying naval capabilities with the concerted aim of deterring the United States—particularly from action in the waters surrounding Taiwan—and, in combat, of significantly damaging American assets. Although that story pertains to far more than the proliferation of nuclear submarines, the book explains how integral China's evolving undersea capabilities are to that mission. Questions remain, though, about whether the PRC also intends its submarines to be deployed as part of a strategic retaliatory force—a far more menacing, though equally unsurprising, ambition.

Threaded throughout this volume is a debate about what Beijing's increasingly assertive maritime doctrine means for the United States. While some contributors make evident the colossal technical and operational obstacles that the PLAN still faces in mastering the arts of submarine warfare, others caution against complacency. Andrew Erickson and Lyle Goldstein assert that Beijing's program to develop nuclear submarines may offer "one of the best single indicators of whether or not China has ambitions to become a genuine global military power." Rear Admiral Michael McDevitt, U.S. Navy (Ret.), observes that although the PRC is taking considerable strides toward the implementation of a more robust maritime strategy and appears to have the economic resources to continue along that path, the United States also has the resources to maintain its formidable advantages over an evolving PLAN, if Washington remains determined to use them for that purpose.

ALAN WACHMAN
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Walton, C. Dale. *Geopolitics and the Great Powers in the Twenty-first Century: Multipolarity and the Revolution in Strategic Perspective*. New York: Routledge, 2007. 160pp. $125

C. Dale Walton, PhD, is a lecturer at the University of Reading, in the United Kingdom, specializing in strategic studies and foreign policy.

Over the past half-century the field of geopolitical studies has been void of scholarly works at the (Sir Halford) Mackinder and (Nicholas) Spykman level of inquiry. However, Walton's *Geopolitics and the Great Powers in the Twenty-first Century* is a work of such foresight and ambition that it just might stand in such company. Unlike most of his fellow classical realists, who tend to limit their prescriptive endeavors to sensible warnings—or at best general policy recommendations—Walton pushes the prescriptive and predictive potential of history to its limit (in some cases possibly over the limit) as he uses history to formulate specific strategic guidelines for the making of policy in the future. Walton effectively merges the lessons from the past with the post–Cold War political, demographic, technological, and cultural patterns to explain the most likely geopolitical context of the near future.

Walton's message is quite simple: although it is hard to predict the future, it is possible to locate some trends that will heavily shape the future environment of international politics and that, combined with what we know about the past, will present useful criteria on what we should expect to witness in the future. His warning is also clear that security communities that "understand, accept, and encourage" such changes will have an advantage over those that do not. His two main arguments are, first, that eastern Eurasia will replace Europe as the most geopolitically important area of the world, an arena in which strategic competition will take place in a multipolar environment created by the rise of minor powers and the decline of major ones (especially the United States); and second, that the rapid pace of technological advancements will likely produce another "revolution in military affairs" of such significance that its importance will be second only to the ability of security communities to undergo a "revolution in strategic perspective" (RSP) that allows them to adapt effectively to the changing security environment.

Because much of the book focuses on the future role of technology and its likely impact on warfare, at times it appears as though Walton has abandoned classical realism and become a technophiliac futurist. He warns that the American proclivity for allowing moral issues to blur strategic clarity could prevent it from embracing the RSP. This theme, while pervading, tends to get lost in the discussions about technology—one of the very few flaws in this work. Also, Walton tends to speculate in depth about the potential of biotechnology, nanotechnology, and computer science but pays little attention to the likelihood that the future will witness an increase in competition over the strategic exploitation of space. Nonetheless, he more than makes up for these slight flaws with his thought-provoking geopolitical analysis.

Walton argues that the "Columbian Epoch" actually ended in 1991, and not at the beginning of the twentieth century as Mackinder argued. Although he delivers a sharp critique of the great British geographer, Walton actually endorses Mackinder's reasoning, recognizing that Mackinder got much more right than he did wrong and that his Heartland Theory still serves as the most useful guide for geopolitical analysis.

Geopolitics and the Great Powers in the Twenty-first Century should be mandatory reading for all American students of geopolitics. One should expect that military schools and other institutions of higher learning in Asia will certainly embrace its message, particularly as it is given by a Westerner who attempts in a reasonable and persuasive manner to make the connection between Asia's rise and history's geopolitical patterns. Although many of Walton's predictions are speculative, he has surely succeeded in constructing a new framework for students of geopolitics. Few will argue with his choice of questions, but ideally his answers will spark a much-needed high-level debate about the future path of geopolitics and strategy. A work like this invites challenges, but the gauntlet that Walton has thrown down will provide no easy opportunities for dissent. I would suspect that like Mackinder, Walton will be one of a very small group of strategists who in their

attempts to anticipate the patterns of future strategic history will be more right than wrong.

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Schleifer, Ron. *Psychological Warfare in the Intifada: Israeli and Palestinian Media Politics and Military Strategies.* Portland, Ore.: Sussex Academic, 2006. 272pp. $69.50

In the wake of the second Palestinian intifada against Israel (2002 through 2006), it has been easy to lose sight of the fact that the first intifada (December 1987 through October 1991) was largely nonviolent but highly successful. It achieved the primary goal of the Palestinian Liberation Organization (PLO)—forcing Israel to recognize the PLO by initiating negotiations. In this work Ron Schleifer offers a unique, though logically flawed, perspective of the first intifada, which he describes as "political warfare." That is, he examines how the PLO assumed control of what began as a spontaneous nonviolent uprising in December 1987 to produce a successful campaign that was based on a range of largely persuasive techniques and lasted more than three years. Schleifer analyzes the successful Palestinian tactics and compares them to the unsuccessful Israeli response through the components of "psychological operations" (PSYOP) as presented in the *U.S. Army Manual of Psychological Warfare.*

Schleifer's book is based on research gathered for his doctoral dissertation completed at the University of Leeds. He chose the PSYOP manual and its taxonomy as his theoretical basis, and he is at his best when using the components of the PSYOP manual to analyze and compare how both sides prepared their campaigns, determined and applied consistent themes or messages, chose and used dissemination techniques and tactics, responded to enemy messages, and applied countermeasures. He offers convincing evidence that within the first few weeks of the uprising, the PLO seized and maintained the initiative and dominated what we now call "the information environment," while the Israelis, riven by internal ambiguity and dissent, floundered.

Unfortunately, this work is ultimately unsatisfying, because its organization and thesis have logical flaws. Readers interested in a more concise, better organized analysis of nonviolent conflict based on psychological operations can find it in Schleifer's 2006 article "Psychological Operations: A New Variation of an Age Old Art: Hezbollah versus Israel," published in *Studies in Conflict & Terrorism,* volume 29, pp. 1–19. For readers interested in the specific tactics used in the first intifada, this book will serve as a high-quality resource. This work has several critical shortcomings, one of them its title. A better title might have focused on the key concept and not the methods. Second, although he thoroughly reviews how "propaganda" and "psychological operations" acquired their negative connotations before and after World War II, Schleifer applies only a restrictive definition of PSYOP. The PSYOP manual, however, uses a different primary definition and categorizes different types. He analyzes a complete taxonomy in terms of his own different, limited, definition.

Third, although his basic premise is that the Palestinians were conducting "political warfare," he only briefly discusses the concept and does not apply all the elements of his definition to the intifada. Schleifer asserts that the term, invented by the British to replace "propaganda," encompasses a broader range of strategies, everything from nonviolent propaganda and civil disobedience to violent terrorism and insurgency. He claims that the primary commonality of these strategies (to replace or complement conventional warfare) is sufficient for a theoretical analysis of the intifada. But he excludes violent action (terrorism and insurgency, as practiced primarily by Islamic Jihad and Hezbollah) from his analysis of how the Palestinians conducted political warfare. Examining only a few categories of political warfare appears to undermine his theory.

In sum, Schleifer has written an interesting study of how the PLO and its partners used a variety of nonviolent persuasive tactics to achieve a significant short-term political goal. Future study should define "political warfare" more precisely and examine how and why this term substantively differs from civil disobedience, nonviolent conflict, low-intensity conflict, propaganda, and psychological operations, and whether it offers a significant new perspective.

ROBERT L. PERRY
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West, Diana. *The Death of the Grown-Up: How America's Arrested Development Is Bringing Down Western Civilization*. New York: St. Martin's, 2007. 256pp. $23.95

"Stop, before you hurt yourself! Why? Because I said so"—a common diktat from a caring parent to child, about setting limits on behavior. The historical role of grown-ups has been to nurture, protect, and teach fledglings about self-destructive behavior. So how, then, is raising children the unifying theme of a book about the decline of Western civilization?

The answer, as Diana West argues convincingly, is a direct correlation between decades of moribund moral norms, owing to vanishing societal maturity, and America's inability to grasp the seriousness of emerging global dangers. Like a child that keeps playing, unwilling to obey the call for bedtime, America is simply not paying attention to a world of growing challenges. Worse yet, the author contends, there are no adults around to take away the toys.

Of course West, an esteemed syndicated columnist and writer, is not the first to observe the decline of adult influence or the erosion of individual responsibility, nor is she original in excoriating society and lamenting the erosion of the nuclear family. Nonetheless, West's meticulous assemblage of tangible evidence, superb research, insightful analysis, and application of theory to national security issues make this book extraordinary.

According to West, the gradual "death of the grown-up" began not with the revolutionary 1960s but rather directly following World War II. Business visionaries saw the exploding generation of youth as future consumers with unparalleled financial potential. Throughout the 1950s the magic of the anti-adult was personified, according to West, by the likes of music's Elvis Presley, fiction's Holden Caulfield, and

Hollywood's James Dean. Fed by postwar consumerism and entertainment focused so exclusively on adolescents, adult influence rapidly declined. West quips that by 1960, "American culture was no longer being driven by the adult behind the wheel; it was being taken for a ride by the kids in the back seat."

Indeed, West offers a point of view echoed by other thinkers of "second thoughts" that the entire antiwar movement of the 1960s was driven less by concern about American foreign aggression than by mere self-interest in avoiding military service. Evidence the 1970 campus violence that forced this reviewer to carry an Army Reserve Officer Training Corps uniform in a paper bag. One year later, the draft lottery quelled most opposition from college-aged adolescents who, like children, no longer "had to do" what they did not like. The consequences of national immaturity became clear when a "Huey" helicopter lifted off from a besieged Saigon rooftop in 1975. By then, however, Americans had been distracted by *Jaws* and dancing to "You Sexy Thing." In 1977, Jimmy Carter made good on his campaign promise to grant draft-dodgers amnesty, revealing that adult responsibility was dead in the White House as well.

Remaining ignorant as they aimed to understand "the other," Americans lost their sense of themselves. It therefore follows as no surprise, according to West, that when faced with terrorism on a global scale, America declared war on a tactic instead of the people and culture who used it. West believes that our biggest handicap is "a perilous lack of cultural confidence . . . our renunciation of cultural paternity [which is] a natural consequence of believing in our own illegitimacy."

A snapshot of popular news headlines suggests West is correct. Frightened of and ignorant about Islam, Americans—63 percent of whom, *National Geographic* says, cannot find Iraq on a world map—are like kids with no one to advise them. So they blissfully amuse themselves with self-absorbing distractions, such as Hollywood drama, reality television, and who gets voted off the island. Meanwhile, modern-day religious fascists plot their destruction.

This book is intense, no-nonsense, challenging, and clearly written with passion reflecting parentlike frustration. Readers—most of whom, like the author herself, are products of post–World War II parents—may become uneasy, as I did, when West's rapier finger pushes a personal button. However, this book is a must, since eventually violent extremism will force America to shake off decades of immature behavior and grow up. As West aptly concludes, "A civilization that forever dodges maturity will never live to a ripe old age."

JEFFREY H. NORWITZ
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Vogel, Stephen. *The Pentagon, a History: The Untold Story of the Wartime Race to Build the Pentagon, and to Restore It Sixty Years Later*. New York: Random House, 2007. 626pp. $32.95

This title accurately describes Stephen Vogel's book, but it does not do his engrossing story justice. Vogel, a veteran military reporter for the *Washington Post,* has written the biography of a building, complete with its conception, formative years, aging, and even crisis

events. The building comes to life through the experiences of the strong cast of personalities who planned, built, upgraded, repaired, and worked within it throughout the first sixty years of its history. Vogel's story takes shape in early 1941, with Franklin Roosevelt's War Department and its concerns about the ability of the United States to plan for and wage what it saw as a coming global war. At that time, the War Department had twenty-four thousand employees, scattered throughout Washington, D.C., Virginia, and Maryland, in twenty-three separate buildings, including apartments, shacks, and even a Leary's Garage at 24th and M streets. After Germany invaded Russia in June 1941, the requirement for more space was urgent, and the Army turned to Brigadier General Brehon B. Somervell, its Quartermaster Corps's Chief of Construction Division, to solve the problem.

Vogel fills with color and detail his story of the fast-paced construction of the largest office building in the world. By March 1942, over ten thousand men were working on the site. They dredged 680,000 tons of sand and gravel from the Potomac and pounded in 41,492 concrete piles and columns that would support a building with 17.5 miles of corridors and five floors, plus a mezzanine and basement.

Vogel does not end his story with the completion of the building in February 1943. He describes numerous later events as diverse as General Eisenhower's getting lost in the building, the Navy brass refusing to move in, and stories of secretaries of defense James Forrestal and Robert McNamara. His book includes chapters on the Vietnam antiwar protests at the Pentagon on 21 October 1967 and on the over-billion-dollar "remaking" of the Pentagon during major improvements and upgrades during the 1990s. The two concluding and most moving chapters relate the tragic loss of 184 lives and the destruction and repair of the west side of the Pentagon from the horrific impact of the hijacked American Airlines Flight 77 on 11 September 2001. Despite the damage the building held, in part due to the strength of the spiral steel reinforcing bar used in the concrete columns during its original construction. Perhaps this and the related remarkable story of the rebuilding of the Pentagon in less than a year are fitting testimonies to the quality of the people and builders of yesterday and today. Vogel has stated that "it took me longer to write the book than it took them to build the Pentagon." No doubt true, but Vogel's book and its story of a Washington landmark and a globally recognized icon of American power were worth the wait.

WILLIAM CALHOUN
Naval War College

Kinnard, Douglas. *The War Managers: Thirtieth Anniversary Edition.* Annapolis, Md.: Naval Institute Press, 2007. 216pp. $19.95

This unique and classic book was based on a sixty-item questionnaire administered to 173 U.S. Army officers who served as commanding generals in the Vietnam War. The author, Douglas Kinnard, a West Point graduate and Princeton PhD, served two tours in Vietnam, including one as a brigadier general, and was known to many if not all of his respondents. The postal survey

was fielded in September 1974, when the author, having retired from active duty, was on the faculty of the University of Vermont. Kinnard's guarantees of anonymity and his rapport with his peers elicited a response rate of nearly 70 percent. Many of those surveyed also added written commentaries. Questions dealt with a range of issues, including strategy, tactics, personnel management, the role of the media, rules of engagement, and recommended changes "if we had to do it over." The findings are disturbing, not only for people who lived through the Vietnam era but for those of us who are witnesses to history repeating itself in Iraq. Nearly 70 percent of the generals who responded stated that they were uncertain of the Vietnam War's objectives. Many conceded that they had overestimated the capability of South Vietnamese forces and had underestimated the extent of the Army of the Republic of Vietnam's corruption and ineptitude. Over 50 percent of respondents thought that U.S. forces should not have engaged in combat in Vietnam. These views were recorded some seven months before the fall of Saigon.

Among the richest data in the book are the marginal notations by the respondents. It was widely acknowledged that the system for measurement of progress, based on body counts and kill ratios, fell victim to the natural optimistic bias of military men. The system was denounced by one respondent as "a fake—totally worthless." Another general replied, "The immensity of the false reporting is a blot on the honor of the Army."

Kinnard devotes a good deal of attention to the fact that despite such perceptions, dissent had been uncommon among the generals. This is not surprising, given the risks such dissent would have posed to their careers. Writing in 1976, in the immediate postwar and Watergate years, Kinnard was cautiously optimistic that the officer corps could henceforth stand up and be counted. Unfortunately, thirty years later, dissent still remains hazardous to one's career.

Without wishing to strain comparisons between Iraq and Vietnam, one cannot read Kinnard's book without developing a sad sense of history repeating itself. He reminds us that "in the Vietnam War there was too much tricky optimism from LBJ on down." Misplaced faith in the integrity and capacity of the local forces has a familiar ring. So too do cover-ups of egregious human rights abuses and insensitivity to indigenous culture.

One hopes that among the generals who have served or who will serve in Iraq, there is one who might be tempted to follow in Kinnard's footsteps and seek the candid views of his or her peers about the conflict. The same lessons remain to be learned.

PETER GRABOSKY
The Australian National University

Holloway, James L., III. *Aircraft Carriers at War: A Personal Retrospective of Korea, Vietnam, and the Soviet Confrontation*. Annapolis, Md.: Naval Institute Press, 2007. 479pp. $34.95

For three decades, Admiral James L. Holloway III has been one of the great supporters and promoters of the work of the U.S. Navy's historians, through his role as president and then chairman

of the Naval Historical Foundation, a position he has actively held since retiring from active duty as Chief of Naval Operations in 1978. With the Naval Historical Foundation, Holloway has played an essential role in developing the "Cold War Gallery," now in progress at the National Museum of the U.S. Navy in the Washington Navy Yard. His connection to that ongoing project led him to think about the broader aspects of the Cold War, as well as his own personal reminiscences of it. With the publication of this book Admiral Holloway now makes his own direct contribution to the writing of naval history, as well as providing a fascinating memoir of that period.

The genre of the naval officer's memoir is a specialized and important one in naval literature. Unfortunately for historians, few American contributions have been published in recent decades, although those of us working in this field have benefited from the growing body of transcribed oral history interviews, for use as sources.

Holloway is at his best in his well-crafted and evocative descriptions of personal experiences at sea and in the air. The book opens with one of his most compelling—a dramatic description of the view from the Mark 37 fire-control director in USS *Bennion* (DD 662) as he watched a formation of Japanese battleships moving at twenty-five knots with all guns firing as they emerged from the Surigao Strait off Leyte on 25 October 1944.

Admiral Holloway insists, "This book has been about aircraft carriers." That is true—aircraft carriers provide a central strand to Holloway's career, as well as a central theme to his book—but the book is about much more. It is not just an enthusiast's view of his favorite ship type, although that comes through clearly enough; his views and experiences are so balanced that they make the book more than one written for naval aviators alone. This is a book for everyone interested in the U.S. Navy in the second half of the twentieth century. It is a carefully crafted personal view of the Cold War era from the changing perspectives of an exceptionally fine officer as he rises to the top. He keeps this sharp professional focus, judiciously avoiding personal and tenuous issues. Throughout, Admiral Holloway shows himself to be an excellent writer, one who has additionally benefited from very sound advice in preparing this memoir.

There are many incidents of broad interest to be found in this volume. For example, readers interested in the history of the Naval War College will take particular note of Holloway's account of how the secretary of defense intervened in the Navy's selection of the President of the Naval War College with a new requirement to interview the Navy's candidate, Vice Admiral James Stockdale.

Most importantly, however, Holloway's memoir puts into context his major career achievements, not only in developing the nuclear carrier program but equally in his concept for the operational organization of the carrier battle group and his personal involvement in improving the Navy program management through *Strategic Concepts for the U.S. Navy* (NWP-1A). Additionally, Holloway's memoir provides interesting insight into the failed Iranian hostage rescue operation of 1980 from his experience as chairman of the Special Operations Review Group.

In "The Future: The Past as Prologue," Holloway concludes with an overview of recent naval trends and with his carefully considered views on the present and future role for aircraft carriers. In short, Holloway's combination of memoir and history with an explanation of his professional judgments makes this a book that deserves to be read widely, by people both inside and outside the U.S. Navy.

JOHN B. HATTENDORF
Naval War College

Dickinson, H. W. *Educating the Royal Navy: Eighteenth and Nineteenth-Century Education for Officers*. New York: Routledge, 2007. 258pp. $125

From time to time every reader experiences the peculiar delight of discovering a fascinating gem of a book lurking behind an unremarkable cover and prosaic title. While not for the casual reader, *Educating the Royal Navy* is just such a find for those with an interest in the profession of arms at sea. The author, Harry Dickinson of King's College London, has done masterful work at charting the surprisingly convoluted and highly politicized course of educating the men who led what was at the time the world's greatest navy. His book is well worth reading.

Dickinson dispels many casually held beliefs concerning Britain's senior service and its officer corps. For example, the vaunted lieutenant's exam, established by Samuel Pepys and later enshrined in C. S. Forester's *Hornblower* series, was not a uniformly applied rigorous test of an officer's professional skill and knowledge but a most uneven event that at times entered the realm of the absurd. He also makes clear that patronage and classism were as rampant in the British naval officer corps as in its army equivalent. Correcting the historical record is just one of the book's contributions to the field.

Dickinson focuses on a major theme in each chapter, while maintaining a more or less chronological approach. The first theme of note is the British attempt to determine if it was more beneficial to train officers ashore or afloat and, if afloat, whether on board dedicated training ships or on vessels sailing on active service.

Another theme concerns the men who did the actual educating. Dickinson fully describes how shortcomings in the naval education system led to professional "tutors" who used "cramming" as a means of getting officers to pass required exams, which did little or nothing to help those officers retain their temporarily gained knowledge or deepen the intellectual capital of the service.

Dickinson, who has taught at the Royal Navy colleges of Greenwich and Dartmouth and at the U.S. Naval Academy, does not shy away from comparing British educational efforts to those of Britain's rivals. He concludes that the Royal Navy lagged badly behind those other naval powers, including Germany. Dickinson also admits that the Americans developed a "genuine naval war college" well in advance of their British cousins.

Dickinson's book is so interesting that one wishes he had specifically examined the impact of the Royal Navy's unquestionably successful seagoing performance and of the complacency that

success may have created in naval leaders of the day when it came to efforts to change the service's professional education. While there were occasionally spectacular failures, such as the *Camperdown/Victoria* collision of 1893, British naval officers could invoke the contemporary equivalent of "if it's not broke, don't fix it" as justification for leaving educational structures intact.

It is also important to note that while Dickinson's history is deeply rewarding, *Educating the Royal Navy* illuminates military educational issues and questions that remain to the current day. How do military education systems adapt themselves to emerging political and technological needs? To what degree should seafaring practicality drive naval education? Can officers acquire more than a practical education at sea? Is time at sea more important to an officer's education and eventual contribution to the service and nation than attending follow-on schooling assignments ashore? Do navies operate in such demanding environments and possess such unique cultures that officers must be captured at an early age if naval life is ever to seem both reasonable and natural to them? How much education can a resource-constrained navy afford? What is the proper blend of theoretical and applied knowledge? Dickinson, as is appropriate, does not take a side when identifying these questions, but he reminds us they remain to be answered for every generation of sailors.

RICHARD NORTON
Naval War College

IN MY VIEW

PREEMPTIVE OR PREVENTIVE?

Sir:

In "Two Hundred Years of Preemption" (*Naval War College Review,* Autumn 2007, pp. 15–28), George H. Quester provides a valuable review of the historical antecedents to the adoption by President George W. Bush of a "preemptive" war doctrine for America in 2002. Unfortunately, Dr. Quester's implicit endorsement of that doctrine does not address some important gaps in contemporary discussions of the subject by pundits and the press.

The first gap is the failure to distinguish adequately between "preventive" and "preemptive" use of force. President Bush incorrectly labeled his doctrine "preemption," which refers to using force when an attack is imminent. But when he acknowledged in his justification that the threats might only emerge years into the future, it was clear that he was advocating the "preventive" use of force. This distinction is more than semantic, since it provides a clear demarcation between what can and cannot be justified under international law.

A second gap is the lack of attention devoted to how the nuclear era changes the dynamics of *preemptive* and *preventive* attacks. Nuclear weapons pose an existential threat to even the most powerful of states. Nuclear-weapons states initially have an incentive to wage *preventive* war against adversaries who are beginning to develop nuclear arsenals. As nuclear-weapons states achieve the ability to annihilate each other within minutes of receiving warning of an attack, they begin to consider the need for *preemptive* options to avoid the full impact of a nuclear broadside. However, the development of a secure second-strike nuclear deterrent ultimately undermines the self-defense rationale for either *preemptive* or *preventive* attacks by the nuclear powers. The latter dynamics in our current post–Cold War era are considerably more relevant for the United States as sole remaining superpower in evaluating the political necessity or moral acceptability of preventive war doctrine than the differences Dr. Quester identifies between the views of the League of Nations and the United Nations at their respective foundings.

The third gap is relating preventive war doctrine to the potential nexus between proliferation and nonstate terrorist entities. While the potential danger of WMD in the hands of terrorists is more conspicuous since the 9/11 attacks, little rigor has been applied to the assumption that preventive war is the proper response. In fact, most would label the pursuit of al Qa'ida in Afghanistan, largely sanctioned by the international community in response to the 9/11 attacks, as an exercise of legitimate self-defense rather than preventive war. The invasion of Iraq in 2003 was a different matter. The Bush administration's principal and most potent justification for attacking was that future Iraqi acquisition of nuclear weapons was both inevitable and unacceptable. Accordingly, it argued for preventive war to eliminate this future threat. But by insinuating that Iraq was connected to the 9/11 attacks, it not only blurred the identity of the attacker but conflated a hypothetical threat with an actualized one. When Dr. Quester asserts early in his article that "future American presidents will have to be willing to consider striking first to preempt an attack on American cities" (page 15), he risks blurring the differences between dealing with nations and with nonstate actors.

A full examination of the circumstances surrounding Britain's bombardment of Copenhagen in 1807 may actually strengthen the case against resort to preventive war in our time. Britain had been convinced then that France would soon succeed in seizing the Danish fleet by force if London accepted Danish neutrality. As a consequence of the preventive attack Britain launched, the British seized the Danish fleet instead. Then as now, intelligence was imperfect. London may have placed excessive credence on reports that Denmark had secretly agreed to ally itself with France. Recent scholarship suggests that Britain may also have been duped by the French into believing that France was mobilizing to attack Ireland. These possibilities suggest that London may have had a less ignominious alternative—even within the bounds of nineteenth-century *Realpolitik*—than resort to a preventive attack against the civilian population of a neutral country. It is painful to imagine the psychological and human impact on Denmark of an event that proportionately killed far more inhabitants of Copenhagen than New York and Washington lost in the 9/11 attacks. But of course, Britain then was not the sole superpower, and it had no nuclear weapons to deter an invasion from the continent—only the superior power and ruthless application of the Royal Navy.

GREG THIELMANN

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Mr. Thielmann is a contributing author in William W. Keller and Gordon R. Mitchell, eds., Hitting First: Preventive Force in U.S. Security Strategy *(2006)*